

Initial Study/Mitigated Negative Declaration
Bees Lakes Habitat Restoration Project



Prepared for:
City of West Sacramento

Initial Study/Mitigated Negative Declaration
Bees Lakes Habitat Restoration Project



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MITIGATED NEGATIVE DECLARATION

Pursuant to Division 6, Title 14, Chapter 3, Article 6, Sections 15070 and 15071 of the California Administrative Code, the City of West Sacramento does cause to be filed with the State of California, this Mitigated Negative Declaration.

1. Title and Short Description of Project: Bees Lakes Habitat Restoration Project

The proposed project includes implementing ecosystem, water quality and recreational improvements at the Bees Lakes site consistent with the goals and objectives identified in the Final Bees Lakes Habitat Restoration Plan (Douglas Environmental 2020). Project site restoration includes focused removal and control of target invasive species at the project site. The goal of the invasive plant removal is to significantly decrease abundance of target invasive species and increase abundance of native understory species to improve and sustain native plant community health and diversity. The most prevalent target invasive species are: Himalayan blackberry, which occurs in large patches in portions of the riparian forest understory and in some monoculture patches; and edible fig (*Ficus carica*), which is scattered throughout the site, primarily on the riverside portion.

Water quality components include removing and disposing of potentially contaminated soil from the two ponds on the site, potentially treating the pond water, and the removal of trash from the ponds. An abandoned boat and a large amount of refuse have been observed in the ponds, which are suspected to be degrading pond water quality. At minimum, project implementation would include drawing down pond water levels temporarily to extract large trash and debris.

The water quality components also include installing a submerged or floating aeration diffusion device to increase pond aeration and water circulation within the ponds, decrease algae growth, and increase habitat suitability for fishes and other aquatic life (including mosquito fish). An additional water quality enhancement, which would also provide habitat benefits, includes installing one or more artificial floating wetland islands in one or both of the site ponds.

The proposed project includes several recreational components that are intended to improve access management at the site and to provide improved recreational opportunities for site users. Potential recreational amenities include marked foot trails, elevated boardwalks, Americans with Disabilities Act (ADA) access ramps, an equestrian trail, a ten-stall parking area, portable bathrooms, two large viewing platforms, multi-purpose picnic/recreational areas, way-finding signage and information kiosks.

- 2. Location of Project:** The project site is located along the west bank of the Sacramento River in the City of West Sacramento, Yolo County, California. The West Sacramento Area Flood Control Agency (WSAFCA) completed construction of 5.5 miles of levee improvements in 2018 as part of the Southport Sacramento River Early Implementation Project (Southport EIP), including constructing a setback levee along the northwestern edge of the project site. The Southport EIP created two new floodplain restoration areas connected to the Sacramento River, immediately upstream and downstream of the project site. Cross levees between the project site and the two floodplain restoration sites were built to preserve access to the Sacramento Yacht Club and the Sherwood Harbor Marina, which are located at the north and south ends of the project site,

respectively. The remaining segment of the unmaintained levee along Chicory Loop runs through the project site, with the portion southeast of the levee encompassing the Sacramento river bank and associated riverside riparian habitat.

The project site is bounded by the Reclamation District (RD) 900 Operations and Maintenance (O&M) waterside toe road on the northwest edge, the Sacramento River on the southeast edge, and the property boundaries of the Sacramento Yacht Club and the Sherwood Harbor Marina southeast of the remnant levee along Chicory Loop. The project planning area for analysis of potential hydrologic effects additionally includes areas to the waterside crest of the new flood control levees surrounding the site.

3. Project Proponent: City of West Sacramento, 1110 West Capitol Avenue, West Sacramento, CA 95691

4. Said project will not have a significant effect on the environment for the following reasons:

Based on the analysis included in the attached Initial Study, the Bees Lakes Habitat Restoration Project has the potential to cause adverse environmental impacts. However, with implementation of the following mitigation measures, the impacts associated with the proposed project would remain less than significant.

Biological Resources

Mitigation Measure BIO-1

The following mitigation measure shall be implemented to minimize temporary project construction impacts:

- Retain an ecologist/biologist to direct and oversee the invasive plant removal component of the Bees Lakes Habitat Restoration Plan. The ecologist/biologist will be responsible for ensuring the project is implemented consistent with the Bees Lakes Habitat Restoration Plan and the project's Mitigation Monitoring and Reporting Plan.
- The invasive plant removal shall be conducted over two seasons in a targeted manner to minimize impacts to native vegetation. Invasive woody plant removal in the first season shall consist of targeted work by hand crews to either hand pull invasive plants (e.g. with a weed wrench) or cut and remove invasive plant material. Where appropriate, the cut surface of stumps or large stems will be painted with herbicide to kill woody plant root systems and prevent and/or reduce crown resprouting. Cut invasive woody plant materials shall be removed from the site and disposed of legally offsite.
- All locations where invasive woody plants are removed and treated in the first season shall be marked, mapped, and tracked over the following growing season to locate and retreat any resprouts; more than one retreatment may be necessary. After woody plant removal sites have been revisited in the second season following treatment with little to no evidence of regrowth of target invasive plants, any significant bare ground areas (100 square feet in size or larger) shall be raked to scarify the soil surface and subsequently broadcast seeded with a riparian seed mix, per the Bees Lakes Habitat Restoration Plan, in the subsequent fall to winter. Seeded sites shall be regularly revisited (i.e., monthly) during the growing season to ensure native vegetation is establishing and that further adaptive management actions are not indicated.

- Control of target invasive herbaceous species shall be achieved either via mechanical methods, including targeted hand pulling or timed mowing/string trimming of invasive plants before seedset, and/or spot spraying target invasive plants with a backpack sprayer using an appropriate herbicide and marker dye. All herbicide treatments shall be applied in accordance with herbicide label specifications and under the direction of a Pest Control Advisor (PCA) licensed in the State of California. No herbicides shall be sprayed on days when wind speeds are high enough to potentially cause herbicide drift, and no herbicide spraying shall be conducted within any elderberry shrub driplines.
- All areas within existing grasslands and uplands that are disturbed by trail improvement work or for the construction of the northeast and southwest trail access ramps shall be seeded with the native grassland seed mix, per the Bees Lakes Habitat Restoration Plan, which includes a mix of native grasses and forbs.
- The erosion of exposed soils shall be minimized through implementation of the water quality mitigation measures included in the Hydrology and Water Quality section of this Initial Study.

Mitigation Measure BIO-2

The following mitigation measure shall be implemented to minimize temporary project construction impacts on wetlands:

- Prior to initiating project construction, secure a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and a Clean Water Act Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board. Implement any measures identified within these permits designed to offset the loss of Waters of the U.S. and/or wetlands.

Cultural Resources

Mitigation Measure CUL-1

The following mitigation measure shall be implemented during project construction activities:

- The Contractor shall contract with a qualified archaeologist to conduct cultural resource sensitivity training for the workers on the site prior to the initiation of project construction to ensure they understand the potential for cultural resources to be present on the site and the procedures to be followed if they are discovered during construction activities.
- If cultural or historical resources are discovered during construction, all work within a 100-foot perimeter of the find shall cease until a determination has been made regarding whether the find is an eligible resource. The contractor must notify the City and the City will consult with a qualified archaeologist to determine whether the discovery is a potential California Register of Historical Resources-eligible resource. If after the archaeological consultation, the City determines that the discovery is not an eligible resource, the discovery will be documented and construction may proceed at the City's direction.
- If the City determines after the archaeological consultation that the discovery may be an eligible resource, the City will notify the SHPO and other relevant parties as early as feasible. Notification will include a description of the discovery, the circumstances leading to its identification, and recommendations for

further action. Where feasible, the notification will also include a tentative NRHP and CRHR eligibility recommendation and description of probable effects. Treatment will be implemented where necessary to resolve adverse or significant effects on inadvertently discovered cultural resources that are CRHR or NRHP eligible. The City will consider preservation in place as the preferred mitigation, as required under CEQA Guidelines Section 15126.4(b) for all CRHR-eligible resources that are subject to significant effects. The City will prepare a discussion documenting the basis for the selection of treatment.

Mitigation Measure CUL-2

The following mitigation measures shall be implemented during project construction activities:

- In the event of a human remains discovery, the City will immediately notify the Yolo County Coroner. The coroner, as required by the California Health and Safety Code (Section 7050.5), will make the final determination about whether the remains constitute a crime scene or are Native American in origin. The coroner may take 2 working days from the time of notification to make this determination.
- If the coroner determines that the remains are of Native American origin, the coroner will contact the NAHC within 24 hours of the determination. The NAHC will immediately designate and contact the most likely descendant (MLD), who must make recommendations for treatment of the remains within about 48 hours from completion of their examination of the finds, as required by PRC 5097.98(a).
- It is likely that if a Native American burial is found, it will be found in the context of a prehistoric archaeological property. For a prehistoric property associated with burials, decisions must be made about how the remainder of the property will be treated for its archaeological (and possibly other) values. Not only must the MLD make decisions about the burials, but a plan must be devised also for evaluation and, if determined to be eligible for the NRHP, treatment of the property in consultation with the MLD, SHPO, and other consulting parties.
- If the remains are found not to be Native American in origin and do not appear to be in an archaeological context, construction will proceed at the direction of the coroner and the City. It is likely that the coroner will exhume the remains. Once the remains have been appropriately and legally treated, construction may resume in the discovery area upon receipt of City's express authorization to proceed.

Geology and Soils

Mitigation Measure GEO-1

The following mitigation measure shall be implemented to minimize the potential for the exposure of project components to seismically-induced ground failure:

- Prior to initiating project construction, a site-specific geotechnical analysis shall be conducted to identify any specific geotechnical design measures that need to be implemented to ensure the project components are not compromised by seismically-induced ground failure or other soil failure mechanisms. All identified measures shall be implemented during project construction.

Hazards and Hazardous Materials

Mitigation Measure HAZ-1

Prior to initiating construction of the proposed project, the Contractor shall submit a written safety program to the City of West Sacramento. This plan shall include, at a minimum:

- A fire or medical emergency response access plan.
- A police emergency response access plan.
- An access control plan to its staging and equipment storage areas.
- The name and contact information for the Safety Director/Manager responsible for managing the safety, health and environmental risk factors for the Contractor. The Safety Director/Manager shall be reachable within 30 minutes.
- Typical tailgate safety meeting agenda and frequency.
- Compliance or exceedance of applicable OSHA requirements.
- New hire safety orientation training.
- Any applicable job specific requirements or permits.
- If requested, Contractor shall provide safety training records for employees working on the project.

Mitigation Measure HAZ-2

Hazardous Materials Contingency Plan (HMCP): The contractor shall prepare and submit to the City a contingency plan for handling hazardous materials, whether found or introduced on site during construction. The plan shall include construction measures as specified in local, state, and federal regulations for hazardous materials and the removal of on-site debris. The plan must include the following measures at a minimum:

- If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g. trenching, excavation, grading), construction shall be halted and the HMCP implemented.
- Instruct workers on recognition and reporting of materials that may be hazardous.
- Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations.

Mitigation Measure HAZ-3

Soil Contaminant Remediation Plan: The contractor shall prepare and submit to the City a remediation plan for the excavation of contaminated soils within the two ponds. The plan must include the following measures at a minimum:

- A pond dewatering plan that identifies the disposal area for pond water and any permitting necessary to conduct the dewatering.

- A soil sampling protocol that will be used to determine the extent of potential soil contamination and the total area and depth of excavation. The protocol will identify the metrics for determining when sufficient soil has been removed to ensure elevated contaminant levels no longer remain within the ponds.

Hydrology and Water Quality

Mitigation Measure HYD-1

To ensure project construction activities do not adversely affect the water quality of local waterways, the following mitigation measures shall be implemented prior to and during construction:

- A storm water pollution prevention plan (SWPPP) shall be prepared for the proposed project with associated best management practices (BMPs), consistent with City standards. The SWPPP shall be designed to protect water quality pursuant to the requirements of the National Pollutant Discharge Elimination System (NPDES) stormwater permit for construction activity (Order 99-08-DWQ, as amended). The SWPPP would identify and specify:
 - ▶ the use of erosion and sediment-control BMPs, including construction techniques that will reduce the potential for erosion, specifically into the Sacramento River, as well as other measures to be implemented during construction;
 - ▶ the means of waste disposal;
 - ▶ the implementation of approved local plans, non-stormwater-management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities;
 - ▶ the pollutants that are likely to be used during construction that could be present in stormwater drainage and non-stormwater discharges, and other types of materials used for equipment operation;
 - ▶ spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;
 - ▶ personnel training requirements and procedures, including the use of a sign-in log identifying who attended required trainings, that will be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and
 - ▶ The appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.
- Where applicable, BMPs identified in the SWPPP shall be in place throughout all site work and construction. BMPs may include such measures as the following:
 - ▶ Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, and sandbag dikes.
- All construction contractors shall retain a copy of the approved SWPPP on the construction site. The SWPPP shall be submitted to the Central Valley Regional Water Quality Control Board (RWQCB) pursuant to NPDES requirements, and completed and implemented before the start of construction activities.

- 5. As a result thereof, the preparation of an Environmental Impact Report pursuant to the California Environmental Quality Act (Division 13 of the Public Resources Code of the State of California) is not required.**

TABLE OF CONTENTS

Section		Page
1	INTRODUCTION.....	1-1
1.1	Overview	1-1
1.2	Lead Agency.....	1-1
1.3	Project Location	1-1
1.4	Purpose of this Document	1-3
2	PROPOSED PROJECT DESCRIPTION.....	2-1
2.1	Ecosystem Components	2-1
2.2	Water Quality Components	2-3
2.3	Recreation Components	2-4
2.4	Long-Term Operations and Maintenance Requirements.....	2-5
2.5	Required Permits and Approvals.....	2-6
3	ENVIRONMENTAL CHECKLIST	3-1
3.1	Aesthetics	3-4
3.2	Agricultural and Forest Resources	3-7
3.3	Air Quality.....	3-9
3.4	Biological Resources.....	3-17
3.5	Cultural Resources	3-37
3.6	Energy	3-45
3.7	Geology and Soils	3-46
3.8	Greenhouse Gas Emissions	3-54
3.9	Hazards and Hazardous Materials.....	3-56
3.10	Hydrology and Water Quality	3-62
3.11	Land Use and Planning.....	3-71
3.12	Mineral Resources	3-72
3.13	Noise.....	3-73
3.14	Population and Housing	3-79
3.15	Public Services	3-80
3.16	Recreation.....	3-82
3.17	Transportation	3-84
3.18	Tribal Cultural Resources.....	3-89
3.19	Utilities and Service Systems	3-91
3.20	Wildfire	3-94
3.21	Mandatory Findings of Significance	3-96
4	REFERENCES	4-1

TABLE OF CONTENTS

Continued	Page
Exhibits	
Exhibit 1 Project Vicinity Map.....	1-2
Exhibit 2 Project Site Aerial.....	1-3
Exhibit 3 Proposed Project Components	2-7
Tables	
Table 1 Federal and State Attainment Status.....	3-13
Table 2 Estimated Maximum Daily Short-term Construction-Generated Emissions	3-15
Table 3 Land Cover Types on the Project Site	3-20
Table 4 Special-Status Plants that have Potential to Occur in the Project Site.....	3-26
Table 5 Special-status Fish and Wildlife Species that have Potential to Occur in the Project Site	3-28
Table 6 TMDLs Monitored by State Water Resources Control Board.....	3-66
Table 7 City of West Sacramento Non-Transportation Noise Level Standards.....	3-75
Table 8 Construction Equipment Noise Emission Levels.....	3-76
Table 9 Regional Highway Average Annual Daily Traffic	3-85
Table 10 City of West Sacramento Local Roads ADT	3-85
Table 11 City of West Sacramento Bus Service and Bike Lanes in the Project Area	3-86

1 INTRODUCTION

1.1 OVERVIEW

This document is the Initial Study for the proposed Bees Lakes Habitat Restoration Project (proposed project) located in the City of West Sacramento, California. This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq. An Initial Study is prepared by a lead agency to determine if a project may have a significant effect on the environment. In accordance with State CEQA Guidelines Section 15064(a), an Environmental Impact Report (EIR) must be prepared if there is substantial evidence that a project may have a significant effect on the environment. A Negative Declaration is prepared if the lead agency determines that the proposed project would not have a significant effect on the environment, and therefore, that it would not require the preparation of an EIR (State CEQA Guidelines Section 15070).

This Initial Study will be used to examine the potential environmental impacts of the proposed project. In general, this document describes the proposed project, the existing environment that could be affected, potential impacts from the proposed project, and proposed mitigation measures in compliance with the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.).

The Initial Study is divided into four chapters: Chapter 1 includes this introduction, Chapter 2 provides a description of the project setting and characteristics; Chapter 3 includes an environmental evaluation/checklist that identifies the potential environmental impacts associated with implementation of the project and a discussion of checklist responses and findings; and Chapter 4 includes references used in the preparation of this report.

1.2 LEAD AGENCY

The lead agency is the public agency with primary responsibility over the proposed project. In accordance with CEQA Guidelines Section 15051(b)(1), “the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose...” Because the project is being proposed by the City of West Sacramento, the City is the lead agency for the proposed project.

1.3 PROJECT LOCATION

The Bees Lakes project site is located along the west bank of the Sacramento River in the City of West Sacramento, Yolo County, California. The West Sacramento Area Flood Control Agency (WSAFCA) completed construction of 5.5 miles of levee improvements in 2018 as part of the Southport Sacramento River Early Implementation Project (Southport EIP), including constructing a setback levee along the northwestern edge of the project site. The Southport EIP created two new floodplain restoration areas connected to the Sacramento River, immediately upstream and downstream of the project site. Cross levees between the project site and the two floodplain restoration sites were built to preserve access to the Sacramento Yacht Club and the Sherwood Harbor Marina, which are located at the northeastern and southwestern ends of the project site, respectively. The remaining segment of the unmaintained levee along Chicory Loop runs through the project site, with the portion southeast of the levee encompassing the Sacramento river bank and associated riverside riparian habitat.

The project site is bounded by the Reclamation District (RD) 900 Operations and Maintenance (O&M) waterside toe road on the northwest edge, the Sacramento River on the southeast edge, and the property boundaries of the Sacramento Yacht Club and the Sherwood Harbor Marina southeast of the remnant levee along Chicory Loop. The project planning area for analysis of potential hydrologic effects additionally includes areas to the waterside crest of the new flood control levees surrounding the site.

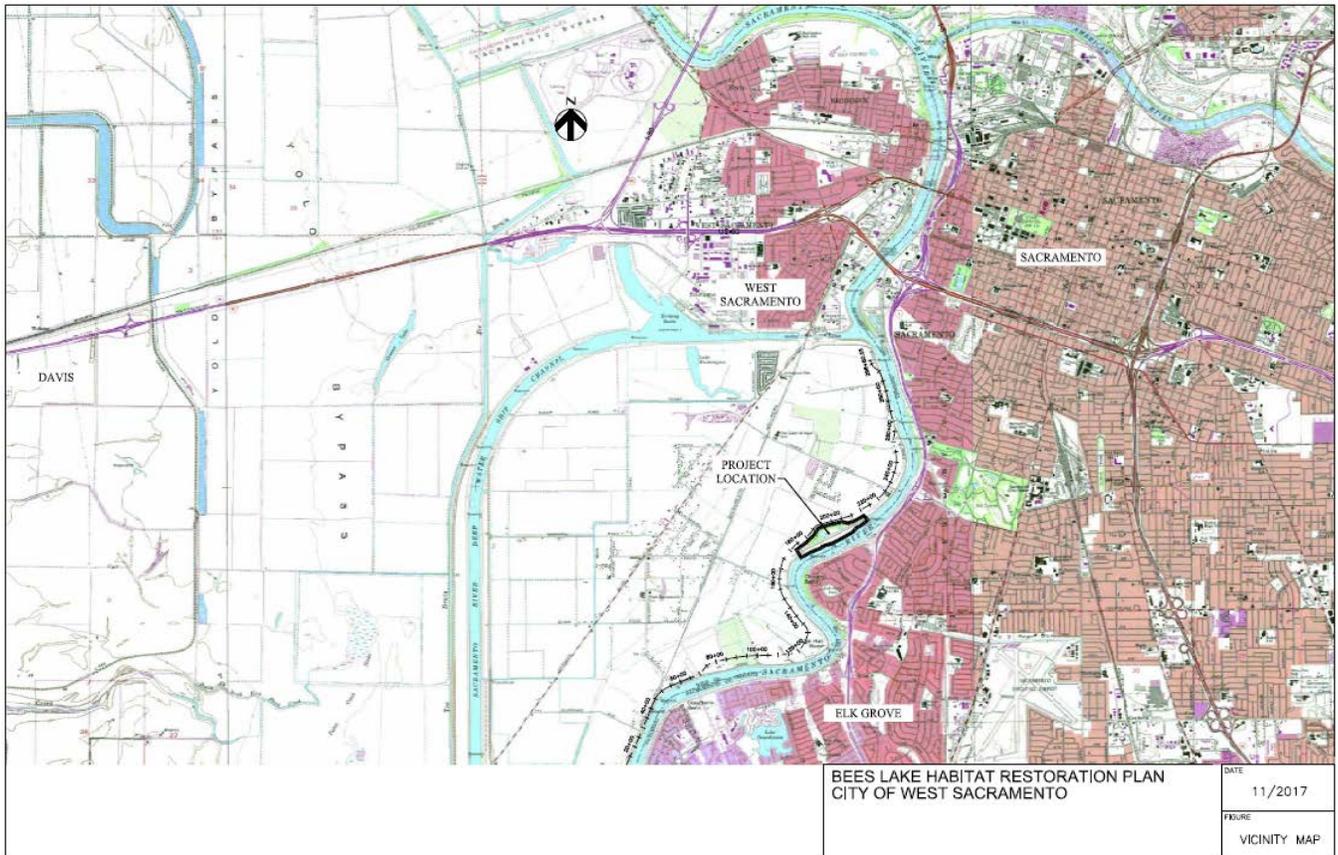


Exhibit 1 Project Vicinity Map



Exhibit 2 Project Site Aerial

1.4 PURPOSE OF THIS DOCUMENT

Prior to approving the proposed project, the City of West Sacramento must evaluate the project's potential environmental impacts as required by CEQA. The City, as the lead agency under CEQA, will consider the proposed project's environmental impacts when considering whether to approve project implementation. This Initial Study is an informational document to be used in the local planning and decision-making process; it does not recommend approval or denial of the proposed project.

This Initial Study will be available for public review for 30 days. The City will take into consideration comments received during the public review period and will factor these comments into their assessment of the environmental impacts associated with the proposed project prior to making their decision related to project approval.

2 PROPOSED PROJECT DESCRIPTION

The proposed project includes implementing ecosystem, water quality and recreational improvements at the Bees Lakes site consistent with the goals and objectives identified in the Final Bees Lakes Habitat Restoration Plan (Douglas Environmental 2020). The project components are described in detail below.

2.1 ECOSYSTEM COMPONENTS

2.1.1 INVASIVE PLANT REMOVAL

Project site restoration includes focused removal and control of target invasive species at the project site. The goal of the invasive plant removal is to significantly decrease abundance of target invasive species and increase abundance of native understory species to improve and sustain native plant community health and diversity. The impact of completely eradicating target species would likely outweigh the benefit. As such, complete eradication is not being proposed.

The most prevalent target invasive species are: Himalayan blackberry, which occurs in large patches in portions of the riparian forest understory and in some monoculture patches; and edible fig (*Ficus carica*), which is scattered throughout the site, primarily on the riverside portion. Both of these species are rated invasive by the California Invasive Plant Council (Cal-IPC 2020). Native California blackberry is also prevalent on site; care would be taken to avoid native blackberry thickets. Additional invasive plants present on the project site that are rated invasive by Cal-IPC and would be targeted for removal include English ivy (*Hedera helix*), giant reed (*Arundo donax*), Russian olive (*Elaeagnus angustifolia*), and glossy privet (*Ligustrum lucidum*). Additional invasive species that have potential to occur on the project site and would be targeted for removal if present include tree-of-heaven (*Ailanthus altissima*), black locust (*Robinia pseudoacacia*), perennial pepperweed (*Lepidium latifolium*), and red sesbania (*Sesbania punicea*).

Some nonnative tree species are present in low numbers within the interior woodlands of the site that are not rated invasive by Cal-IPC but may also be targeted for removal, including a few individual Chinese pistache (*Pistacia chinensis*) and almond (*Prunus dulcis*) trees, and a small grove of mature pecan trees (*Carya illinoensis*) occurring at the northeast edge of the wooded portion of the site. Generally, pecan trees are not widely naturalized in the region and it is assumed they were likely planted for ornamental value or nut productions). Pecan seedlings and saplings have been observed recruiting in other portions of the project site in recent decades (Leo Edson, *pers. comm.*). Any pecan tree removal would be undertaken with care not to remove Northern California black walnut (*Juglans hindsii*) trees or saplings, which appear very similar to pecan when fruits are not evident.

Herbaceous invasive species present in the open grassland areas of the project site that would be targeted for removal and management include Johnsongrass (*Sorghum halepense*), yellow starthistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), and poison hemlock (*Conium maculatum*).

2.1.2 INVASIVE PLANT REMOVAL METHODS

Invasive plant removal would be conducted over two seasons in a targeted manner to minimize impacts to native vegetation. An ecologist/biologist retained by the City would direct and oversee all invasive plant removal work.

All herbicide treatments would be conducted by a licensed applicator in accordance with herbicide label specifications under the direction of a Pest Control Advisor (PCA) licensed in the State of California.

Invasive woody plant removal in the first season would consist of targeted work by hand crews to either hand pull invasive plants (e.g. with a weed wrench) or cut and remove invasive plant material. Where appropriate, the cut surface of stumps or large stems would be painted with herbicide to kill woody plant root systems and prevent and/or reduce crown resprouting. Cut invasive woody plant materials would be removed from the site and disposed of legally offsite.

All locations where invasive woody plants are removed and treated in the first season would be marked, mapped, and tracked over the following growing season to locate and retreat any resprouts; more than one retreatment may be necessary. After woody plant removal sites have been revisited in the second season following treatment with little to no evidence of regrowth of target invasive plants, any significant bare ground areas (100 square feet in size or larger) would be raked to scarify the soil surface and subsequently broadcast seeded with a riparian seed mix in the subsequent fall to winter. Seeded sites would be regularly revisited (i.e., monthly) during the growing season to ensure native vegetation is establishing and that further adaptive management actions are not indicated.

Control of target invasive herbaceous species would be achieved either via mechanical methods, including targeted hand pulling or timed mowing/string trimming of invasive plants before seedset, and/or spot spraying target invasive plants with a backpack sprayer using an appropriate herbicide and marker dye. No herbicides would be sprayed on days when wind speeds are high enough to potentially cause herbicide drift, and no herbicide spraying would be conducted within any elderberry shrub driplines. If spot treatments of herbaceous invasive plants result in any significant areas of bare ground (100 square feet or greater), those areas would be raked and broadcast seeded with a grassland seed mix in the fall or winter after treatment.

2.1.3 MIXED RIPARIAN WOODLAND ESTABLISHMENT

To enhance and expand riparian woodland habitat at the project site, approximately 1.6 acres of mixed riparian woodland dominated by Fremont cottonwood (*Populus fremontii*) would be planted at two locations on the northeast and southwest ends of the landside portion of the project site. Historically, human disturbance prevented the establishment of woody vegetation in these areas.

The gradual succession to a community dominated by valley oak is expected in the absence of regular flooding disturbance. However, mature cottonwoods provide important nesting habitat for many riparian bird species regularly observed at the project site, including: cavity-nesting birds such as wood duck (*Aix sponsa*), downy woodpecker (*Picoides pubescens*), Nuttall's woodpecker (*Picoides nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), and tree swallow (*Tachycineta bicolor*); and for raptors including: red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and Swainson's hawk (*Buteo swainsoni*). To increase and maintain future nesting habitat for cavity-nesting species in particular, the riparian woodland planting areas would be planted with mixed riparian woodland dominated by Fremont cottonwood.

Container plants and cuttings would be installed in the fall, between October 15 and December 1. After planting container plants in sinuous rows, a riparian woodland seed mix would be drill seeded between planted trees and shrubs. Planted trees and shrubs would receive supplemental irrigation using a temporary system over a three-year establishment period, after which the plant roots would have accessed the relatively shallow water table and no

supplemental irrigation would be needed for plant survival. Plants would be deeply watered during each irrigation event (1-2 inches of water applied during each event) to promote deep rooting, and irrigation frequency would decrease during the establishment period.

Beaver exclusion caging or fencing is not planned, and not expected to be necessary, but the planting strategy includes installing California rose and California blackberry in association with tree species that are most susceptible to beaver damage (*e.g.*, willows and cottonwoods) to provide a natural thorny barrier to beaver herbivory. Cages around riparian trees may be installed as an adaptive management measure if beavers are observed to be causing greater than anticipated tree damage or mortality. Because there would be continued public access to the project site, it may be appropriate to install some temporary exclusion fencing and signage during the establishment period, around the planting areas to protect plants and irrigation systems.

2.1.4 RESEED TEMPORARY IMPACT AREAS

The proposed project would include temporary impacts to vegetation and soils associated with providing Americans with Disabilities Act (ADA) site access, improvements of existing foot trails to allow for multiple uses, removal of contaminate soils from the two site ponds, and other recreational amenities. Additionally, focused removal of target invasive species would result in some temporary, small scale disturbance. Areas where temporary soil disturbance or vegetation removal occurs within riparian scrub or woodland due to project implementation would be seeded with a riparian seedmix and monitored for establishment success. It is expected that any temporarily disturbed areas would be rapidly colonized through natural recruitment and regrowth of native species from the surrounding dense native vegetation. However, if seeding and natural recruitment are not successful in revegetating disturbed areas, remedial adaptive management actions, such as reseeded or planting container plants and cuttings with Cocoon™ individual plant watering systems, or watering tubes with starch-based hydrogel applications or similar, may be implemented.

All areas within existing grasslands and uplands that are disturbed by trail improvement work or for the construction of the northeastern and southwestern trail access ramps would be seeded with a native grassland seed mix, which includes a mix of native grasses and forbs.

2.2 WATER QUALITY COMPONENTS

The larger of the two ponds on the site is relatively deep and steep sided, while the smaller pond is shallower and occasionally dries up completely during extended dry periods. During investigations conducted for the Southport EIP, analysis of water quality in the ponds revealed slightly elevated levels of arsenic and oil and grease (ICF International 2014). Recent testing of the water and soil within each pond further identified elevated levels of contaminants (cbec 2020). The presence of these contaminants may require the treatment of pond water or the removal and disposal of some of the soils within the ponds, if appropriate. Additionally, an abandoned boat and a large amount of refuse observed in the ponds are suspected to be negatively affecting water quality. At minimum, project implementation would include drawing down pond water levels temporarily to extract large trash and debris.

Because the ponds are hydraulically connected to the Sacramento River and the shallow groundwater table through seepage and not stream flow, the ponds have a high residence time and do not experience any flushing. This leads to stagnant water conditions, growth of algae, and likely low dissolved oxygen concentration in the

water column. Installing submerged or floating aeration diffusion devices is proposed to increase pond aeration and water circulation within the ponds, decrease algae growth, and increase habitat suitability for fishes and other aquatic life (including mosquito fish). The electric power needed for the aeration diffusion devices would be provided by extending electrical lines from the existing power line located along Chicory Loop to each pond. Several power poles would be installed between the road and the ponds for these new electrical line extensions.

An additional habitat enhancement that may be implemented at one or both ponds includes installing one or more artificial floating wetland islands. These low impact and low cost enhancements are typically constructed from a polymer-fiber platform that wetland plants are planted into, with plant roots penetrating the fiber matrix to hang below into the water column, essentially growing hydroponically in the pond water. The islands are built to be sufficiently buoyant to float and hold soil mix (during plant establishment), robust wetland vegetation, and wildlife. Floating islands would thus provide nesting, basking, cover, foraging, and fishing habitat for multiple bird species and western pond turtles and would have the added benefit of providing habitat refugia for birds and turtles from terrestrial predators such as raccoons and feral cats. The plant roots growing through the floating island and shade provided by the island would be expected to improve habitat quality for native and/or nonnative pond fish (which in turn should provide food for many wildlife species and provide mosquito larvae control). Floating wetland islands, like emergent wetlands, have additionally been demonstrated to improve water quality by taking up excess nutrients (nitrogen, phosphorus, etc.) that may be present in the water column. Since floating islands track the pond water surface elevation, vegetation on these islands should additionally persist whether widely fluctuating pond water levels remain very high or low for prolonged periods of time.

2.3 RECREATION COMPONENTS

The proposed project includes several recreational components that are intended to improve access management at the site and to provide improved recreational opportunities for site users. Potential recreational amenities include marked foot trails, elevated boardwalks, ADA access ramps, an equestrian trail, a ten-stall parking area, portable bathrooms, two large viewing platforms, multi-purpose picnic/recreational areas, way-finding signage and information kiosks. Marked foot trails would improve hiking and birdwatching access throughout the site. Some of the paths would be newly constructed and covered with decomposed granite, and others would expand existing paths by clearing brush and compacting the native soil. ADA access ramps would be provided both from the northeast and southwest. The southwestern ramp would connect to the proposed parking area to provide direct access from parked vehicles into the site.

Boardwalks would be built to span low elevation locations along the foot paths. The improved dirt paths within the interior portion of the site would also improve site accessibility including ADA access. Equestrian use of the project area west of Chicory Loop is proposed to be accommodated through the development of shared pedestrian/equestrian use trails.

The foot trail between the Chicory Loop Levee and the river is proposed to be improved to facilitate river and fishing access. These improvements would include stairs descending from Chicory Loop and connecting to an improved foot trail.

Interpretive signage would be placed along the paths to enrich the user experience by improving the public's understanding of the site's environmental value. Also, post-and-cable fencing would be selectively installed to restrict access to sensitive habitat areas on the site.

2.4 LONG-TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

2.4.1 INSPECTION AND MAINTENANCE DURING RESTORATION ESTABLISHMENT PHASE

During habitat restoration and the three- to five-year vegetation establishment period for all planted areas, regular monthly to quarterly site inspections (as deemed appropriate) would be conducted by an ecologist retained by the City. During these inspections, the ecologist would record observations on plant establishment success, including trends and patterns in plant survival and health, new native vegetation recruitment, observable beaver or human disturbance damage, and any site erosion problems, trash dumping or vandalism. The ecologist would visit and track all invasive species removal sites and temporary disturbance reseeding sites, and would map target invasive plant populations for treatment. Field visit observations and associated maintenance recommendations would be summarized and shared with the City and the restoration contractor. As necessary, planted container plants that die within the first three years after planting would be replaced with suitable replacement plants. Replacements may be of the same or a different species if the ecologist's review of plant health and survival patterns indicates that species substitutions may be appropriate.

Maintenance actions conducted during the three to five year establishment phase would include vegetation management and invasive species control (as described above), minor erosion repairs or additional erosion protective measures if needed, addition of beaver exclusion measures (e.g. plant caging) if needed, and/or supplemental seedings and plantings as deemed appropriate in areas with poor vegetation establishment.

2.4.2 OPERATIONS AND MAINTENANCE OF WATER QUALITY AND RECREATION COMPONENTS

Regular operations and maintenance of the water quality and recreational components would be necessary over the life of the project. The operational water quality components consist primarily of installing artificial floating wetland islands to increase wetland habitat, which can increase water quality through improved water filtration. However, the project also includes the installation of aeration diffusion devices within the ponds. The aeration diffusion devices would require regular monitoring to ensure they are properly functioning and are replaced if they fail. Although the floating wetlands are assumed to require little maintenance, they may need to be replaced if they become damaged or fail for some other reason.

Although the site is intended to provide passive recreational opportunities, it would include recreational infrastructure features and access management components that would require maintenance and replacement once they meet their useful life. The boardwalk trails may be regularly inundated as pond water levels rise in relation to water levels in the Sacramento River. This inundation would be expected to result in sediment and vegetative debris being deposited on the boardwalk trails. This material would need to be removed by maintenance personnel using shovels and/or brooms, depending upon the volume of material deposited. Regular boardwalk repairs would also likely be necessary including replacing individual boards or replacing whole boardwalk segments. Other walking trails would require regular maintenance to ensure tripping or falling hazards are not being created. This would likely require the regular application of decomposed granite or some other similar material in trail areas that are degrading. Regular vegetation clearing of the walking trails would be necessary to ensure access is not restricted. Also, because some of the trails on the site are expected to be used by equestrian riders, additional

overhead vegetation clearing may be necessary to ensure adequate head clearance is provided. To ensure sensitive vegetation or listed-species habitat areas are not disturbed, any post-and-rail fencing installed on the site would need to be regularly maintained. Regular pickup and maintenance of trash receptacles would be necessary to ensure they do not become a nuisance. Also, wayfinding signage would need to be regularly repaired and replaced.

2.4.3 DEVELOPMENT OF OPERATIONS AND MAINTENANCE PLAN

Project implementation would include the development of a comprehensive Bees Lakes Operations and Maintenance Plan (O&M Plan) to ensure the habitat, water quality and recreational objectives are maintained over the long term. The O&M Plan would identify anticipated operation and maintenance activities, maintenance standards, operating procedures, maintenance responsibilities, emergency/weather response operations, vehicle and equipment access restrictions, opening and closing procedures, safety requirements, burglary and vandalism procedures, illegal dumping procedures, volunteer programs (e.g., trailrider patrols), group use of the site, and flood patrol requirements.

2.5 REQUIRED PERMITS AND APPROVALS

The proposed project would require the adoption of this Initial Study/Mitigated Negative Declaration and project approval by the City of West Sacramento. In addition, the project would require issuance of a Lake and Streambed Alteration Agreement and potentially an Incidental Take Permit from the California Department of Fish and Wildlife. The California State Lands Commission would also need to approve any project components that occur within their easement southeast of Chicory Loop along the Sacramento River. Because the project is located within the designated floodway of the Sacramento River and is protected by State Plan of Flood Control levees, implementation would require an encroachment permit from the Central Valley Flood Protection Board and likely a Rivers and Harbors Act Section 408 authorization from the USACE. The placement of fill within the ponds and within any wetlands on the site would require a Clean Water Act Section 404 permit from USACE.

For USACE to issue either a 408 or a 404 permit, they would be required to consult with the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries through Section 7 of the federal Endangered Species Act. In addition, USACE will be required to comply with Section 106 of the National Historic Preservation Act. Lastly, the project would require coverage under a Construction Activities Storm Water General permit from the State Water Resources Control Board, a 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board, a Delta Plan Covered Action Certification as required by the Delta Stewardship Council, a grading permit from the City of West Sacramento, and a land owner agreement between the City and WSAFCA (the property owner).

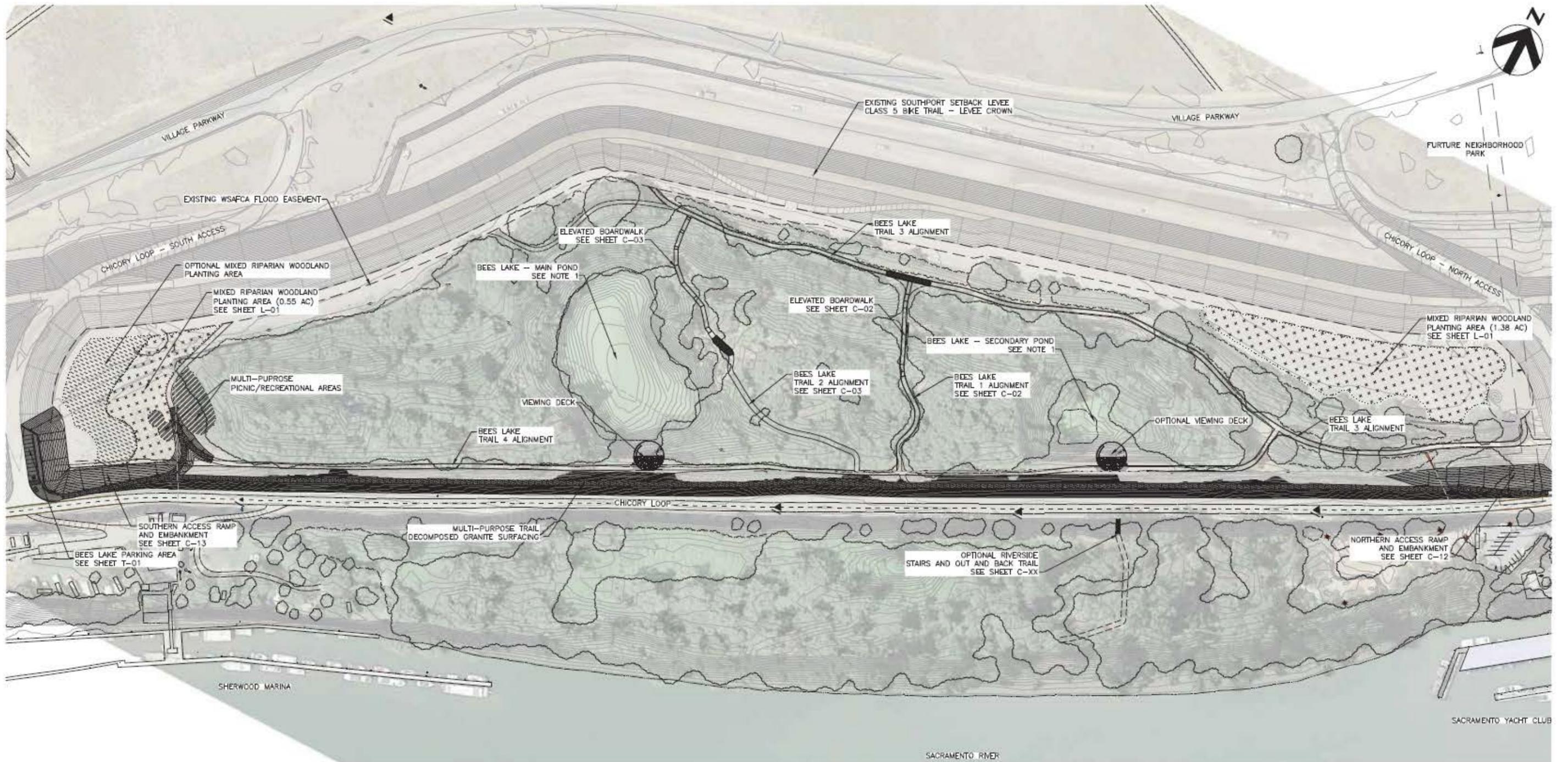


Exhibit 3 Proposed Project Components

3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION	
1. Project Title:	Bees Lakes Habitat Restoration Project
2. Lead Agency Name and Address:	City of West Sacramento 1110 West Capitol Avenue West Sacramento, CA 95691
3. Contact Person and Phone Number:	Traci Michel, Director, Department of Parks and Recreation (916) 617-4620
4. Project Location:	West Bank of the Sacramento River between river mile (RM) 55.8 and RM 55.1 in the City of West Sacramento, California
5. Project Sponsor's Name and Address:	City of West Sacramento 1110 West Capitol Avenue West Sacramento, CA 95691
6. General Plan Designation:	Open Space (OS)
7. Zoning:	Public Open Space (POS)
8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	See the project description included in Section 2 above.
9. Surrounding Land Uses and Setting: (Briefly describe the project's surroundings)	The project site is bounded by the Reclamation District (RD) 900 Operations and Maintenance (O&M) waterside toe road on the northwest edge, the Sacramento River on the southeast edge, and the property boundaries of the Sacramento Yacht Club and the Sherwood Harbor Marina southeast of the remnant levee along Chicory Loop.
10: Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement)	U.S. Army Corps of Engineers, NOAA Fisheries, US Fish and Wildlife Service, California State Lands Commission, California Dept. of Fish and Wildlife, State Water Resources Control Board, Central Valley Regional Water Quality Control Board, Delta Stewardship Council, and WSAFCA.
11: Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	The City has sent letters to affected tribes consistent with Public Resources Code section 21080.3.1 requirements and has initiated consultation with individual tribes regarding the appropriate treatment of potential tribal cultural resource that may be discovered during project construction.

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 type="checkbox"/> Biological Resources | <input 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 type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> None | <input checked="" type="checkbox"/> None With Mitigation | |

DETERMINATION (To be completed by the Lead Agency)

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

Printed Name

Title

Agency

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics.				
Except as provided in Public Resources Code section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers), would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 points.) 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 type="checkbox"/>	<input checked="" 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"/>

AFFECTED ENVIRONMENT

The project site is located in the Southport area of the city along the west bank of the Sacramento River. The area is composed primarily of suburban development and agricultural fields with some light commercial uses (e.g., Sacramento Yacht Club and Sherwood Harbor Marina) and riparian corridors. At street level, views of the site are dominated by the new Southport EIP levee in the foreground and mature riparian vegetation in the background. From the top of Chicory Loop within the project site, expansive views of the Sacramento River and the downtown Sacramento skyline are represented. The interior of the site is dominated by dense riparian vegetation on both sides of Chicory Loop with two small ponds located northwest of the remnant levee.

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. As viewed from offsite from the northwest, only the tops of the trees within the project site are visible due to the screening provided by the new setback levee that extends along the site’s entire northwestern boundary. As viewed from the southeast along the Sacramento River, the views are limited to a dense riparian canopy adjacent to the river. As described further in response to question “c” below, the project would not change the site’s visual character from these viewpoints. Although a riparian landscape would generally be perceived as a valued landscape within a transitioning urban setting, the project would not be expected to have a substantial

adverse effect on a scenic vista because it would not change the offsite views of the existing riparian landscape. Therefore, the project would have **no impact** on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is not located within a state scenic highway and is not visible from a state scenic highway. Therefore, the proposed project would have **no impact** on the scenic resources of a state scenic highway.

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 points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Public views of the project site are provided from the northwest, primarily from Village Parkway, from the Sacramento River, and from within the project boundaries. From the northwest, the project site is visually screened by the new Southport setback levee. As viewed from the northwest, only the tops of the trees within the site are visible. Although the project includes the removal of non-native vegetation and limited vegetation clearing to accommodate recreational components, project implementation would not be expected to alter the visual characteristics of the tree canopy. The proposed small parking area consisting of approximately 10 parking stalls and portable restroom facilities located at the southwestern end of the site would be visible from Village Parkway. Although vehicles parked in these stalls and the portable restroom facilities would be visible from public viewpoints to the northwest, these facilities would be constructed directly adjacent to the Chicory Loop Southern Access Road and would be visually consistent with roadway uses. Therefore, the proposed project would not alter the site's visual character as viewed from public viewpoints to the northwest.

From the Sacramento River, the views of a dense riparian corridor experienced by recreational boaters would not be altered. Minor vegetation removal would occur to better accommodate pedestrian access to the river but no significant changes in the visual character of the site as viewed from the river would occur.

Within the boundaries of the project site, views of the habitat enhancements and recreational components would be most visible to travelers on the remnant portion of South River Road (now called Chicory Loop). Visual changes associated with project implementation would include areas of thinned and replanted vegetation, and other habitat enhancement and recreational components including viewing platforms, floating islands, viewing benches, trails, boardwalks, way-finding signage, portable restrooms and parking areas. The project also includes the removal of accumulated trash from the project site. Because the project would include enhancing the existing habitat, would construct recreational amenities that are generally perceived as having positive visual qualities, and would remove trash from the site, the internal views of the site would be expected to be improved rather than degraded. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the project site and its surroundings and **no impact** would occur.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project would not include any new sources of light or glare. Construction would occur during daylight hours and the project does not include the installation of any nighttime lighting. Therefore, **no impact** on light or glare would occur with project implementation.

3.2 AGRICULTURAL AND FOREST RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agricultural and Forest Resources.				
<p>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, as updated) prepared by the California Department 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.</p>				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 zoned 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 or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

AFFECTED ENVIRONMENT

Both the riverside and interior portions of the project site currently support mature riparian woodland/forest, riparian scrub, and valley oak woodland habitats. The site does not contain Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forest land, timber land, or timberland zoned Timberland Production. The site’s land use designation is Open Space (OS) and its zoning designation is Public Open Space (POS).

DISCUSSION

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

The project site does not include land designated by the California Farmland Mapping and Monitoring Program (FMMP) as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Implementation of the proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and would not interfere with activities on Farmlands. Therefore, there would be **no impact** on Farmland.

- b) **Conflict with existing zoning for agricultural use or a Williamson Act contract?**

The project site does not include land zoned for agricultural uses and is not located on land that is under Williamson Act contract. Therefore, there would be **no impact**.

- 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 zoned Timberland Production (as defined by Government Code section 51104(g))?**

The project site does not include any land zoned for forest land, timberland, or Timberland Production. Therefore, there would be **no impact**.

- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

The project site supports mature riparian woodland/forest habitat. However, the proposed project does not propose to convert this habitat type and would not result in the loss of forest habitat. Therefore, there would be **no impact**.

- e) **Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

The project site does not include any components that would cause the conversion of farmland or forest land. Therefore, there would be **no impact**.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

AFFECTED ENVIRONMENT

CLIMATE AND METEOROLOGY

The project site is located within the Sacramento Valley Air Basin (SVAB). The SVAB is bounded on the north by the Cascade Range, on the south by the San Joaquin Valley Air Basin, on the east by the Sierra Nevada, and on the west by the Coast Range. The project site is within the jurisdiction of the Yolo Solano Air Quality Management District (YSAQMD). YSAQMD adopts air quality rules and issues permits consistent with state regulations.

The SVAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The average winter temperature is a moderate 49°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor-quality air movement occurs in the fall and winter when high-pressure cells are present over the SVAB. The lack of surface wind during these periods, combined with the reduced vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable metrological

conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or with temperature inversions, which hinder dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

Elevated levels of ozone typically occur May through October in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Delta breeze from the southwest in the afternoons. In addition, longer daylight hours provide ample sunlight to fuel photochemical reactions between reactive organic gases (ROG) and oxides of nitrogen (NO_x), which form ozone. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind to shift southward and blow air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to the area violating the ambient-air quality standards (Yolo Solano Air Quality Management District 2007).

The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors which affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

CRITERIA POLLUTANTS

Concentrations of emissions of criteria air pollutants indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SVAB and their health effects is provided below. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM) with aerodynamic diameter of 10 micrometers or less (PM_{10}), fine PM with aerodynamic diameter of 2.5 micrometers or less ($\text{PM}_{2.5}$), and lead. However, ozone, PM_{10} , and $\text{PM}_{2.5}$ are the criteria air pollutants of primary concern in the project area due to their nonattainment status with respect to the applicable National Ambient Air Quality Standards (NAAQS) and/or California Ambient Air Quality Standards (CAAQS).

Ozone - Ground-level ozone is not emitted directly into the air but is created by chemical reactions between NO_x and ROG. This happens when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight. Ozone at ground level is a harmful air pollutant, because of its effects on people and the environment, and is the main ingredient in smog (EPA 2018b).

Acute health effects of ozone exposure include increased respiratory and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation. Chronic health effects include permeability of respiratory epithelia and possibility of permanent lung impairment (EPA 2018b). Emissions of the ozone precursors ROG and NO_x have decreased over the past two decades because of more stringent motor vehicle standards and cleaner burning fuels (CARB 2013a).

Nitrogen Dioxide - NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts

through oxidation in the atmosphere to form NO₂. The combined emissions of NO and NO₂ are referred to as NO_x and are reported as equivalent NO₂. Because NO₂ is formed and depleted by reactions associated with photochemical smog (ozone), the NO₂ concentration in a particular geographical area may not be representative of the local sources of NO_x emissions (EPA 2012).

Acute health effects of exposure to NO_x includes coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis, or pulmonary edema, breathing abnormalities, cyanosis, chest pain, rapid heartbeat, and death. Chronic health effects include chronic bronchitis and decreased lung function (EPA 2018b).

Particulate Matter - PM₁₀ is emitted directly into the air and includes fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, as well as PM formed in the atmosphere by reaction of gaseous precursors (CARB 2013b). PM_{2.5} includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM₁₀ emissions in the SVAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM₁₀ are projected to remain relatively constant through 2035. Direct emissions of PM_{2.5} have steadily declined in the SVAB between 2000 and 2010 and then are projected to increase slightly through 2035. Emissions of PM_{2.5} in the SVAB are primarily generated by the same sources as emissions of PM₁₀ (CARB 2013b).

Acute health effects of PM₁₀ exposure include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, and premature death. Chronic health effects include alterations to the immune system and carcinogenesis (EPA 2018b).

Carbon Monoxide - CO is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. Eighty-six percent of the nationwide CO emissions are from mobile sources. The remaining 14 percent consists of CO emissions from power generation, refineries, and industrial sources.

CO affects human health by entering the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (CARB 2018a).

The highest concentrations of CO are generally associated with cold, stagnant weather conditions that occur during winter. In contrast to ozone, which tends to be a regional pollutant, CO tends to be localized. Emissions of CO have been declining statewide since the mid-1970s, when catalytic converters were first required in new vehicles. Despite increases in vehicle miles traveled (VMT), CO emissions are expected to continue to decrease into the future with the continuing improvement in automotive emission controls. Commercial and industrial fuel combustion and electric generation contribute a significant portion of the stationary source CO emissions. Areawide CO emissions are primarily from residential fuel combustion (including wood) and wildfires (CARB 2018b).

ATTAINMENT STATUS OF THE AIR BASIN

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) designate areas of the state as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A “maintenance” designation is assigned to areas where monitored pollutant concentrations exceeded an air quality standard in the past, but which are no longer in violation of that standard. An “unclassified” designation signifies that data do not support either an attainment or nonattainment status. In addition, each agency has several levels of classification used to further describe the severity of nonattainment conditions. For instance, the CARB classifies nonattainment areas into moderate, serious, or severe air pollution categories, with increasingly strict control requirements mandated for each.

The 2016 State Strategy for the State Implementation Plan (State SIP Strategy) describes CARB staff’s strategy to attain health-based federal air-quality standards over the next 15 years as part of the SIPs due in 2016 (CARB 2016a). The 2016 SIPs consist of a combination of State and local air-quality planning documents that must show how California will meet federal air quality standards for both ozone and fine particulate matter (PM_{2.5}). Measures contained in the SIP include, but are not limited to, deploying cleaner technologies, lowering NO_x engine standards, incentive funding to achieve further emissions reductions from on-road heavy duty vehicles, and low-emission diesel requirements for off-road equipment.

Locally, the Yolo-Solano Air Quality Management District (YSAQMD) is required to meet air quality standards set by CARB. Local districts that do not meet the state standards are required to prepare an air quality attainment plan (AQAP) for meeting certain standards. Counties in the Sacramento Federal Nonattainment Area have adopted the *Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan*, which outlines strategies for achieving the ozone and fine particulates standards (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2015).

The YSAQMD 1992 AQAP for attaining and maintaining State ambient air-quality standards for ozone is also updated every three years. The 2015 Triennial Assessment and Plan Update (Triennial Plan Update) discusses the progress the YSAQMD has made towards improving the air quality in its jurisdiction since its last Triennial Plan Update, and includes proposed commitments for the 2015–2017 period (Yolo-Solano Air Quality Management District 2016).

Ambient air quality in the project area and vicinity is monitored and regulated by the YSAQMD. Table 1 summarizes the attainment status of the YSAQMD and Table 2 summarizes YSAQMD Thresholds of Significance. The area is designated as nonattainment for PM_{2.5} (federal), PM₁₀ (State), and ozone (federal and State). Ozone and particulate matter are respiratory irritants that can cause serious health problems. Reactive organic gases (ROGs) and nitrogen oxides (NO_x) are ozone precursors. Vehicle emissions, such as from light and heavy-duty vehicles traveling on roads and agricultural vehicles and equipment, contribute to ozone precursors and particulate matter. Wind-blown dust from dirt roads and agricultural activities, as well as from open burning of burn piles, also contributes to particulate matter. Diesel particulate matter is a component of inadequately filtered diesel exhaust and is considered to be a toxic air contaminant.

ODORS

Objectionable or offensive odors rarely cause physical harm; however, because they are unpleasant they may lead to distress among the public and can generate citizen complaints to local governments. Odor impacts vary in frequency and severity, depending on the nature of the source, the wind direction, and the location of sensitive receptors. Existing sources of odors within the project area include diesel exhaust from vehicles traveling on local roads and from agricultural vehicles and equipment.

TABLE 1 FEDERAL AND STATE ATTAINMENT STATUS

Pollutant	National Attainment Status	California Attainment Status
Carbon monoxide	Attainment	Attainment
Lead	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Particulate matter (PM10)	Unclassified	Nonattainment
Fine particulate matter (PM2.5)	Nonattainment	Unclassified
Ozone	Nonattainment	Nonattainment
Sulfur dioxide	Attainment	Attainment
Hydrogen sulfide	No national standards	Unclassified
Sulfates	No national standards	Attainment
Vinyl Chloride	No national standards	Unclassified
Visibility-reducing particles	No national standards	Unclassified

Source: Yolo/Solano Air Quality Management District 2020.

SENSITIVE RECEPTORS

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, daycare facilities, playgrounds, hospitals, residential care facilities, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants. The nearest sensitive receptors to the project site include residences located approximately 600 feet to the southeast across the Sacramento River within the Little Pocket neighborhood of the City of Sacramento, and residences located approximately 850 feet to the north along Tamarack Road within the Southport area of the City of West Sacramento.

TOXIC AIR CONTAMINANTS

Air quality regulations also focus on toxic air contaminants (TACs) or in federal parlance, hazardous air pollutants (HAPs). TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Instead, the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics (MACT and BACT) to limit emissions. These, in conjunction with additional rules set forth by the YSAQMD, establish the regulatory framework for TACs. To date, CARB has identified over 21 TACs and has adopted the EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. There are no sources of TACs on the project site or within the immediate project vicinity.

DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

The YSAQMD attains and maintains air quality conditions in Yolo County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the YSAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The YSAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations.

All projects are subject to YSAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project are intended to limit nuisance emissions, fugitive dust, and construction vehicle emissions. The proposed project would be required to comply with the local rules and requirements established by YSAQMD during all phases of construction. As a result, the proposed project would not include any development activities that would conflict with or obstruct implementation of any applicable air quality plan. Therefore, there would be **no impact**.

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?

Construction emissions are described as "short term" or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially fugitive PM₁₀ dust emissions. Fugitive dust emissions are primarily associated with soil excavation and fill activities and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on-site and off-site. ROG and NO_x emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. Construction activities associated with site restoration activities would result in the temporary generation of ROG, NO_x, and PM₁₀ emissions from construction equipment during site

preparation, grading activities, vegetation planting, cleanup and other miscellaneous construction activities, and from material transport to the site and construction worker commute trips. The estimated daily volume of ROG, NO_x, and PM₁₀ emissions from construction activities has been identified in Table 2. The project would be expected to generate negligible emissions following site restoration.

The YSAQMD construction emission significance thresholds are not anticipated to be exceeded. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated as non-attainment under an applicable federal or state ambient air quality standard. This impact would be **less than significant**.

TABLE 2 ESTIMATED MAXIMUM DAILY SHORT-TERM CONSTRUCTION-GENERATED EMISSIONS

Source	ROG (tons/year)	NO _x (tons/year)	PM ₁₀ (lbs/day)
Total Unmitigated Construction Emissions ¹	0.13	1.28	5.0
YSAQMD Significance Threshold	10	10	80
Exceed Threshold?	No	No	No
¹ Emissions estimates based on CalEEMod computer modeling and assuming a maximum total disturbance area per day of less than one acre.			
Source: Data calculated by Douglas Environmental 2020.			

c) Expose sensitive receptors to substantial pollutant concentrations?

Construction activities within the project site would result in short-term emissions of diesel exhaust from on-site heavy-duty construction equipment. Particulate exhaust emitted from diesel-fueled engines (diesel PM) was identified as a TAC by the California Air Resources Board in 1998. The dose to which receptors are exposed (a function of construction and duration of exposure) is a primary factor used to determine health risk (i.e. potential exposure to TAC emission levels that exceed applicable standards). Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the state Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. In addition, since diesel PM is known to be highly dispersive, emissions would diffuse rapidly from the source, thus resulting in lower concentrations to which receptors could be exposed. Thus, because the use of mobilized equipment would be temporary (i.e., during a single construction season) and would combine with the dispersive properties of diesel PM, short-term construction activities would not result in exposure of sensitive receptors to substantial pollutant concentrations. Therefore, this impact would be **less than significant**.

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

Implementation of the proposed project would include the restoration of habitat and the construction of recreational amenities within the project site. These activities would not be expected to generate odors that would affect a substantial number of people. Therefore, this impact would be **less than significant**.

3.4 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the 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, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

AFFECTED ENVIRONMENT

The project site is located on the west bank of the Sacramento River, downstream of the confluence of the Sacramento and American Rivers, in the upper Sacramento Valley, and is located within the Great Central Valley California Floristic Province. On-site elevations range from approximately 0 feet above mean sea level (MSL) at the river bank to 40 feet MSL at the top of the old Chicory Loop levee and new setback levee. Much of the riverside portion of the project site is inundated during high river stages, at least once every 1 to 2 years on average. The project site includes two small ponds known as the Bees Lakes or as the Wood Duck Ponds. Both the riverside and interior portions of the project site currently support mature riparian woodland/forest, riparian scrub, and valley oak woodland habitats. Waterside riparian woodland and scrub along the riverbank provide Shaded Riverine Aquatic (SRA) habitat, which supports important in-stream habitat benefits for native fish and aquatic species in the adjacent river channel.

METHODS

Biological field reconnaissance and vegetation mapping for the project site was conducted by GEI Consultants, Inc. (GEI) ecologists Jennifer Burt and Brook Constantz on May 14, 2019 and by J. Burt on July 18, 2019. GEI ecologists also consulted with Leo Edson, who has been conducting seasonal bird surveys annually on the project site since 1992.

The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2019) and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2019a) were queried for the project area. These reviews were centered on the Sacramento West U.S. Geologic Survey (USGS) 7.5-minute quadrangle, where the project site is located, and included the eight surrounding quadrangles. A list of resources under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) that could occur in the vicinity of the Bees Lakes area was obtained from the USFWS Information for Planning and Conservation (IPaC) website (USFWS 2019a), and the USFWS online map of critical habitat for Federally threatened and endangered species (USFWS 2019b) was reviewed. A list of special-status species and critical habitat under jurisdiction of the National Marine Fisheries Service (NMFS) was obtained from the NMFS California Species List Tool (NMFS 2019).

Additional information reviewed in preparation of this section included historic aerial imagery on www.historicaerials.com and Google Earth®, National Wetlands Inventory data, the Natural Resources Conservation Service (NRCS) Soil Survey (NRCS 2019), historical United States Geological Survey maps (USGS 2019), and the Draft and Final Environmental Impact Report (EIR) prepared for the Southport EIP (ICF International 2014).

HISTORICAL CONTEXT

Review of available historical topographic maps (including maps from 1907, 1916, 1948, 1954, 1967, 1992, 2012, and 2018; USGS 2019) and historical aerial photographs (dating from 1947, 1957, 1964, 1966, 1993, and 1994-2018; www.historicaerials.com and Google Earth®) of the project site reveal some temporal context helpful to understanding current site conditions. The Chicory Loop levee has been in place in the current-day alignment since before 1907 (which is the date of the earliest detailed USGS topo map available for the area). The current-day foot trail that runs on the high ground along the northern edge of the landside woodland was first mapped as a dead-end dirt road coming from the Chicory Loop levee in 1948, and this dirt road is also apparent on the earliest aerial photograph taken in 1947. The two ponds are not mapped on the earliest detailed USGS maps (from 1907 and 1916), but do show up on the 1948 map, indicating they probably formed at some point between 1916 and 1948. Based on their location adjacent to and landside of the levee, and their configuration and depth, these ponds likely formed as scour holes formed by erosion during a levee overtopping and/or breaching event during that time frame. The size and extent of the two ponds are mapped similarly from 1948 to present-day maps, except that the smallest pond is mapped slightly smaller in extent on the most recent maps and this is also evident from review of historical aerial photographs.

Review of historical aerial photographs reveals that the entirety of the riverside portion of the site has been densely wooded since the earliest photograph in 1947, but that California grape (*Vitis californica*) only became clearly dominant in portions of the riverside forest starting around 2005. On the landside portion of the site, the outer boundaries of the landside wooded areas have been consistent through the decades, having been directly

adjacent to (and constrained by) active agricultural uses from 1947 (or earlier), until the new flood control levee was constructed starting in 2017. Early aerial photographs from 1947 through 1966 show significantly less woody vegetation within the interior of the landside portion of the site than in the present day, with evidence of ongoing site disturbance and larger extents of open grassland vegetation and bare ground. The dirt road around the backside of the woodland appears to have extended further west/southwest of the large pond at one point, to a clearing adjacent to the pecan (*Carya illinoensis*) grove. The large pecan trees in that grove first become apparent on aerial photographs starting in 1957. There is a wide gap in available aerial photography between 1966 and 1993; the 1993 aerial photographs and beyond show the entirety of the landside area of the project site being densely wooded, similar to current conditions.

Long-term observations by local birders (Leo Edson and Michael Perrone, *pers. comm.*) who have been frequenting the site since the early 1990s, indicate that a number of mature Fremont cottonwood (*Populus fremontii*) and black willow (*Salix gooddingii*) trees have died in recent decades on the landside portion of the site, and the prevalence of young valley oaks (*Quercus lobata*) in the landside woodland canopy has increased. Increased abundances of California grape (*Vitis californica*) and various nonnative invasive species have also been observed over recent decades (Leo Edson, *pers. comm.*). Site users have additionally noticed increased trash dumping on site in recent years, particularly since the new developments and the new flood control levee were built.

Vegetation types on the project site were mapped in 2019 using recent aerial imagery and field surveys, following vegetation alliance classifications from Sawyer et al. (2009) and CNPS (2019b). The vegetation types mapped and their acreages within the project site are presented in Table 3.

The majority of the project site is vegetated with mature, dense riparian forest/woodland and riparian scrub vegetation, while areas around the periphery of the site and along the Chicory Loop remnant levee primarily support herbaceous nonnative annual grassland and/or ruderal plant communities, due to past agricultural uses and ongoing disturbance associated with levee construction, and operations and maintenance (O&M) activities.

RIPARIAN WOODLAND/FOREST VEGETATION

The tree canopy layer in the riparian woodland/forest vegetation types of the site is dominated largely by Fremont cottonwood and valley oak, with black willow and boxelder (*Acer negundo*) also prevalent (Table 3). Riparian woodland/forest is a broad vegetation category that includes many vegetation alliances, which are in turn primarily differentiated based on relative species dominance within the tree canopy, but all of these riparian forest/woodland communities share significant overlap in both overstory and understory community composition in the project area.

Fremont Cottonwood Forest - Fremont cottonwood forest on the project site is dominated by Fremont cottonwood, with box elder (*Acer negundo*), Northern California black walnut (*Juglans hindsii*), valley oak, Oregon ash (*Fraxinus latifolia*), and black willow (*Salix gooddingii*) as co-dominants. The shrub layer is dense to intermittent and is dominated by California grape (particularly in the riverside portion of the site), California blackberry (*R. ursinus*), and nonnative Himalayan blackberry (*Rubus armeniacus*), with scattered blue elderberry (*Sambucus nigra* ssp. *caerulea*). Edible fig (*Ficus carica*), arroyo willow (*Salix lasiolepis*), common buttonbush (*Cephalanthus occidentalis*) and sandbar willow (*Salix exigua*) are also present in areas that are frequently inundated during winter months. California grape is currently highly dominant in the understory of the riverside

portion of the site, growing with and over lower tree and scrub-shrub species and well into the cottonwood forest tree canopy, creating curtains of wild grape on many of the mature trees. In recent years, increasing mortality of mature cottonwood and willow trees with little to no new recruitment of young cottonwoods or willows has been observed on the landside portion of the project site, while young valley oaks have become more prevalent (Leo Edson, *pers. comm.*). These trends towards increasing valley oak cover are likely due to the lack of riverine or other canopy opening disturbances occurring on the interior of the site in recent decades, which would be needed to sustain continual recruitment of early seral species such as willow and cottonwood that require bare mineral soil and open canopy conditions for seedling growth.

TABLE 3 LAND COVER TYPES ON THE PROJECT SITE

Land Cover/Vegetation Type	Acres on Project Site
Riparian Forest/Woodland Habitat Types	
<i>Populus fremontii</i> Forest Alliance (Fremont cottonwood forest)	13.07
<i>Quercus lobata</i> Woodland Alliance (valley oak woodland)	10.24
<i>Acer negundo</i> Forest Alliance (boxelder forest)	0.69
<i>Populus fremontii</i> Forest Alliance/Developed (campground/marina)	0.21
<i>Salix gooddingii</i> Woodland Alliance (black willow woodland)	3.23
Riparian Scrub Habitat Types	
<i>Rubus armeniacus</i> Shrubland Semi-natural Alliance (Himalayan blackberry thickets)	1.34
<i>Ficus carica</i> Shrubland Semi-natural Alliance (Edible fig riparian scrub)	0.84
<i>Cephalanthus occidentalis</i> Shrubland Alliance (buttonbush thickets)	0.67
<i>Rubus ursinus</i> Shrubland Alliance (California blackberry thickets)	0.43
Other	
Open water/Duckweed blooms	2.65
Developed/Road	1.38
Annual grassland/ ruderal herbaceous vegetation	10.7
Pecan grove (<i>Carya illinoensis</i>)	0.82
Unvegetated (Beach/bare ground)	0.26
Ornamental landscaping	0.13
Total	46.66
Source: GEI Consultants, Inc. 2019	

Valley Oak Woodland - Valley oak woodland on the project site is dominated by valley oak, with box elder, white alder, Oregon ash, Northern California black walnut, interior live oak, and black willow regularly co-occurring in the tree canopy. The shrub layer tends to be well developed and includes California grape, California blackberry, Himalayan blackberry, and blue elderberry. Valley oak woodland stands are found at varying elevations and hydrologic conditions on the project site but only on the landside portion of the site, except on higher ground along the remnant levee. Young valley oak trees are becoming more prevalent in the landside areas of the project site in recent decades that were previously dominated by mixed cottonwood/willow vegetation (Leo Edson, *pers. comm.*). There are many large, mature oak trees on the project site, particularly along the northwest edge of the wooded area.

Black Willow Woodland - Black willow woodland shares similar community composition to Fremont cottonwood forest and valley oak woodland, except that black willow is dominant in the tree canopy. Boxelder and northern California black walnut are co-dominant in the tree canopy, and the shrub layer is primarily buttonbush and sandbar willow.

Boxelder Forest - Boxelder forest is characterized by boxelder being dominant or co-dominant in the tree canopy, with generally less than 5% cover by taller trees such as Fremont cottonwood, valley oak and black oak. Boxelder forest at the project site also includes white alder, Oregon ash, northern California black walnut, and California blackberry and California grape in the understory.

RIPARIAN SCRUB VEGETATION

Riparian scrub vegetation is generally defined by being lower-stature than riparian woodland/forest vegetation types, and are dominated by shorter tree or shrub species. Specific riparian scrub vegetation alliances present on site are described in further detail below.

California Blackberry and Himalayan Blackberry Shrublands - California blackberry thickets are prevalent within the project site understory and in tree canopy openings. California blackberry regularly co-occurs with California grape, which grows within and on top of the blackberry shrubs. California blackberry is often found adjacent to nonnative Himalayan blackberry stands but the two species do not tend to overlap spatially. Himalayan blackberry is an invasive species, and both native and nonnative blackberry species repress recruitment by riparian tree species.

Buttonbush Thickets - Buttonwillow occurs in the riparian forest understory in various locations on the project site, primarily around the margin of the larger pond where taller tree canopy was generally absent. In these areas, buttonbush is dominant in the shrub canopy and sandbar willow is also present.

Edible Fig Riparian Scrub - Edible fig riparian scrub occurs in one low-lying riverside portion of the project site, where fig is the dominant large shrub species. Boxelder and California blackberry can also be intermixed in this vegetation type where mapped on site, but where the vegetation is overgrown with California grape the shrubs can become nearly indistinguishable. Edible fig is an invasive species.

OTHER VEGETATION TYPES

Pecan Grove - A small grove of large pecan trees occurs at the northeast edge of the wooded portion of the site. These trees may be remnants of historical plantings for ornamental value or nut production, as pecan trees are not generally widely naturalized in the region. Pecan is not native to the region, and pecan seedlings and saplings have been observed recruiting in other portions of the project site in recent decades (Leo Edson, *pers. comm.*).

Open Water/Duckweed Blooms - The two ponds are mapped as open water/duckweed blooms. Duckweed blooms are dominated by small, floating aquatic herbs in the Arum family, including duckweed (*Lemna* sp.), which can provide an important food source for wood ducks and other aquatic wildlife.

Annual Grassland/Ruderal Herbaceous Vegetation - The most widespread vegetation type on the project site is annual grassland/ruderal herbaceous vegetation. This is due in significant part to the riparian forests and scrub vegetation types being split into multiple vegetation alliances based on species dominance patterns. Species

composition of areas mapped annual grassland/ruderal vegetation varies within the site, but generally they are dominated by nonnative annual grasses, including wild oats (*Avena fatua*), Italian rye grass (*Festuca perennis*), and foxtail barley (*Hordeum murinum*), with ripgut brome (*Bromus diandrus*), bermudagrass (*Cynodon dactylon*) and Johnsongrass (*Sorghum halepense*) also prevalent. Common horsetail (*Equisetum arvense*) occasionally occurs in wetter areas along the remnant levee and along edges of the woody riparian habitats. Nonnative forbs, such as yellow sweetclover (*Melilotus indicus*), yellow starthistle (*Centaurea solstitialis*), burclover (*Medicago polymorpha*), Italian thistle (*Carduus pycnocephalus*), hairy vetch (*Vicia villosa*), and milk thistle (*Silybum marianum*), also comprise a significant component of this vegetation type, particularly within more disturbed areas along the new levee O&M area and along some foot trails.

The slope of the new levee was seeded with native grasses following construction; these grasses are in an early phase of growth but evidence of young California barley (*Hordeum brachyantherum*), blue wildrye (*Elymus glaucus*), and slender wheatgrass (*Elymus trachycaulus*) plants were observed during the field survey.

WETLANDS AND WATERS OF THE U.S.

Under Section 404 of the Federal Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into aquatic features that qualify as waters of the United States; wetlands that support hydrophytic vegetation, hydric soil types, and wetland hydrology may also qualify for USACE jurisdiction under Section 404 of the CWA. Under Section 401 of the CWA, the Central Valley Regional Water Quality Control Board (RWQCB) regulates discharge of dredged or fill material into waters of the United States that drain to the Central Valley, to ensure such activities do not violate State or Federal water quality standards; the Central Valley RWQCB also regulates waters of the State, in compliance with the Porter-Cologne Water Quality Control Act. In addition, diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, or impacts to associated riparian vegetation, may be subject to regulatory approval of CDFW pursuant to Section 1602 of the California Fish and Game Code.

A jurisdictional delineation of wetlands and other waters of the United States was conducted for the entire Southport EIP project boundary including the Bees Lakes area. The delineation indicated that the Bees Lakes ponds, as well as areas below the ordinary high water mark riverside of the remnant levee, are jurisdictional waters of the United States (ICF International 2014). Low lying portions of the interior of the project site, particularly the swale that links the two ponds hydrologically during high water events and low lying areas adjacent to the ponds on either side, are regularly shallowly inundated during periods when river stages are high (Leo Edson, *pers. comm.*) and support hydrophytic vegetation including buttonbush and boxelder. Uplands on site include all areas of the project site on high ground that do not routinely become inundated, including areas along the remnant levee and new levee slopes, and the strip of higher ground along the northern edge of the wooded portion of the site.

SENSITIVE NATURAL COMMUNITIES

Most of the native plant communities present on site are considered sensitive natural communities by CDFW, including Fremont cottonwood forest, valley oak woodland, black willow woodland, boxelder forest, California blackberry shrublands, and buttonwillow thickets (CDFG 2010). Additionally, most woody vegetation on the project site would likely be subject to jurisdiction of CDFW as riparian-associated habitats under California Fish

and Game Code section 1602. Many of the larger trees within the project site also meet the definition of heritage or landmark trees as defined in the City of West Sacramento Tree Preservation Ordinance.

INVASIVE PLANT SPECIES

The most commonly observed woody invasive plants on the project site include Himalayan blackberry, which occurs in large patches in portions of the riparian forest understory and in some open canopy sites, and edible fig, which is scattered throughout the site but primarily in the riverside portion, both of these species are rated invasive by the California Invasive Plant Council (CalIPC 2019). This rating is important in identifying plant species that may limit habitat biodiversity. Additional plants present on the project site rated invasive by CalIPC include English ivy (*Hedera helix*), giant reed (*Arundo donax*), Russian olive (*Elaeagnus angustifolia*), and glossy privet (*Ligustrum lucidum*). Nonnative trees present in low numbers within the interior woodlands of the site, that are not rated invasive by CalIPC include a small grove of mature pecan trees and scattered pecan saplings, and occasional Chinese pistache (*Pistacia chinensis*) and almond (*Prunus dulcis*) trees. Other species rated as invasive by CalIPC on the site include nonnative annual grasses (wild oats, Italian rye grass, foxtail barley, ripgut brome, bermuda grass), Johnsongrass, yellow starthistle, Italian thistle, yellow sweetclover, burclover, hairy vetch, and milk thistle (CalIPC 2019). Scattered poison hemlock (*Conium maculatum*) plants were also observed within the project site.

WILDLIFE

The project site provides high quality habitat for an abundance of birds and other wildlife. Large trees within the riparian woodlands provide nesting and roosting habitat for raptors, songbirds, herons, and egrets, while dense and diverse understory riparian vegetation and the Bees Lakes ponds provide quality habitat for various songbirds, amphibians, reptiles and mammals. The annual grasslands surrounding the periphery of the site provide an additional element of habitat diversity for terrestrial wildlife.

The project area, which is also referred to by birders as Wood Duck Lake and Wood Duck Ponds, is a popular destination for local birders and is listed on the eBird citizen science database as the Wood Duck Lake hotspot (eBird 2019). The eBird checklist of bird observations includes 178 species, which is one of the highest totals for eBird hotspots in Yolo County (eBird 2019). It is also considered as a prime birding site by Yolo Audubon Society (YAS 2019). Mature cottonwoods provide suitable habitat for cavity-nesting birds including wood duck (*Aix sponsa*), downy woodpecker (*Picoides pubescens*), Nuttall's woodpecker (*Picoides nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), and tree swallow (*Tachycineta bicolor*). Raptors are also known to nest in mature riparian woodland including red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and Swainson's hawk (*Buteo swainsoni*); in recent years Swainson's hawk were documented nesting within the project site. Other native bird species known to nest on the project site include yellow-billed magpie (*Pica nuttalli*), western scrub-jay (*Aphelocoma californica*), Bewick's wren (*Thryomanes bewickii*), and California quail (*Callipepla californica*).

The project site is also known to provide important "stopover" habitat for migratory birds including species of warblers, tanagers, vireos, and flycatchers. Stopover sites are places for birds to rest, refuel, and seek shelter during their bi-annual migration, the most perilous stage of a bird's lifecycle. The project site also provides habitat for winter range habitat for a number of migratory bird species. The project site is known to provide habitat suitable for amphibians, reptiles and mammals, including bullfrog (*Lithobates catesbeianus*), red-eared slider

(*Trachemys scripta elegans*), western pond turtle (*Actinemys marmorata*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*).

FISH

The project site is adjacent to the Sacramento River, which supports a diversity of native and nonnative fish species. During high river flows, the riverside wooded portion of the project site becomes shallowly inundated and provides flooded riparian habitat for fishes, as well as foodweb benefits to the riverine ecosystem via the flushing of organic matter and insects from the forests/woodlands into the riverine ecosystem. The riparian forest vegetation along the river's edge also provides SRA habitat for fishes and other aquatic species in the Sacramento River channel.

A number of native and nonnative fish species are common in the Sacramento River in the vicinity of the project site. Common native fishes occurring in this region include Sacramento sucker (*Catostomus occidentalis*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento splittail (*Pogonichthys macrolepidotus*), Sacramento blackfish (*Orthodon microlepidotus*), hardhead (*Mylopharodon conocephalus*), speckled dace (*Rhinichthys osculus*), California roach (*Lavinia symmetricus*), hitch (*Lavinia exilicauda*), fathead minnow (*Pimephales promelas*), threespine stickleback (*Gasterosteus aculaetus*), prickly sculpin (*Cottus asper*), and tule perch (*Hysterocarpus traski*) (ICF International 2014). A large diversity of nonnative fishes are prevalent in the Sacramento River, including species such as goldfish (*Carassius auratus*), carp (*Cyprinus carpio*), threadfin shad (*Dorosoma petenense*), American shad (*Alosa sapidissima*), channel catfish (*Ictalurus punctatus*), mosquito fish (*Gambusia affinis*), striped bass (*Morone saxatilis*), largemouth bass (*Micropterus salmoides*), redeye bass (*M. coosae*), spotted bass (*M. punctulatus*), small mouth bass (*M. dolomieu*), Bigscale logperch (*Percina macrolepida*), Bluegill (*Lepomis macrochirus*), Green sunfish (*L. cyanellus*), and redear sunfish (*L. microlophus*) (ICF International 2014). Multiple special-status fish species also occur in the Sacramento River adjacent to the project area, including anadromous fish such as salmonids, lamprey, and sturgeon, and migratory fish species that may spawn within the study area along shallow river margins, as described in further detail below in the discussion of Special Status Species.

It is unknown whether the Bees Lakes ponds currently support any fish species. Intraoffice correspondence memos by California Department of Fish and Game staff dating from 1956 indicate that the ponds at that time were popular with local anglers.

SPECIAL STATUS SPECIES

Special-status species typically include plants and animals that fall into any of the following categories:

- taxa (i.e., species and other taxonomic categories) officially listed, or candidates or proposed for listing, by the Federal government or the State of California as endangered, threatened, or rare;
- fish and wildlife identified by CDFW as species of special concern or listed as Fully Protected under the Fish and Game Code; or
- plants considered by CDFW to be “rare, threatened, or endangered in California”, or designated as “special plants” by CDFW

Plant taxa are assigned by CDFW to one of the following six California Rare Plant Ranks (CRPRs); all plants with a CRPR are considered “special plants” by CDFW:

- CRPR 1A—Plants presumed to be extinct in California;
- CRPR 1B—Plants that are rare, threatened, or endangered in California and elsewhere;
- CRPR 2A—Plants that are presumed extirpated in California, but are more common elsewhere;
- CRPR 2B—Plants that are rare, threatened, or endangered in California but more common elsewhere;
- CRPR 3—Plants about which more information is needed (a review list); or
- CRPR 4—Plants of limited distribution (a watch list).

The determination of what special-status species could potentially occur on the project site was based primarily on queries of the CNDDDB (CDFW 2019) and CNPS online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2019a).

Special Status Plants - Table 4 provides information on special-status plant species that were evaluated to have potential to occur on the project site, including status, blooming period, habitat associations, and likelihood of occurrence. A total of 31 special-status plant species were identified as having documented extant or historical occurrences in the 9-quad CNDDDB and CNPS search area (CDFW 2019, CNPS 2019a). Based on the review of existing documentation and observations made during field surveys, suitable habitat or microhabitat for most of the special-status plant species that were evaluated is absent from the project site. However, eight plant species were determined to have low potential to occur on the project site: bristly sedge (*Carex comosa*), Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*), Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Mason's lilaepsis (*Lilaeopsis masonii*), Sanford's arrowhead (*Sagittaria sanfordii*), and Suisun Marsh aster (*Symphyotrichum lentum*).

Lake margins and emergent marshes are habitats associated with bristly sedge, Parry's rough tarplant, Peruvian dodder, Boggs Lake hedge-hyssop, Sanford's arrowhead, and Suisun Marsh aster. However, the margins of the Bees Lakes ponds are mostly surrounded by dense woody vegetation, reducing potential habitat suitability for these species. Mason's Lilaeopsis, woolly rose-mallow, and Suisun marsh aster could occur along the Sacramento River bank, but high river flows and boat wake disturbance likely minimizes establishment by these species on the project site. None of these plant species were observed during site reconnaissance efforts.

Special Status Fish and Wildlife Species - Because the project site includes high quality riparian forest and scrub-shrub habitats and the adjacent Sacramento River, the site has moderate to high potential to support numerous special-status fish and wildlife species, including: Valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), western pond turtle (*Emys marmorata*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), purple martin (*Progne subis*), green sturgeon (*Acipenser medirostris*), Delta smelt (*Hypomesus transpacificus*), Central Valley spring-run, fall/late fall-run, and Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), California Central Valley steelhead

TABLE 4 SPECIAL-STATUS PLANTS THAT HAVE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Blooming Period	Status ¹		Habitat Associations	Potential to Occur in Project Site
		Federal	State		
Bristly sedge <i>Carex comosa</i>	May-Sep	–	2B.1	Marshes and swamps along lake margins; wet places.	Low; marginally suitable habitat may occur around edges of Bees Lakes ponds and pond overflow areas. Nearest recorded occurrence is approximately 17 miles from project site.
Parry's rough tarplant <i>Centromadia parryi</i> <i>ssp. rudis</i>	May-Oct	–	4.2	Grassland, edges of marshes and vernal pools, disturbed sites.	Low; marginally suitable habitat may occur near edges of ponds and other wet areas but these are mostly heavily vegetated with woody vegetation. Nearest recorded occurrence is approximately 5 miles west of project site.
Peruvian dodder <i>Cuscuta obtusiflora</i> <i>var. glandulosa</i>	Jul-Oct	–	2B.2	Freshwater marshes and swamps.	Low; potentially suitable habitat could occur along Bees Lakes pond margins. Nearest recorded occurrence is ~9 miles southeast of project site.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	Apr-Aug	–	SE/1B.2	Marshes and swamps (lake margins), vernal pools, clay soils.	Low; marginal habitat may occur along the margins of Bees Lakes ponds or swales, but the edges of these ponds are mostly heavily vegetated with woody vegetation. Nearest recorded occurrence is approximately 10 miles southeast of project site.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> <i>var. occidentalis</i>	Jun-Sep	–	1B.2	Marshes and swamps (freshwater), wet banks, often in riprap on sides of levees.	Low; potentially suitable habitat on Sacramento River bank but high river flows and boat wakes likely reduce habitat suitability. Nearest recorded occurrence is approximately 12 miles north of project site.
Mason's Lilaeopsis <i>Lilaeopsis masonii</i>	Apr-Nov	–	R/1B.1	Intertidal marshes (brackish or freshwater), riverbanks, generally found in tidal zones on bare depositional soils in the Delta.	Low; habitat may be present along Sacramento River bank, but river flows and boat wakes likely reduce habitat suitability. Nearest recorded occurrence is along the Sacramento Deep Water Ship Channel approximately 4 miles southwest of project site.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	May-Oct(Nov)	–	1B.2	Shallow freshwater marshes and swamps.	Low; marginally suitable habitat may occur on margins of Bees Lakes, but edges of ponds are mostly wooded. Nearest recorded occurrence is approximately 1.5 miles east of project site.
Suisun Marsh aster <i>Symphyotrichum lentum</i>	(Apr)May-Nov	–	1B.2	Marshes and swamps (brackish and freshwater)	Low; marginally suitable habitat may occur on the margins of Bees Lakes or along the Sacramento River bank, but edges of ponds are mostly wooded and high flows and boat wakes on river likely reduce habitat suitability. Nearest recorded occurrence is approximately 3.5 miles west of project site.

Species	Blooming Period	Status ¹		Habitat Associations	Potential to Occur in Project Site
		Federal	State		
¹Status Definitions:					
<u>Federal Status</u>					
FT = Federally Threatened					
FE = Federally Endangered					
– = No status					
<u>State Status</u>					
SE = State Endangered					
R = Rare under the California Native Plant Protection Act; this category is not used for newly listed plants, but some plants previously listed as rare retain this designation.					
<u>California Rare Plant Ranks</u>					
1B = Plant species considered rare or endangered in California and elsewhere					
2B = Plant species considered rare or endangered in California but more common elsewhere					
3 = Plant species about which more information is needed (a review list)					
4 = Plant species of limited distribution (a watch list)					
<u>California Rare Plant Rank Extensions</u>					
.1 = Seriously endangered in California (greater than 80 percent of occurrences are threatened and/or have a high degree and immediacy of threat)					
.2 = Fairly endangered in California (20 to 80 percent of occurrences are threatened and/or have a moderate degree and immediacy of threat)					
.3 = Not very endangered in California					
Sources: CDFW 2019; CNPS 2019a; USFWS 2019a; ICF 2014					

(*Oncorhynchus mykiss irideus*) distinct population segment (DPS), Pacific lamprey (*Entosphenus tridentatus*), river lamprey (*Lampetra ayresi*), Sacramento splittail (*Pogonichthys macrolepidotus*), and longfin smelt (*Spirinchus thaleichthys*). Table 5 presents information on the species that were determined to have potential to occur on the project site.

VELB is associated with riparian and oak savannah habitats wherever its obligate host plant, blue elderberry, occurs. Many blue elderberry shrubs with sufficient size to support VELB are scattered throughout both the landside and riverside portions of the project site. Western pond turtle has been regularly observed in the Bees Lakes ponds. Swainson’s hawk have been recently and regularly documented to nest in large trees of the project site, though their use of the site will likely become less frequent over time due to extensive nearby residential and commercial developments reducing the available area of adjacent agricultural foraging habitat.

The Sacramento River is designated critical habitat for several Federally-listed Threatened or Endangered fish, including Delta smelt, Chinook salmon Central Valley spring-run and Sacramento River winter-run, California Central Valley steelhead DPS, and green sturgeon southern DPS. Critical habitat includes certain physical or biological features that are considered by NMFS or USFWS as essential to the conservation of the fish or and that may require special management considerations or protection. The Sacramento River is also considered essential fish habitat for Chinook salmon, which includes waters and substrate necessary for spawning, breeding, feeding, and growth to maturity within currently and historically accessible habitat. The riverside portion of the project site likely provides limited vegetated floodplain habitat for many of these special-status species when these areas become shallowly inundated during periods of high river flows.

TABLE 5 SPECIAL-STATUS FISH AND WILDLIFE SPECIES THAT HAVE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status		Habitat Associations	Potential to Occur in Project Site
	Federal	State		
Invertebrates				
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	–	Riparian and oak savanna habitats with blue elderberry shrubs, which are the obligate host plant for the beetle larvae.	High; many large blue elderberry shrubs are present in riparian habitat. Species has been documented near the project site.
Reptiles				
Giant garter snake <i>Thamnophis gigas</i>	T	T	Open water associated with marshes, slow moving rivers, streams, sloughs, and irrigation/drainage ditches within the Central Valley. Requires emergent herbaceous vegetation, and grassy banks and adjacent upland habitat for cover and refuge from flooding.	Very low; although on-site ponds may be considered suitable aquatic habitat, surrounding riparian vegetation is unsuitable and ponds are not connected to suitable aquatic habitat elsewhere. Closest known occurrence approximately 3 miles west of project area.
Western pond turtle <i>Actinemys marmorata</i>	–	SSC	Permanent or nearly permanent water bodies with abundant vegetation and rocky or muddy bottoms; also requires basking sites such as logs, rocks, cattail mats, and exposed banks; nests in .	High; regularly observed in Bees Lakes ponds;.
Birds				
Tricolored blackbird <i>Agelaius tricolor</i>	–	T	Forages in grasslands, agricultural fields, flooded land and along edges of ponds. Nests in dense cattails, tules, and other dense vegetation, often near freshwater.	Low; nest colonies have been documented within 2 miles of project site and has been observed occasionally onsite, but habitat is only marginally suitable .
Golden eagle <i>Aquila chrysaetos</i>	–	FP	Variety of habitats in foothills, mountains, high plains, and desert; primarily nests on cliffs in steep canyons, but also in large trees in open areas.	Very low; no nesting habitat is present in the immediate vicinity of the project site, and species is not known to have been observed onsite.
Grasshopper sparrow <i>Ammodramus savannarum</i>	–	SSC	Nests and forages in natural grasslands with a mix of grasses, forbs, and scattered shrubs, typically on rolling hills and lowland plains.	Very low; project site does not provide suitable grassland habitat, but an unconfirmed sighting has been documented in the project vicinity.
Burrowing owl <i>Athene cunicularia</i>	–	SSC	Nest and forages in grasslands and agricultural fields with natural of artificial burrows or friable soils.	Very low; grassland habitat on project site is of marginal quality and regularly disturbed by maintenance activities. Burrowing owls have been documented at many locations within 5 miles of the project site but were not detected during intensive monitoring of Southport EIP construction.
Swainson's hawk <i>Buteo swainsoni</i>	–	T	Forages in grasslands and agricultural fields; nests in large trees in woodlands or in scattered trees	High; known to nest on the project site.

Species	Status		Habitat Associations	Potential to Occur in Project Site
	Federal	State		
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	T	E	Nests in extensive riparian thickets or forests with dense, low-level or understory vegetation. Forages in a variety of riparian habitats.	Very low; project site provides suitable foraging habitat for migrant individuals, but nearest potentially extant breeding population is more than 20 miles north of project site.
White-tailed kite <i>Elanus leucurus</i>	–	FP	Forages in grasslands and agricultural fields; nests in woodlands and isolated trees.	High; regularly observed on project site, which provides suitable nesting habitat; several nest sites previously known from project vicinity, but species not observed nesting on site since new levee constructed (Leo Edson, <i>pers. comm.</i>).
Bald eagle <i>Haliaeetus leucocephalus</i>	–	E	Coastal shorelines and wetlands, lakes, reservoirs, and rivers. Nests in large trees, typically in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers.	Very low; does not nest in the project vicinity and has rarely been documented in the project site vicinity. .
Song sparrow (“Modesto” population) <i>Melospiza melodia</i>	–	SSC	Nests and forages in emergent freshwater marsh and riparian scrub and woodland.	Low; marginally suitable nesting habitat occurs on project site, and this subspecies nests in marsh and riparian habitat in the region. However, this species is generally absent during the nesting season, and individuals that occur at other times of year are likely a different subspecies.
Purple martin <i>Progne subis</i>	–	SSC	Nests in abandoned woodpecker holes in deciduous trees in wooded and riparian habitats, also nests under elevated freeways and bridges in urban areas. Forages in adjacent open habitats.	Moderate; has been documented onsite, but no suitable nesting habitat. Individuals from nearby nest colonies could forage over the project site.
Bank swallow <i>Riparia riparia</i>	–	T	Nests in vertical banks or bluffs of suitable soil, typically adjacent to water, and forages in adjacent open habitat.	Low; project site does not provide suitable nesting habitat, and no nest colonies occur nearby. Migrant individuals could forage over the site.
Least Bell's vireo <i>Vireo bellii pusillus</i>	E	E	Typically occurs in structurally diverse riparian habitat with dense shrub layer. Though historically in Sacramento Valley region, all known extant populations are in Santa Barbara County or further south.	Very low; project site provides marginally suitable habitat, but species has not been documented onsite and has been largely extirpated from the Central Valley. However, it is presumed to have attempted to nest in 2010 and 2011 in the Yolo Bypass Wildlife Area, approximately 5 miles west of the project site.

Species	Status		Habitat Associations	Potential to Occur in Project Site
	Federal	State		
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	–	SSC	Nests in dense freshwater emergent vegetation near deep water, often near lakes or ponds; winters in open agricultural fields and pastures.	Very low; project site provides marginally suitable habitat, but species has not been documented onsite and only known occurrence from the project vicinity is more than 100 years old.
Mammals				
Pallid bat <i>Antrozous pallidus</i>	–	SSC	Variety of habitats, including woodland, forest, grassland, and desert; roosts in tree cavities, rock crevices, mines, caves, and human structures.	Very low; project site provides very limited and marginal quality roosting habitat. No known occurrences from Sacramento or Yolo County in past 50 years.
American badger <i>Taxidea taxus</i>	–	SSC	Various dry habitats, including open forest shrubland and grassland; requires friable soils and open ground for burrowing.	Very low; project site provides poor habitat, and only known occurrence from the project vicinity is more than 80 years old.
Fishes				
Green sturgeon – Southern DPS <i>Acipenser medirostris</i>	T, X	–	Green sturgeons spend most of their lives in coastal marine waters, estuaries, and the lower reaches of large rivers.	High; anadromous, migratory and seasonal rearing habitat.
Sacramento perch <i>Archoplites interruptus</i>	–	SSC	Sacramento/San Joaquin flowing and standing waters. Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	Low; habitat marginal in project vicinity.
Pacific lamprey <i>Entosphenus tridentatus</i>	–	SSC	Adults live in the ocean and migrate into freshwater to spawn. Juveniles rear in freshwater. Requires cold, freshwater streams with suitable gravel for spawning and incubation.	High; anadromous, occurs in lower Sacramento River during migration.
Delta smelt <i>Hypomesus transpacificus</i>	T, X	E	Delta Smelt are small, euryhaline fish primarily occurring in shallow, low-salinity regions of the San Francisco Estuary.	Moderate; semi-anadromous, adults and juveniles may occur seasonally but typically occurs downstream of Isleton.
River lamprey <i>Lampetra ayresi</i>	–	SSC	Adults live in the ocean and migrate into freshwater to spawn. Juveniles rear in freshwater.	High; anadromous, occurs in the Sacramento River.
Steelhead – California Central Valley DPS <i>Oncorhynchus mykiss irideus</i>	T, X	–	In the Sacramento and San Joaquin rivers and their tributaries.	High; anadromous, migratory and seasonal rearing habitat.
Chinook salmon – Central Valley fall/late fall-run ESU <i>Oncorhynchus tshawytscha</i>	SC	SSC	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.	High; anadromous, migratory and seasonal rearing habitat.
Chinook salmon – Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	T, X	T	Sacramento/San Joaquin flowing waters, adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 C are lethal to adults.	High; anadromous, migratory and seasonal rearing habitat.

Species	Status		Habitat Associations	Potential to Occur in Project Site
	Federal	State		
Chinook salmon – Sacramento River winter-run ESU <i>Oncorhynchus tshawytscha</i>	E, X	E	Sacramento/San Joaquin flowing waters Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams.	High; anadromous, migratory and seasonal rearing habitat.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	–	SSC	Estuary, freshwater marsh, Sacramento/San Joaquin flowing waters endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes.	High; resident/semi-anadromous, expected to be present during migration and spawning periods.
Longfin smelt <i>Spirinchus thaleichthys</i>	C	T	Estuary, euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column.	High; anadromous, seasonally migrates to spawn in freshwater habitats of upper estuary.

Notes: CNDDDB = California Natural Diversity Database, Delta = Sacramento–San Joaquin Delta, DPS = distinct population segment, EIP = Early Implementation Project, ESU = evolutionarily significant unit.

¹ **Status Definitions**
E = Listed as Endangered under the Federal or State Endangered Species Act
T = Listed as Threatened under the Federal or State Endangered Species Act
C = Candidate for listing as Threatened or Endangered under the State Endangered Species Act
FP = Fully Protected under the California Fish and Game Code
SC = NMFS Species of Special Concern
SSC = CDFW Species of Special Concern
X = Designated Critical Habitat
– = No status

Sources: CDFW 2019; USFWS 2019a; NMFS 2019; eBird 2019; ICF 2014

DISCUSSION

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

The proposed project includes the focused removal and control of target invasive species. The most prevalent target invasive species are: Himalayan blackberry, which occurs in large patches in portions of the riparian forest understory and in some monoculture patches; and edible fig (*Ficus carica*), which is scattered throughout the site, primarily on the riverside portion. Both of these species are rated invasive by the California Invasive Plant Council (Cal-IPC 2020). Additional invasive plants present on the site that would be targeted for removal include English ivy (*Hedera helix*), giant reed (*Arundo donax*), Russian olive (*Elaeagnus angustifolia*), and glossy privet (*Ligustrum lucidum*).

The project also includes focused site grading necessary to improve the existing foot trails throughout the site, to construct ADA-accessible ramps and trails, and to install recreational components such as the viewing decks, boardwalks, and parking areas. For the two existing ponds, the project includes draining the water in the ponds, excavating the contaminated soil, and letting the ponds refill through groundwater infiltration. Pond excavation would require the construction of haul routes to each pond to provide access for excavation equipment and haul trucks.

The construction of these project components would directly impact the site's existing habitat either through direct vegetation removal or through indirect disturbance. This vegetation removal could result in temporary adverse effects on candidate, sensitive, or special-status species that inhabit the site, as identified in the Tables 4 and 5 above. For the smaller areas of disturbance, such as what would be expected when non-native species are removed using hand tools or when boardwalks are installed along existing footpaths, rapid colonization through natural recruitment and regrowth of native species from the surrounding dense native vegetation would be expected. For larger areas of disturbance, such as would be expected with the construction of haul routes to the ponds, the project includes replanting with native vegetation. If replanting and natural recruitment are not successful in revegetating disturbed areas, the proposed project includes the implementation of remedial adaptive management actions, as identified in the Bees Lakes Habitat Restoration Plan. Following construction, the proposed project would result in an overall increase in native vegetation on the project site, which would be expected to improve the site's overall ecosystem function.

Although project implementation would be expected to improve overall habitat quality on the site, temporary vegetation disturbance impacts and associated impacts on candidate, sensitive, and special-status species cannot be completely avoided. Also, a small loss in currently vegetated area would occur with implementation of the recreational amenities, although this loss would be offset by the planting of areas currently devoid of vegetation. For these reasons, this impact would be considered **potentially significant**.

Mitigation Measure BIO-1

The following mitigation measure shall be implemented to minimize temporary project construction impacts:

- Retain an ecologist/biologist to direct and oversee the invasive plant removal component of the Bees Lakes Habitat Restoration Plan. The ecologist/biologist will be responsible for ensuring the project is implemented consistent with the Bees Lakes Habitat Restoration Plan and the project's Mitigation Monitoring and Reporting Plan. The ecologist/biologist will also ensure that candidate, sensitive and/or special-status plant species are avoided and not disturbed or removed during site construction activities.
- The invasive plant removal shall be conducted over two seasons in a targeted manner to minimize impacts to native vegetation. Invasive woody plant removal in the first season shall consist of targeted work by hand crews to either hand pull invasive plants (e.g. with a weed wrench) or cut and remove invasive plant material. Where appropriate, the cut surface of stumps or large stems will be painted with herbicide to kill woody plant root systems and prevent and/or reduce crown resprouting. Cut invasive woody plant materials shall be removed from the site and disposed of legally offsite.
- All locations where invasive woody plants are removed and treated in the first season shall be marked, mapped, and tracked over the following growing season to locate and retreat any resprouts; more than one retreatment may be necessary. After woody plant removal sites have been revisited in the second season following treatment with little to no evidence of regrowth of target invasive plants, any significant bare ground areas (100 square feet in size or larger) shall be raked to scarify the soil surface and subsequently broadcast seeded with a riparian seed mix, per the Bees Lakes Habitat Restoration Plan, in the subsequent fall to winter. Seeded sites shall be regularly revisited (i.e., monthly) during the growing season to ensure native vegetation is establishing and that further adaptive management actions are not indicated.

- Control of target invasive herbaceous species shall be achieved either via mechanical methods, including targeted hand pulling or timed mowing/string trimming of invasive plants before seedset, and/or spot spraying target invasive plants with a backpack sprayer using an appropriate herbicide and marker dye. All herbicide treatments shall be applied in accordance with herbicide label specifications and under the direction of a Pest Control Advisor (PCA) licensed in the State of California. No herbicides shall be sprayed on days when wind speeds are high enough to potentially cause herbicide drift, and no herbicide spraying shall be conducted within any elderberry shrub driplines.
- All areas within existing grasslands and uplands that are disturbed by trail improvement work or for the construction of the northeast and southwest trail access ramps shall be seeded with the native grassland seed mix, per the Bees Lakes Habitat Restoration Plan, which includes a mix of native grasses and forbs.
- The erosion of exposed soils shall be minimized through implementation of the water quality mitigation measures included in the Hydrology and Water Quality section of this Initial Study.

The implementation of these mitigation measures would ensure that the proposed restoration activities are implemented consistent with the Bees Lakes Habitat Restoration Plan; that candidate, sensitive and/or special-status plant species are not impacted during site construction activities; and that areas of temporary vegetation removal are appropriately replanted with native vegetation. Therefore, these measures would reduce this impact to **less than significant with mitigation incorporated.**

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

The project site is dominated by areas considered by CDFW as sensitive natural communities. These communities include Fremont cottonwood forest, valley oak woodland, black willow woodland, boxelder forest, California blackberry shrublands, and buttonwillow thickets (CDFG 2010). Additionally, most woody vegetation on the project site would likely be subject to jurisdiction of CDFW as riparian-associated habitats under California Fish and Game Code section 1602. Many of the larger trees within the project site also meet the definition of heritage or landmark trees as defined in the City of West Sacramento Tree Preservation Ordinance.

As discussed in response to question a) above, the construction of the project components would directly impact the site's existing habitat either through direct vegetation removal or through indirect disturbance. Because many of the habitat types on the site are categorized sensitive natural communities, project construction would be expected to have temporary direct impacts on these communities. However, a primary component of the proposed project is the removal of non-native vegetation from the site to improve the existing sensitive natural communities. The temporary impacts on these communities associated with project construction would be considered a **potentially significant impact**. Following construction, the project would be expected to result in a net improvement in the ecosystem function of the sensitive natural communities on the project site.

The implementation of Mitigation Measures BIO-1 would ensure that the proposed restoration activities are implemented consistent with the Bees Lakes Habitat Restoration Plan and that sensitive natural communities are appropriately revegetated and enhanced follow project construction. Therefore, these measures would reduce this impact to **less than significant with mitigation incorporated.**

c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The proposed project includes draining the water and excavating the soil from the two ponds on the site. These activities would disturb the wetland and open water habitat associated with these ponds. The project also includes grading walking trails and constructing boardwalks within areas that are frequently inundated when flows in the Sacramento River are elevated in the winter and spring months. These trail construction activities could result in the fill of wetlands on the site.

Although project implementation would be expected to improve the site's overall habitat quality, these temporary construction impacts cannot be completely avoided. For this reason, these impacts would be considered **potentially significant**.

Mitigation Measure BIO-2

The following mitigation measure shall be implemented to minimize temporary project construction impacts on wetlands:

- Prior to initiating project construction, secure a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and a Clean Water Act Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board. Implement any measures identified within these permits designed to offset the loss of Waters of the U.S. and/or wetlands.

The implementation of these mitigation measures would ensure that any loss of Waters of the U.S. and/or wetlands would be offset consistent with state and federal permitting requirements. Therefore, these measures would reduce this impact to **less than significant with mitigation incorporated**.

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?

The proposed project includes the removal of invasive plants and planting native plants on the site, including along the bank of the Sacramento River. This change would be expected to improve the riparian habitat function for native species but would have negligible effects on native resident and migratory fish within the Sacramento River. Also, because the project site is bordered by levees and the Sacramento River, and is located within an urbanizing area of the City, it does not represent a migratory corridor for wildlife and is not used as a nursery site for native wildlife. For these reasons, project implementation would not 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. Therefore, this impact would be **less than significant**.

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

The City of West Sacramento General Plan 2035 (City of West Sacramento 2016) contains several policies that support habitat conservation and preservation. A selection of these policies from the Natural and Cultural Resources Element is provided below:

Goal NRC-2: To protect sensitive native vegetation and wildlife communities and habitat in West Sacramento.

- **NRC-2.1 Public Awareness.** The City shall encourage and support development project and programs that enhance public appreciation and awareness of the natural environment.
- **NCR-2.2 Yolo Habitat Conservancy Program.** The City shall continue to work cooperatively with other jurisdictions in the county, and with the State and Federal governments to incorporating, as deemed appropriate, the findings and recommendations of the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service into site-specific development proposals.
- **NCR-2.3 Habitat Connectivity.** The City shall preserve, enhance, and create interconnected open space and natural areas to provide for wildlife movement and protect biodiversity.
- **NCR-2.4 Habitat Surveys.** The City shall require site-specific surveys for discretionary development proposals that could potentially impact biological resources to determine if any significant wildlife habitat and vegetation resources will be adversely affected and, if so, to identify appropriate measures to avoid or mitigate such impacts.
- **NCR-2.5 Habitat Buffers.** The City shall require the provision and maintenance of an adequate setback between significant habitats and adjacent development. The buffer shall be landscaped with native vegetation and may be used for passive recreation purposes.
- **NCR-2.7 Rare, Threatened, & Endangered Species Protection.** The City shall preserve rare, threatened, and endangered species by ensuring that development does not adversely affect such species or by fully mitigating adverse effects. For developments where adverse impacts cannot be mitigated, the City shall not approve the project.
- **NCR-2.8 Habitat Preservation.** The City shall support State and Federal policies for preservation and enhancement of riparian and wetland habitats by incorporating, as deemed appropriate, the findings and recommendations of the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service into site-specific development proposals.
- **NCR-2.9 No Net Loss.** The City shall require new development to ensure no net loss of State and Federally regulated wetlands, other waters of the United States (including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands), and associated functions and values by regulating development in and near these habitats and promoting projects that avoid sensitive areas. Where habitat loss is unavoidable, the City shall require replacement consistent with State and Federal regulations protecting wetland resources.
- **NCR-2.10 Wetland and Riparian Habitat Protection.** The City shall seek to minimize the loss or degradation of wetland and riparian habitats at the following sites: Lake Washington and associated wetlands, Bee's Lake and associated riparian woodlands, riparian woodlands along the Sacramento River north of the I Street Bridge and south of the barge canal, and riparian woodlands along the Deep Water Ship Channel and the Yolo Bypass.

- **NCR-2.11 Riparian Vegetation Maintenance.** The City shall encourage the maintenance of marsh and riparian vegetation along irrigation/drainage canals and along the Deep Water Ship Channel through routine maintenance and clearing and by disturbing only one bank per year.
- **NCR-2.12 Floodway Design.** The City shall encourage floodway design and flood control facilities to foster riparian habitat enhancement, improved water quality, and groundwater recharge.
- **NCR-2.13 Fisheries.** The City shall implement measures to ensure that development in the city does not adversely affect fishery resources in the Sacramento River, Deep Water Ship Channel, and Lake Washington.
- **NCR-2.14 Public Areas.** The City shall ensure that public access and recreation facilities do not eliminate or degrade riparian habitat values. Trails, picnic areas, and other improvements shall be sited to minimize impacts on sensitive wildlife habitat or riparian vegetation.
- **NCR-2.15 Landscaping and Native Plants.** The City shall promote the use of native plants, especially valley oaks, for landscaping roadsides, medians, parks, and private properties. In particular, native plants should be used along the Sacramento River, in areas adjacent to riparian and wetland habitats, and in other open space and natural areas.

The proposed project includes removing invasive plants, and enhancing and expanding the site's riparian woodland habitat. These activities would be consistent with the goals and policies of the General Plan's Natural and Cultural Resources Element, as identified above.

Many of the larger trees within the project site meet the definition of heritage or landmark trees as defined in the City of West Sacramento Tree Preservation Ordinance. However, the proposed project does not include the removal of any of these heritage or landmark trees. All trail improvements have been specifically designed to avoid impacts to heritage and landmark trees. If any of these trees are required to be removed in the future, the removal action would be subject to the requirements of the Tree Preservation Ordinance.

As described above, the proposed project would be implemented in conformance with regulatory requirements and applicable plans or ordinances protecting biological resources. Therefore, the proposed project would not conflict with any local policies or ordinances protecting biological resources and there would be **no impact**.

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

The project area is located within the West Sacramento Planning Area of the approved Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). The HCP/NCCP assumed 3,559 acres of urban projects and activities within the West Sacramento Planning Area would require take coverage. Implementing the proposed project would not change land use or result in the long-term loss of ecological functions on the site. Therefore, the project would not be expected to require take coverage and would not conflict with the HCP/NCCP. There would be **no impact**.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AFFECTED ENVIRONMENT

PREHISTORY

The prehistory of the project region reveals a history of occupation, marked by increasingly intensive land use, burgeoning trade, and expanding social complexity (Bettinger 2015). Early avocational archaeologists and collectors provided some of the first descriptions of the area’s material culture (e.g., Jones 1923). Later archaeologists divided the record into a 13,000-year sequence, comprising Paleo-Indian, Lower, Middle, and Upper Archaic, and Emergent period occupations.

The first substantial evidence for prehistoric occupation of the Central Valley/Delta occurs during the Middle Archaic (7500-2500 calendar years before the present [cal B.P.]). Older sites dating to the initial part of this interval are rare in lowland settings where they are probably deeply buried but are comparatively common in upland areas (Rosenthal et al. 2007). The Upper Archaic interval (2500-850 cal B.P.) in the Central Valley/Delta region is characterized by an increase in the number of sites due to rapidly expanding human populations, but also greater preservation of more recent sites (Fredrickson 1973; Johnson 1967; Milliken et al. 2007; Moratto 1984; Rosenthal et al. 2007). The Emergent or Late Period/Horizon (850 cal. B.P.-Historic) is characterized by increasing diversity in the archaeological record (Bennyhoff 1977; Fredrickson 1974; Milliken et al. 2007; Rosenthal et al. 2007), and is often divided into two phases based on artifact forms and evidence for increased sociopolitical complexity (Heizer and Fenenga 1939; Lillard et al. 1939; Milliken et al. 2007; Rosenthal et al. 2007). The changes observed in the archaeological record of the Emergent Period are considered to result from the establishment of large, residentially stable populations, resembling those at contact. Less clear is when, how, and why specific traits initially appeared, as is the establishment of various ethnolinguistic groups that were present across the aboriginal landscape when Europeans arrived in the Central Valley.

The project site is situated in the ethnographic territory of both the Patwin (Wintun) and Valley Nisenan Tribes. More specifically, the project site lies at the eastern extent of Patwin territory and the western extent of Nisenan territory (Johnson 1978: Figure 1; Wilson and Towne 1978: Figure 1). Most tribes in central California, including the Patwin and Nisenan, had similar subsistence-settlement patterns, material culture, and social structures (Kroeber 1929).

ETHNOGRAPHIC CONTEXT

The project site is located at the interface of three Native American tribes: the Patwin (or Wintun), the Nisenan, and the Plains Miwok. The banks of the Sacramento River and associated riparian and tule marshland habitats were inhabited by the River or Valley Patwin. The Plains Miwok and Nisenan (also called Southern Maidu), while primarily occupying territories east of the Sacramento River, used land west of the river as well (Johnson 1978:350, Figure 1; Levy 1978: Figure 1; Wilson and Towne 1978: Figure 1). All three tribes have similar material culture and subsistence-settlement patterns as well as similar religious practices and some shared kinship organization (Bennyhoff 1977:9; Kroeber 1929:255, 266).

Historic maps and accounts of early travelers to the Sacramento Valley characterize the project vicinity containing tule marshes, open grasslands, and occasional oak groves (Jackson 1851; Ord 1843; Wyld 1849). The area was generally wet in the winter and often subject to flooding; the weather was exceedingly dry in summer.

Much of the floodplain presumably was sparsely inhabited, and Native Americans typically situated their larger, permanent settlements on high ground along the Sacramento and American Rivers (Bennyhoff 1977; Levy 1978; Wilson and Towne 1978:388), and depended primarily on elevation, exposure, and proximity to water and other resources. Specific task groups were sent out from permanent settlements to harvest seasonally available flora and fauna; villages controlled specific resource locations (Johnson 1978:355; Kroeber 1929:255; Levy 1978:402).

Nisenan houses were domed structures covered with earth and tule or grass that measured 10–15 feet in diameter. Brush shelters were used in the summer and at temporary camps during food-gathering rounds. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush and had a central smoke hole at the top and an east-facing entrance. Another common village structure was a granary, which was used for storing acorns (Wilson and Towne 1978). Plains Miwok had similar structures but also had a large subterranean assembly house 40-50 feet in diameter and 4-5 feet deep that was the center of most ritual and social gatherings; this structure had four center posts supporting a large conical roof. The Plains Miwok also built a sweathouse that was from 6-15 feet in diameter and 2-3 feet deep (Levy 1978:409).

HISTORIC CONTEXT

Spanish explorers visited the Sacramento Valley as early as the 1700s. In 1772, Pedro Fages passed through San Francisco Bay and the Delta and reached the San Joaquin and Sacramento Rivers. The 1848 gold discovery at Coloma led to a substantial increase in Sacramento River traffic during the 1850s. When the gold rush declined, miners found it more profitable to engage in farming and ranching. Historically, much of the Sacramento Valley was marsh and swampland, with seasonal flooding and periodic inundation of normally dry areas.

Yolo County was one of California's original 27 counties. Beginning in the nineteenth century, flood management and land reclamation projects were undertaken to make the area habitable for larger populations, expand agriculture, improve navigable waters, and offer flood protection. Horse and cattle raising, and the cultivation of grain and fruit orchards, were common forms of livelihood in the 19th century. By the early 20th century, improvements in irrigation allowed for more varied crops to be introduced (Hoover and Abeloe 1990: 532-533; Hart 1978: 489).

The region comprising present-day West Sacramento remained largely unsettled until the early-to-mid-19th century when settlers such as Jan Lows de Swart and James McDowell arrived to farm the area. When McDowell died in 1849, his widow, Margaret, laid out the town of Washington (later known as Broderick). By the turn of the 20th century, the West Sacramento Company established the community of Riverbank (later called Bryte), which was located just east of the present-day Interstate 80 crossing of the Sacramento River (Walters 1987: 27).

Throughout the early decades of the 20th century, West Sacramento remained unincorporated and was mostly populated by small farms and a handful of industries. After World War I, U.S. 40 (present-day West Capitol Avenue) traveled through West Sacramento and was quickly lined by motels, hotels, and gas stations. Factories and other industries prospered during World War II. Following the war, the region enjoyed a housing boom that would last for several decades (Walters 1987: 28).

HISTORIC AND UNIQUE ARCHAEOLOGICAL RESOURCES

Under CEQA, historical resources and “unique archaeological resources” are recognized as a part of the environment (Public Resources Code Sections 21001(b), 21083.2, 21084(e), 21084.1). In 1992, the Public Resources Code was amended as it affects historical resources. The amendments included creation of the California Register of Historical Resources (Public Resources Code Sections 5020.4, 5024.1 and 5024.6).

The California Register is an authoritative listing and guide for state and local agencies and private groups and citizens in identifying historical resources. This listing and guide indicates which resources should be protected from substantial adverse change.

Under CEQA Guidelines Section 15064.5, an “historical resource” includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources; (2) a resource listed in a local register of historical resources or identified in a historical resource survey meeting the requirements in Section 5024.1(g) of the Public Resources Code; and (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines is historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record; or a resource determined by a lead agency to be “historical,” as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

CEQA is also concerned with effects of a project on “unique archaeological resources.” If an archaeological site meets the definition of a unique archaeological resource (Public Resources Code Section 21083.2), then the site must be treated in accordance with the special provisions for such resources, which include time and cost limitations for implementing mitigation. “Unique archaeological resource” is defined as “an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.

- Is directly associated with a scientifically recognized important prehistoric or historic event or person. [Public Resources Code Section 21083.2 (g)]”

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment are described in the code. To the extent that unique archaeological resources are not preserved in place or left in an undisturbed state, mitigation measures shall be required as provided in the code. The code also places limitations on the extent, cost and timing of mitigation measures that can be required by the lead agency.

METHODS

The cultural resources investigations carried out for the project area relied heavily on previous research conducted for the Southport EIP, which included consultation with Native American Tribes, consultation with historical societies, background research conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System, review of historic maps and ethnographic documents, and archival research at local repositories. In addition, GEI Consultants, Inc. archaeologists conducted an archaeological survey of the current project area.

RECORDS SEARCH

On June 30, 2011, ICF International conducted a records search for the Southport EIP at the Northwest Information Center (NWIC), at Sonoma State University, Rohnert Park. ICF International conducted a supplemental records search in person on February 12, 2013. No additional resources or studies were identified. The NWIC maintains the official records of the California Historical Resources Information System (CHRIS) of previous cultural resource studies and recorded cultural resources for Yolo County, among other counties. The records search consulted the CHRIS base maps of previously recorded cultural resources and previously conducted cultural resources studies for the Area of Potential Effects (APE) and all areas within 0.25 mile thereof—the records search covered the current project site. Additional sources of information, including previously conducted cultural resources surveys and historic maps (USGS and General Land Office), were selectively reviewed to determine areas that have a high potential for the presence of historic-period and prehistoric sites. Because the project site was included in the records search for the Southport EIP APE and buffer, the results of the Southport EIP records search were used for the project site. The records search did not reveal any previously documented cultural resources on the project site. The records search included the following sources:

- National Register of Historic Properties (NRHP)-listed properties (National Park Service [NPS] 1996) and updates;
- California Inventory of Historic Resources (DPR 1976 and updates);
- California Points of Historical Interest (DPR 1992 and updates);
- California Department of Transportation (Caltrans) Bridge Inventory (Caltrans 1989, 2000, and 2004);
- Historic Maps;
- California Historical Landmarks (Office of Historic Preservation [OHP] 1996 and updates);

- Directory of Properties in the Historic Resources Inventory (OHP 2006);
- *Gold Districts of California* (Clark 1970);
- *California Gold Camps* (Gudde 1975);
- *California Place Names* (Gudde 1969); and
- *Historic Spots in California* (Hoover et al. 1966, 1990).

FIELD SURVEY

On July 18, 2019, GEI Consultants, Inc. senior archaeologists Denise Jurich, RPA, and Jesse Martinez, RPA, conducted a reconnaissance-level cultural resources pedestrian survey of the project site.

The project site is heavily vegetated making visibility of the ground surface extremely limited. Areas of the project site that were clear of vegetation, such as foot paths, rodent boroughs, and a mechanically-constructed dirt bike course, were the focus of the survey; small patches of low-lying vegetation were also cleared by the archaeologists.

Several darker areas of soil, consisting primarily of sand, were observed, but on examination did not appear to be anthropogenic (made darker as a result of human activity). Examination of the extensively-excavated dirt bike course, located in the east-central portion of the vegetated area, showed that even deeper soils in that area are sterile of cultural material. One basalt flake was identified in the northwestern portion of the study area, near the edge of the extent of woodland vegetation. The area where the basalt flake was identified is located where much construction activity took place during the Southport EIP.

Information gathered during the reconnaissance was limited given visibility constraints. Results of monitoring activities during the past three years for the Southport EIP, however, are relevant for the study area. During construction monitoring for the Southport EIP, numerous isolated prehistoric finds were made in the vicinity of the project site, including three projectile points, two bifaces, six flakes, three beads/bead blanks, one baked clay, and one modified stone as well as several historic era artifacts. More specifically, they were all located along the northwestern portion of the current study area, in the same vicinity where the basalt flake was found during the present investigation. In addition, residents in the area have stated that prior to modern construction activities associated with the yacht club, marina, and levee, there was a known Native American mound site in the vicinity of the project site.

The isolated find from the current study and the numerous isolated finds during the Southport EIP seem to indicate that the northwest portion of the wooded area within the project site is moderately to highly sensitive for potentially significant cultural resources.

KNOWN CULTURAL RESOURCES

As previously described, during the construction phase of archaeological monitoring for the Southport EIP, seven artifacts were recovered to the west of the project site. The artifacts were found during topsoil removal or the removal of a storm drain pipe and subsequent backfilling and compaction. The area has been impacted by past agricultural work and modern trash is scattered throughout the area.

Three artifacts are made of obsidian. These include a Stockton serrated projectile point, a medial section of a retouched biface, and a waste flake. A baked clay ball, of a form consistent with prehistoric use as a cooking stone, was found in two pieces. In 2019, an additional basalt flake was identified in the northwestern portion of the study area. A *Margaritifera* shell fragment was recovered. While this type of shell could naturally occur in the area, this piece was found in association with charcoal, suggesting it may have been cultural in origin. A few other pieces of *Margaritifera* have been noted but not collected. Another recovered shell fragment is a piece of red abalone (*Haliotis rufensis*). This type of shell was used prehistorically to create or fashion ornamentation and would have been imported from the Pacific coast to this location. Finally, a shell button was recovered. The delicate nature of the button suggests that it was used as a fastener for a historic-period or modern woman's blouse or similar garment.

DISCUSSION

a) **Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?**

During the cultural resource surveys conducted at the site, several historic era artifacts were discovered. Although no historic structures or facilities were discovered on the site, the proposed project has the potential to disturb historic resources during construction. The disturbance of historic resources during project construction would be considered a **potentially significant impact**.

Mitigation Measure CUL-1

The following mitigation measure shall be implemented during project construction activities:

- The Contractor shall contract with a qualified archaeologist to conduct cultural resource sensitivity training for the workers on the site prior to the initiation of project construction to ensure they understand the potential for cultural resources to be present on the site and the procedures to be followed if they are discovered during construction activities.
- If cultural or historical resources are discovered during construction, all work within a 100-foot perimeter of the find shall cease until a determination has been made regarding whether the find is an eligible resource. The contractor must notify the City and the City will consult with a qualified archaeologist to determine whether the discovery is a potential California Register of Historical Resources-eligible resource. If after the archaeological consultation, the City determines that the discovery is not an eligible resource, the discovery will be documented and construction may proceed at the City's direction.
- If the City determines after the archaeological consultation that the discovery may be an eligible resource, the City will notify the State Historic Preservation Officer (SHPO) and other relevant parties as early as feasible. Notification will include a description of the discovery, the circumstances leading to its identification, and recommendations for further action. Where feasible, the notification will also include a tentative NRHP and CRHR eligibility recommendation and description of probable effects. Treatment will be implemented where necessary to resolve adverse or significant effects on inadvertently discovered cultural resources that are CRHR or NRHP eligible. The City will consider preservation in place as the preferred mitigation, as required under CEQA Guidelines Section 15126.4(b) for all CRHR-eligible

resources that are subject to significant effects. The City will prepare a discussion documenting the basis for the selection of treatment.

The implementation of these mitigation measures would ensure that cultural and historical resources discovered during project construction would not be inadvertently destroyed. Therefore, this impact would be reduced to **less than significant with mitigation incorporated**.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

During the cultural resource surveys conducted in the project area, numerous isolated prehistoric finds were discovered. The relative proximity and number of artifacts discovered, as well as the reported former presence of a mound site, suggests that the project area has a moderate to high archaeological sensitivity. Given the sensitivity of the area, the proposed project has the potential to disturb archaeological resources during construction. The disturbance of archaeological resources during project construction would be considered a **potentially significant impact**.

The implementation of Mitigation Measure CUL-1 would ensure that cultural resources discovered during project construction would not be inadvertently destroyed. With the implementation of these mitigation measures, this impact would be **less than significant with mitigation incorporated**.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Based on the cultural resource surveys conducted at the site, no evidence has been observed that would indicate the presence of interred human remains. However, there is always the possibility that human remains are located on the site and that construction activities could damage or destroy previously undiscovered human remains. The disturbance of human remains during project construction would be considered a **potentially significant impact**.

Mitigation Measure CUL-2

The following mitigation measures shall be implemented during project construction activities:

- In the event of a human remains discovery, the City will immediately notify the Yolo County Coroner. The coroner, as required by the California Health and Safety Code (Section 7050.5), will make the final determination about whether the remains constitute a crime scene or are Native American in origin. The coroner may take 2 working days from the time of notification to make this determination.
- If the coroner determines that the remains are of Native American origin, the coroner will contact the NAHC within 24 hours of the determination. The NAHC will immediately designate and contact the most likely descendant (MLD), who must make recommendations for treatment of the remains within about 48 hours from completion of their examination of the finds, as required by PRC 5097.98(a).
- It is likely that if a Native American burial is found, it will be found in the context of a prehistoric archaeological property. For a prehistoric property associated with burials, decisions must be made about how the remainder of the property will be treated for its archaeological (and possibly other) values. Not only must the MLD make decisions about the burials, but a plan must be devised also for evaluation and,

if determined to be eligible for the NRHP, treatment of the property in consultation with the MLD, SHPO, and other consulting parties.

- If the remains are found not to be Native American in origin and do not appear to be in an archaeological context, construction will proceed at the direction of the coroner and the City. It is likely that the coroner will exhume the remains. Once the remains have been appropriately and legally treated, construction may resume in the discovery area upon receipt of City's express authorization to proceed.

The implementation of these mitigation measures would ensure that human remains inadvertently discovered during project construction would be treated consistent with State law. Therefore, this impact would be reduced to **less than significant with mitigation incorporated**.

3.6 ENERGY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy. 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

AFFECTED ENVIRONMENT

The project site does not currently include any energy uses. Electrical power lines extend along the northwest side of Chicory Loop.

DISCUSSION

- a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

The proposed site restoration would be conducted using construction techniques that are consistent with industry standards and that would not be considered wasteful, inefficient, or requiring the unnecessary consumption of energy resources. During construction, the use of petroleum products would be necessary to fuel and maintain construction equipment. The long-term maintenance of the site would also result in energy consumption. However, this energy use would support the long-term sustainability of the site’s biological and recreational resources. Therefore, it would not be considered a wasteful, inefficient, or unnecessary consumption of energy. There would be **no impact**.

- b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

The proposed project includes restoring habitat and constructing recreational improvements on the site. The implementation of these site changes would not conflict with or obstruct any state or local plan for renewable energy or energy efficiency. Therefore, there would be **no impact**.

3.7 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Geology and Soils. 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 Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), 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 disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

AFFECTED ENVIRONMENT

The project area is located in the southern portion of the Sacramento Valley within the northern portion of California’s Great Valley Geomorphic Province. The Great Valley, also called the Central Valley, is a nearly flat alluvial plain that lies between the Sierra Nevada on the east and the Coast Ranges on the west. Its south end is defined by the Tehachapi Mountains north of Los Angeles, and its north end is defined by the Klamath Mountains. Subdivided into the Sacramento Valley to the north and the San Joaquin Valley to the south, the Great Valley has an average width of about 50 miles and is about 400 miles long overall (Norris and Webb 1990:412–417; Bartow 1991).

The Sacramento Valley contains thousands of feet of accumulated fluvial, overbank, and fan deposits resulting from erosion of these surrounding ranges (Hackel 1966). The sediments vary from a thin veneer at the edges of the valley to 50,000 feet in the west-central portion and are estimated to be about 8,000 feet thick in the project area (Northwest Hydraulic Consultants 2007).

The Sacramento River is the main drainage of the northern Sacramento Valley, flowing generally south from the Klamath Mountains to its discharge point into the Suisun Bay in the San Francisco Bay Area. In the Sacramento area, the Sacramento and American Rivers have been confined by human-made levees since the turn of the nineteenth century. In the project area, these levees generally were constructed on Holocene age (less than 11,000 years old) alluvial and fluvial deposits deposited by the current and historic Sacramento River and its tributaries (Kleinfelder 2007).

SITE GEOLOGY

The surface and subsurface distributions of sandy and clayey deposits are a function of former river positions on the landscape and present-day geomorphic processes adjacent to the river channel (i.e., flooding and deposition) (William Lettis & Associates 2009). Helley and Harwood (1985) compiled previous regional studies of the quaternary geology of the Sacramento Valley, which, in the project area, classified the surficial deposits as Quaternary stream alluvium (Qa) near to the modern river channel and undifferentiated Quaternary basin (Qb) deposits away from the modern river channel. Helley and Harwood (1985) differentiate basin deposits from stream alluvium primarily on the basis of texture (more clays versus sands and silty sands, and occasionally organic-rich), and they suggest that these deposits are floodplain sediments that settled out slowly where flow energy was much lower than along the river. Both of these map units are considered Holocene age (i.e., within the last 11,000 years).

Subsequent mapping by William Lettis & Associates (2009) indicates that the project area is underlain by historical channel deposits and historical alluvial deposits. Importantly, however, the data does not show evidence of deep peat (thick layers) or other organic soils in this area (Blackburn Consulting 2011). (Peat deposits are decomposing organic deposits with minor inclusions of clay and silt.) Geological units in the area as described by William Lettis & Associates 2009 are:

- Historical River Channel Deposits (Rch): Channel deposits; well sorted sands and gravel
- Artificial Fill (AF): Artificial fill overlying historical channel deposits; embankments and fills surrounding the project area

The recent river channel deposits (Rch), bars (Rb), or meander scrolls (Rms) located adjacent to the present-day Sacramento River likely consists of silt, sand, and fine gravel. These sediments are probably derived from upstream hydraulic mining. Recent artificial fills (AF) are culturally emplaced heterogeneous deposits, with varying amount of clay, silt, sand, and gravel from local sources. These deposits include undivided levee structures, road, and railroad fill prisms.

Geomorphology near the project area indicates the present-day levee is constructed over Historical River Channel Deposits (Rch) and suggests that levees in the area in the past may have experienced distress and local breaching,

resulting in the surficial splay and overbank deposits. The Bees Lakes are assumed to have been created by scour holes caused by erosion between 1908 and 1933.

For the most part, the soil units encountered by the borings in the area (Blackburn Consulting 2011) coincide with the geological units outlined in the geomorphological mapping of the area (William Lettis & Associates 2009). The subsurface stratigraphy of the area primarily includes silty sand layers with interbedded sand and silt layers with some gravel. The borings in the area indicate presence of a clay layer approximately 90 feet below ground surface (Blackburn Consulting 2011).

MINERAL RESOURCES

No commercial mining operations are known to have occurred in West Sacramento. Most of the area is classified as MRZ-1 by the California Division of Mines and Geology (Cupras 1988), which indicates no significant mineral deposits are present. The project area is classified as MRZ-3, which means aggregate deposits of undetermined significance occur there. Lands classified as MRZ-1 or MRZ-3 are not affected by state policies pertaining to the maintenance of access to regionally significant mineral deposits under the California Surface Mining and Reclamation Act of 1975. However, as noted in an early geotechnical report for the proposed West Sacramento program (Kleinfelder 2007), the project area contains discontinuous pockets of sand (sand and aggregate being the mineable mineral resources typically found in the program region); therefore, the project area could not be effectively or economically mined and is considered not to contain regionally or locally important mineral resources. Obviously portions of it do, however, contain material suitable for construction of levees, but levee materials are finer grained than mineable aggregates.

SEISMIC HAZARDS

The Seismic hazards refer to surface rupture of earthquake faults and ground shaking (primary hazards), as well as liquefaction and earthquake-induced slope failure (secondary hazards). Localized ground shaking and liquefaction are the most significant seismic hazards in this portion of Yolo County (Yolo County 2009).

Primary Seismic Hazards—Surface Fault Rupture and Groundshaking – The project area is located in a region of California characterized by low seismic activity. The project area is not identified as being located in an Alquist-Priolo Earthquake Fault Zone (i.e., no active faults are known to cross or be near the project area) (Bryant and Hart 2007; California Division of Mines and Geology 2001) and the International Conference of Building Officials (ICBO) recognizes no seismic sources in the region (International Conference of Building Officials 1998).

Three pre-Quaternary faults/fault zones are located within an approximately 20-mile radius of the project area. The Willows fault zone runs northwest to southeast of the project area; the East Valley fault runs to the west of the project area; and the Midland fault zone runs to the southeast of the project area (City of West Sacramento 2016; California Geological Survey 2010; International Conference of Building Officials 1998; U.S. Geological Survey 2010). None of these faults/fault zones are within an Alquist-Priolo Special Studies Zone (Bryant and Hart 2007; California Division of Mines and Geology 2001). The active fault nearest to the project area is the Dunnigan Hills fault, which is 22 miles to the northwest or the distance from the site to the closest end of the mapped fault trace (City of West Sacramento 2016; California Geological Survey 2010; International Conference of Building Officials 1998; U.S. Geological Survey 2010).

Based on a probabilistic seismic hazard map that depicts the peak horizontal ground (PGA) acceleration values exceeded at a 10% probability in 50 years (California Geological Survey 2003; Cao et al. 2003), the PGA values for the project area are 0.1 to 0.2g (where g equals the acceleration speed of gravity). Blackburn Consulting (2011: 7–8) used the USGS 2008 Interactive Deaggregations website (<https://geohazards.usgs.gov/deaggint/2008/>) to complete a probabilistic analysis and develop the PGA for an earthquake with a 200-year return period for the Southport EIP. Their analysis resulted in a PGA that varies from approximately 0.183 g to 0.193 g. Therefore, they selected a PGA equal to 0.19 g for analysis purposes. Faults that contribute most significantly to the probabilistic PGA hazard are (1) Hunting Creek-Berryessa, (2) Green Valley, (3) Great Valley 4a (Trout Creek) and, (4) Great Valley 4b (Gordon Valley). The applicable moment magnitude for the 200-year return period event is equal to 6.7.

As a point of comparison, probabilistic PGA values for the San Francisco Bay Area range from 0.4 g to more than 0.8 g. This indicates that the ground shaking hazard in the project area is low. Farther to the west and east, the ground shaking hazard increases, coinciding with the increase in abundance of associated faults and fault complexes in the Coast Ranges and Sierra Nevada (California Geological Survey 2003).

This conclusion is consistent with additional studies conducted with regard to the project-reach levee system: URS Corporation evaluated the seismic vulnerability and liquefaction potential of project-area levees in the report *Phase 1 Geotechnical Evaluation Report (PIGER) West Sacramento Region*, dated September 2007. Seismic evaluations have been completed in the form of two reports: *West Sacramento Levee System Problem Identification and Alternative Analysis: Volume 1—Geotechnical Problem Identification Solano and Yolo Counties, California* completed by Kleinfelder (September 2007) and *Phase 1 Geotechnical Evaluation Report (PIGER) West Sacramento Region* completed by URS Corporation (November 2007) for DWR. Data collection included drilling 323 borings and soundings along the levees of the project area.

Secondary Seismic Hazards Liquefaction and Differential Settlement – Liquefaction is the liquefying of certain sediments during ground shaking of an earthquake, resulting in temporary loss of support to overlying sediments and structures. Differential settlement occurs when the layers that liquefy are not of uniform thickness, a common problem when the liquefaction occurs in artificial fills. Poorly consolidated, water-saturated fine sands located within 30 to 50 feet of the surface typically are considered the most susceptible to liquefaction. Soils and sediments that are not water-saturated and that consist of coarser or finer materials are generally not susceptible to liquefaction (California Geological Survey 2008).

URS Corporation performed a liquefaction-triggering analysis to evaluate whether any levee or underlying foundation materials in the project area potentially would liquefy during the considered earthquake events (URS Corporation 2007). Criteria for susceptibility to liquefaction included soil type, liquid limit, plasticity index, water content, and fines content. If the material was considered to be susceptible to liquefaction, steps were completed to further evaluate the liquefaction potential of the material considering the earthquake loading. In contrast, if the plasticity of the material was high enough to preclude liquefaction, the material was classified as non-liquefiable, irrespective of the earthquake loading. Samples from the project area levees were subject to this analysis. The result was that ground under portions of the Southport Sacramento River levee may exhibit liquefaction during a seismic event.

Settlement can range from 1 to 5%, depending on the cohesiveness of the sediments (Tokimatsu and Seed 1984). In the project area, where poorly consolidated, water-saturated fine sands and silts are not uncommon, differential settlement is also considered to be a possible result of an earthquake.

SITE SOILS

The soil map units of the project area, as described by the *Soil Survey of Yolo County* (Andrews 1972) and the U.S. Department of Agriculture Natural Resources Conservation Service (2019), are characterized as follows:

- Soils are sandy loams, silt loams, and silty clay loams. The sandy surface layers have relatively rapid infiltration capacity when drained, however they may become wet in the rainy season and then exhibit relatively slow infiltration rates. Rates of runoff remain low, however, because these soils are flat-lying.
- Soil erodibility is low because of the generally flat topography. However, erosion of levee slopes and other embankments can be significant. Additionally, bank erosion on the waterside of the levee results from high flows in the Sacramento River.
- Some of the soils present a moderate to high shrink-swell potential (expansion and contraction cycle when wetted and dried, i.e., expansive soils).
- None have operability constraints (i.e., seasonally dusty, muddy, or saturated surface soils).
- The suitability of these soils for cultivation ranges from fair to good (as measured by Storie Index classes). The presence of a relatively shallow water table throughout the project area (~3 feet) indicates that vegetation, once established, should thrive. (Although revegetation requires irrigation for a 2- to 3- year period to allow plants to access this groundwater, longer in drought periods).

DISCUSSION

- 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 Geological Survey Special Publication 42.)**

Surface rupture is an actual cracking or breaking of the ground along a fault during an earthquake. Structures built over an active fault can be torn apart if the ground ruptures. Surface rupture along faults is generally limited to a linear zone a few meters wide. The Alquist-Priolo Act was created to prohibit the location of structures designed for human occupancy across the traces of active faults, thereby reducing the loss of life and property from an earthquake. No Alquist Priolo zones have been established in the project area. Therefore, ground rupture due to faulting is considered unlikely within the project site and there is **no impact**.

ii) Strong seismic ground shaking?

Ground shaking occurs as a result of energy released during faulting, which could potentially result in the damage or collapse of buildings and other structures, depending on the magnitude of the earthquake, the location of the epicenter, and the character and duration of the ground motion.

The project area is located in a region of California characterized by low seismic activity and the active fault nearest to the project area is the Dunnigan Hills fault, which is 22 miles to the northwest. The project area has relatively low peak horizontal ground acceleration values (0.1 to 0.2 g versus 0.4 to more than 0.8 g in the Bay Area) and the project site is not located within an Alquist-Priolo Special Studies Zone. Due to the relatively low risk of seismic activity in the local area, the project would not be expected to be exposed to significant seismic ground shaking. Therefore, this is a **less than significant impact**.

iii) Seismic-related ground failure, including liquefaction?

The primary factors in determining liquefaction potential are soil type, liquid limit, plasticity index, water content, and fines content. Sandy, loose, or unconsolidated soils are susceptible to liquefaction hazards. Liquefaction and other seismically-induced forms of ground movement have historically occurred throughout California during major earthquake events. These phenomena generally consist of lateral movement, flow, or vertical settlement of saturated, unconsolidated soil in response to strong ground motion.

Based on the liquefaction-triggering analysis performed of foundation materials in the project area as part of the Southport EIP (URS Corporation 2007), ground under portions of the Southport Sacramento River levee may exhibit liquefaction during a seismic event. Settlement can range from 1 to 5%, depending on the cohesiveness of the sediments (Tokimatsu and Seed 1984). In the project area, where poorly consolidated, water-saturated fine sands and silts are not uncommon, differential settlement is also considered to be a possible result of an earthquake. Although the project does not include any substantial building structures, the exposure of the viewing platforms or parking area to ground failure during a seismic event would be considered a **potentially significant impact**.

Mitigation Measure GEO-1

The following mitigation measure shall be implemented to minimize the potential for the exposure of project components to seismically-induced ground failure:

- Prior to initiating project construction, a site-specific geotechnical analysis shall be conducted to identify any specific geotechnical design measures that need to be implemented to ensure the project components are not compromised by seismically-induced ground failure or other soil failure mechanisms. All identified measures shall be implemented during project construction.

The implementation of this mitigation measure would ensure that the project components would not be compromised by seismically-induced ground failure. Therefore, this measure would reduce this impact to **less than significant with mitigation incorporated**.

iv) Landslides?

The proposed project would not include components that would contribute to landsliding in the local area due to the relatively low topographic variability on the project site. Therefore, people and structures would not be exposed to adverse effects from landslides and **no impact** would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Construction of the proposed project would involve excavating, moving, filling, and temporary stockpiling soil on the project site. Grading and construction activities would remove vegetative cover and expose site soils to erosion via wind and surface water runoff. These contaminant sources could degrade the water quality of receiving water bodies, potentially resulting in a violation of water quality standards. This would be considered a **potentially significant impact**.

Mitigation measures have been identified under the Hydrology and Water Quality - X(a) section below that would ensure soil erosion from project construction activities is appropriately controlled. As described in Mitigation Measure HYD-1, because construction would disturb one acre or more of land, the City would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ or 2009-0009-DWQ General Permit). Dischargers subject to the Construction General Permit Order must develop and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is required to include a site map and description of construction activities and to identify the Best Management Practices (BMPs) that would be employed to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. A monitoring program is generally required to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of stormwater-related pollutants. The SWPPP is required to be downloaded to the State Water Resources Control Board SMARTS database prior to the onset of any soil disturbance activities. Compliance with the Construction General Permit Order requirements, as specified in Mitigation Measure HYD-1, would ensure that the proposed project would not result in substantial soil erosion or loss of topsoil. With implementation of the identified mitigation measure, this impact would be considered **less than significant with mitigation incorporated**.

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?

The proposed project includes habitat restoration and the construction of recreational amenities on the project site. Some of these improvements would be constructed on or directly adjacent to the remnant levee that forms Chicory Loop including the access ramps, multi-purpose trail, the viewing platforms, and the parking area. Due to the slope of this levee, the construction of project components on or directly adjacent to it has the potential to cause it to become unstable if any undercutting of the slope occurs. However, the project design has taken into consideration the existing levee slope and it does not include any components that would undermine the levee. Therefore, the proposed project would not be expected to create an unstable soil condition that would result in on- or off-site landslide, lateral spreading, subsidence, or collapse. See above for a discussion of liquefaction. This would be considered a **less-than-significant impact**.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

Expansive soils, also known as shrink-swell soils, refer to the potential of soil to expand when wet and contract when dry. Some soils on the site present a moderate to high shrink-swell potential. Although the majority of the project components would not be affected by expansive soils, the viewing platforms and the parking area could be damaged if substantial soil movement occurred under these facilities. Therefore, this would be considered a **potentially significant impact**.

The implementation of Mitigation Measures GEO-1 would ensure that appropriate geotechnical design measures are implemented during project construction to minimize the risks associated with expansive soils. Therefore, these measures would reduce this impact to **less than significant with mitigation incorporated**.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The project would include the use of portable bathroom facilities that would be maintained by the City's Parks and Recreation Department. The project would not include components that would require the use of septic tanks or alternative wastewater disposal systems. Therefore, there would be **no impact**.

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

The project site is located within the alluvial plain of the Sacramento Valley and does not contain any unique geologic features. Due to the site's relatively recent geologic history (i.e., Holocene era) and its proximity to the erosive forces of the Sacramento River, no paleontological resources are expected to be present. Therefore, there would be **no impact**.

3.8 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" type="checkbox"/>

AFFECTED ENVIRONMENT

Greenhouse gases (GHG) are gases that trap heat in the atmosphere. These gases are emitted by both natural processes and human activities. The accumulation of GHG in the atmosphere regulates the earth’s temperature. Without natural GHG, the Earth’s surface would be approximately 61 degrees Fahrenheit cooler (IPCC 2007). However, scientific studies have determined that the combustion of fossil fuels (coal, petroleum, natural gas, etc.) for human activities, such as electricity production and vehicle use, has elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The increase in atmospheric concentrations of GHG has resulted in more heat being held within the atmosphere, which contributes to global climate change.

Global Warming Potentials (GWPs) are one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of carbon dioxide, as well as the decay rate of each gas relative to that of carbon dioxide. Common GHG components include water vapor, carbon dioxide, methane, nitrous dioxide, chlorofluorocarbons, hydro-fluorocarbons, perfluorocarbons, sulfur hexafluoride, and ozone.

The City of West Sacramento is on course to transition from a suburban community to an urban city as it embraces the regional Sustainable Communities Strategy (SCS) adopted by the Sacramento Area Council of Governments (SACOG) as part of the Metropolitan Transportation Plan (MTP). A key strategy of that plan (intended to reduce GHG emissions) is to promote compact, urban-density development patterns in areas that are well served by transit (ICF International 2016). The plan also focuses on preserving natural areas to enhance the urban environment and to absorb GHG emissions. In addition, the City participates in the Mayors’ Commission on Climate Change, which is a joint initiative of the mayors of West Sacramento and Sacramento to develop a common vision and set of strategies for both cities to achieve carbon zero by 2045.

DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction of the proposed project would generate GHG emissions associated with construction vehicle operations. In addition, the proposed recreational amenities would attract recreational users, who would come to the site through a variety of transportation modes including passenger vehicles, bicycles and walking. The use of passenger vehicles to access the site would generate GHG emissions from vehicle exhaust. However, the site is being designed to provide passive recreational uses, which would tend to draw dog walkers, joggers and cyclists from the surrounding neighborhood. These uses would not generate GHG emissions. Also, parklands provide landscapes that absorb GHGs and produce oxygen. Because of the relatively limited construction activities associated with project implementation, the planned passive uses of the site, and the benefits provided by parklands, the project would not be expected to generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Therefore, this impact would be **less than significant**.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Environmental quality and sustainability is one of the six Metropolitan Transportation Commission principles addressed in SACOG's MTP/SCS, which was adopted by SACOG on February 18, 2016. The MTP/SCS provides a long-range framework to minimize transportation impacts on the environment, improve regional air quality, protect natural resources, and reduce GHG emissions. By providing recreational amenities within a natural landscape that is surrounded by a rapidly urbanizing community, the project helps protect natural resources within the city and provides opportunities for passive recreation within walking distance of existing and planned residential neighborhoods. These amenities would be consistent with the long-range framework of SACOG's MTP/SCS. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. There would be **no impact**.

3.9 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 excess 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

AFFECTED ENVIRONMENT

A computerized database search of various agency lists was conducted for the project site to identify any known sites of hazardous material contamination. Search results revealed no known hazardous materials site located within the project boundaries.

The State CEQA Guidelines require that initial studies and environmental impact reports assess whether a project will emit hazardous air emissions or involve the handling of extremely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (see Sections 21151.2 and 21151.4 of the Public Resources Code; Appendix G of the State CEQA Guidelines). No schools are located within ¼ mile of the project site.

Based on pond sediment sampling conducted in July 2020, the sediment samples in both ponds were elevated in arsenic, cadmium, chromium, copper, lead, manganese, nickel, and vanadium. Diesel range organics were elevated in all sediment samples except for the shallow sample from the small pond. The small pond was also elevated with respect to zinc concentrations. Arsenic is highly elevated in all the pond sediment samples; in fact, it is roughly double the highest listed screening level concentration (NOAA SQuiRTs 'Severe Effect Level'). Manganese is also highly elevated (up to about four times the screening level concentration) in all samples. Other metals in the sediment samples are also identified as having elevated concentrations above one or more screening levels.

Emergency response and evacuation services for the project area are provided by the various departments in the City of West Sacramento and through Yolo County Sheriff, Fire, and Emergency Services Departments. The City of West Sacramento and RD 537 have entered a joint flood operation agreement. The agreement has established procedures to protect the health, safety, welfare and property of the residents and landowners in the project area. Procedures described in the agreement document consist of flood preparedness, information management, monitoring, flood fighting, and flood evacuation (ICF International 2016).

Safety hazards associated with airports generally are related to construction of tall structures and the creation of wildlife attractants (e.g., wetlands, golf courses, and waste disposal operations) that could interfere with airplane flight paths. The State CEQA Guidelines (Section 21096 of the Public Resources Code) require analysis of airports within 2 nautical miles of a proposed project. The Sacramento Executive Airport is located approximately 2 miles southeast of the project site. The project site is not located within the boundaries of the Sacramento Executive Airport Comprehensive Land Use Plan (ALUC 1999).

DISCUSSION

a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

The use, handling, and storage of hazardous materials is regulated by both the Federal Occupational Safety and Health Administration (Fed/OSHA) and the California Occupational Safety and Health Administration (Cal/OSHA). Cal/OSHA is responsible for developing and enforcing workplace safety regulations. Both federal and State laws include special provisions/training in safe methods for handling any type of hazardous substance. These strict regulations ensure that potential hazards associated with construction and operational activities do not create a significant hazard to the public.

During project construction, potentially hazardous liquid materials such as oil, diesel fuel, gasoline, and hydraulic fluid would be used at the site in construction equipment. These substances are commonly used during construction projects and the risk of a spill that would create a significant hazard to the public or environment would be negligible due to the small quantities of hazardous substances used and the short duration of construction. However, a release of hazardous substances from construction equipment due to a leak or spill could adversely affect the environment. Although unlikely, this would be considered a **potentially significant impact**. The ongoing use of hazardous materials following project construction would not be anticipated.

During construction, the removal of soils from the two ponds could expose workers to contaminants including arsenic, cadmium, chromium, copper, lead, manganese, nickel, vanadium, diesel range organics and zinc. These

contaminants could represent a risk to the health of the workers. Also, during the removal process, the contaminants could be inadvertently released into the environment. The exposure of workers to contaminants or the release of contaminants into the environment would be considered a **potentially significant impact** due to its potential to expose people and wildlife to health hazards.

Mitigation Measure HAZ-1

Prior to initiating construction of the proposed project, the Contractor shall submit a written safety program to the City of West Sacramento. This plan shall include, at a minimum:

- A fire or medical emergency response access plan.
- A police emergency response access plan.
- An access control plan to its staging and equipment storage areas.
- The name and contact information for the Safety Director/Manager responsible for managing the safety, health and environmental risk factors for the Contractor. The Safety Director/Manager shall be reachable within 30 minutes.
- Typical tailgate safety meeting agenda and frequency.
- Compliance or exceedance of applicable OSHA requirements.
- New hire safety orientation training.
- Any applicable job specific requirements or permits.
- If requested, Contractor shall provide safety training records for employees working on the project.

Mitigation Measure HAZ-2

Hazardous Materials Contingency Plan (HMCP): The contractor shall prepare and submit to the City a contingency plan for handling hazardous materials, whether found or introduced on site during construction. The plan shall include construction measures as specified in local, state, and federal regulations for hazardous materials and the removal of on-site debris. The plan must include the following measures at a minimum:

- If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g. trenching, excavation, grading), construction shall be halted and the HMCP implemented.
- Instruct workers on recognition and reporting of materials that may be hazardous.
- Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations.

Mitigation Measure HAZ-3

Sediment Contaminant Remediation Plan: The contractor shall prepare and submit to the City a remediation plan for the excavation of contaminated sediments within the two ponds. The plan must include the following measures at a minimum:

- A pond dewatering plan that identifies the disposal area for pond water and any permitting necessary to conduct the dewatering.
- A sediment sampling protocol that will be used to determine the extent of potential sediment contamination and the total area and depth of excavation. The protocol will identify the metrics for determining when sufficient sediment has been removed to ensure elevated contaminant levels no longer remain within the ponds.

The implementation of these mitigation measures would minimize this impact by requiring that safety training be conducted during project construction; by requiring the development of emergency response plans; by identifying a Safety Director/Manager responsible for managing the safety, health and environmental risk factors for the contractor; by requiring the preparation of a HMCP, and by requiring preparation of a sediment contaminant remediation plan. With the implementation of these mitigation measures, this impact would be **less than significant with mitigation incorporated**.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Similar to the analysis of question a) above, any handling, transporting, use, or disposal of hazardous or potentially hazardous materials would be required to comply with all applicable federal, state, and local agencies and regulations. Both short-term construction and long-term operation of the project would be required to adhere to the policies and programs set forth by applicable regulatory agencies. This compliance, along with the limited use of hazardous materials during construction, would minimize the potential for the accidental release of hazardous materials into the environment. However, a release of hazardous substances during excavation of the two ponds or from construction equipment due to a leak or spill could adversely affect the environment and would be considered a **potentially significant impact**.

The implementation of Mitigation Measures HAZ-1, HAZ-2 and HAZ-3 would minimize this impact by requiring that safety training be conducted during project construction; by requiring the development of emergency response plans; by identifying a Safety Director/Manager responsible for managing the safety, health and environmental risk factors for the contractor; by requiring the preparation of a HMCP, and by requiring preparation of a remediation plan. With the implementation of these mitigation measures, this impact would be **less than significant with mitigation incorporated**.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No existing or proposed schools are located within 0.25 mile of the project site. Therefore, **no impact** would occur related to emissions or handling of hazardous materials within one-quarter mile of an existing or proposed school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

According to the California Department of Toxic Substances Control Envirostor website (DTSC 2020), there are no records of contaminated sites within the project site. The nearest identified site is located east of Village Parkway and south of Tamarack Road on property owned by Washington Unified School District (WUSD). No WUSD facilities are located on this property. DTSC received a Phase I Environmental Site Assessment (Phase I ESA) for a proposed project on the site on October 9, 2018 from WUSD. The Phase I ESA described current and historical land use that may impact the WUSD-owned property (DTSC 2020).

According to the Phase I ESA, the WUSD site has been used for agricultural purposes from at least 1937 to present. Agricultural use at the site primarily consisted of dry-farmed crops such as wheat and safflower. From the mid-1990s until 1999, vegetables including onions, spinach, and tomatoes were grown at the site. The site is currently vacant and has never been developed with any known structures. No specific contaminants of concern were identified by DTSC (DTSC 2020).

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and no specific contaminants of concern were identified at the nearest location identified on the Envirostor website (i.e., the WUSD-owned property). As a result, the project would not create a significant hazard to the public or the environment related to listed hazardous materials sites. Therefore, **no impact** would occur.

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 excess noise for people residing or working in the project area?

The project site is located approximately two miles northwest of the Sacramento Executive Airport, which has a Comprehensive Land Use Plan that was adopted in 1998 and amended in 1999 (ALUC 1999). The land use plan identifies height restriction areas, noise restriction areas, and safety restriction areas surrounding the airport. The project site is not located within any of these areas. Therefore, the proposed project would not result in a safety hazard or excess noise for people residing or working in the project area. There would be **no impact**.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Emergency vehicle access is provided to the project site by Chicory Loop, which encircles the project site. Access is provided from both the northeastern and southwestern on this roadway. These two segments of Chicory Loop allow emergency vehicles to access the site from two separate directions. Also, evacuation of the site could occur in either direction. In addition, the surrounding roadway network provides a wide array of evacuation routes from the project site including traveling southwest on Village Parkway to Davis Street or Gregory Avenue to access Jefferson Boulevard or traveling north on Village Parkway to access Linden Road or Lake Washington Boulevard to access Jefferson Boulevard. Therefore, the proposed project would not be expected to result in inadequate emergency access either during or after construction. This impact would be **less than significant**.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed project would not include any occupants that could be exposed to wildfires. The project is limited to habitat and recreation improvements within an area that is separated from the surrounding land uses by a flood control levee. These improvements would be expected to reduce wildfire risk within the project site by managing site vegetation and establishing recreational trails that would provide fire breaks between vegetated areas of the site. Any recreational users within the project boundaries would be expected to evacuate the area in the event of a wildfire. The project does include some recreational amenities that could be damaged in the event of a wildfire including the viewing platforms and trail boardwalks. However, the risk that these amenities would be lost during a wildfire at the site is low due to the ability of the City's Fire Department to quickly respond to the site. Therefore, there would be a **less-than-significant impact**.

3.10 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Hydrology and Water Quality. 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 checked="" type="checkbox"/>	<input 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 the addition of impervious surfaces, in a manner which would:				
i) Result in substantial on- or offsite erosion or siltation;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

AFFECTED ENVIRONMENT

The project site is located along the Sacramento River between river mile (RM) 55.8 and RM 55.1. This section of the Sacramento River collects water from most of the Sacramento River Basin including the Feather, Yuba, and American Rivers. Flows in the Sacramento River are influenced by reservoir releases at Shasta, Oroville, Englebright, and Folsom Dams. During high flood events, the Fremont Weir and Sacramento Weir divert water away from the City of Sacramento into the Yolo Bypass upstream of the confluence with the American River. Both banks of the Sacramento River have been reinforced with levees first mapped in 1895. Construction of levees through the mid to late 20th century reduced the amount of river widening but increased the amount of bed incision and exacerbated the pressure on the levees protecting the urban development on the east side of the river (cbec 2011). The Southport EIP included levee improvements, construction of a setback levee and offset area, and erosion repairs to bring levees on the West Sacramento side of the river up to current engineering standards for flood protection.

LOCAL GROUNDWATER-SURFACE HYDROLOGY CONDITIONS

The groundwater system in the Southport area is divided into shallow (the uppermost 120 feet in depth) and deep (below 120 feet in depth) zones. The lower bound of the shallow zone is the maximum depth of the shallow sand and gravel unit observed in sub-surface boring investigations (LSCE 2015). There is relatively little confinement to the shallow aquifer and most of the recharge occurs as seepage from the Sacramento River (LSCE 2015). Generally, the river is a losing stream. This means it recharges the aquifer through seepage under the existing levees when the river stage is higher than the groundwater elevation. During low river stages, the falling limbs of storm hydrographs, and strongly tidally dominated periods (July to November), the river is a gaining stream. During this time, the groundwater gradient is inverted and water flows into the river from the adjacent aquifer (cbec 2018). The relationship between changes in river water surface elevation and the groundwater level diminishes with distance from the river (cbec 2018). This reach of the Sacramento River is tidally influenced with an average tidal variation of 1.3 feet.

Several piezometers constructed for WSAFCA are in proximity to the project site (LSCE 2015) that were used to estimate the water surface elevations in the Bees Lakes. A significant limitation of estimating water surface elevations in this area through analyzing this piezometer data is the relatively short period of record available (November 2011 to February 2014). Monitoring well 07 (MW-07) was constructed in Fall 2011 by Blackburn Consultants, Inc. (BCI). The piezometer is 25 feet deep with a screened interval of 5 to 25 feet below ground surface (LSCE 2015). MW-14 and MW-15 were installed by LSCE in June 2012 (LSCE 2015).

The hydrograph for MW-7, which is located 0.2 mile west of the project site, identifies a relatively stable groundwater elevation with little response to tidal influences (<0.1 foot) and the water level is typically between 4 and 6 feet above mean sea level (North American Vertical Datum of 1988 [NAVD 88]) for the period of record. It is thought that this muted response is primarily due to a predominance of clay within the screened interval of the piezometer (LSCE 2015).

The hydrograph for MW-14, which is located 0.6 mile southwest of the project site, displays a muted response to changes in river stage very similar to that of MW-7 (LSCE 2015). This piezometer has the screened section in a layer of silty sand. This layer is lying under mostly layers of clay, which may contribute to the muted response to changes in stage. Groundwater elevations are typically between 5 and 8 feet NAVD 88 with daily fluctuations of about 0.2 foot for the period of record (LSCE 2015).

MW-15 is located approximately 800 feet from the Sacramento River and 0.7 mile northeast of the project site. This piezometer has groundwater elevations that range from 3 to 16 feet NAVD 88 for the period of record. The hydrograph for this well shows a much greater degree of hydraulic connectivity with the river compared to MW-7 and MW-14. The daily fluctuations at this gage due to tidal influences are about 0.4 feet.

In the LSCE report (LSCE 2015), it is concluded that “Water levels in MW-7 correlate poorly with River stage but are likely consistent with the stage in Bees Lakes.” However, there is uncertainty in whether the water surface elevations in the Bees Lakes have a muted response to changes (e.g. MW-7) or if it is tightly correlated (e.g. MW-15). To encompass the possible water surface elevations in the Bees Lakes, the hydrographs from MW-7 and MW-15 were used to calculate the average groundwater levels during the wet (December-May) and dry (June-November) seasons. The average water surface elevation in the two ponds was calculated to be 5.9 feet NAVD 88 during the wet season and 4.9 feet NAVD 88 during the dry season.

GEOMORPHIC CONDITIONS

The project site lies on a straight segment of river between two bends. The upstream right bend is mild and the downstream left bend – Chicory Bend – is relatively sharp with a prominent scour hole on the outside of the bend. Erosion on the outside of Chicory Bend related to this scour hole has recently been repaired as a part of the Southport EIP to deter further erosion and outward migration of this bend. The left bend upstream of the project site is mild but has been protected with concrete paving at the downstream end, where shear stresses are greatest, to protect against migration toward Interstate 5. Erosive conditions due to river geometry and fluvial shear on the right bank of the river in the project area are less severe. Erosion on this bank is primarily due to waves from wind and boats, which are the primary erosive mechanism in this reach of the river (HDR 2015).

Studies presented in the Southport EIP Design Documentation Report (DDR) analyzed historical bank line stability and evaluated existing erosion sites and revetment conditions within the Southport EIP project reach. The bankline stability analysis documented that overall, the banklines within the Southport reach have been very stable over the period of historical records. Investigations of erosion and revetment conditions included terrestrial mapping and qualification of existing bank protection and identification of subaqueous revetment extent using side scan sonar and sub-bottom sediment profiling. These studies showed that the right bank of the Sacramento River remnant levee in the project area – the east slope of Chicory Loop – is not armored with rip rap. Side scan sonar survey data indicated that rip rap exists on the bank at water’s edge between the two marinas, but this should be verified by manual probing as riprap was not observed during boat surveys and is not visible in aerial imagery. Over 300 feet of densely vegetated floodplain lies between the river and the toe of the remnant levee under non-flood conditions. This provides a layer of protection against wind and waves that have led to a significant amount of levee erosion along this reach of the Sacramento River (HDR 2015).

FLOOD CONDITIONS

A hydraulic analysis was conducted to characterize potential hazards associated with a breach of the remnant levee that separates the interior northwestern portion of the project site from the Sacramento River. Several soil borings done by Blackburn and Associates have identified the remnant levee material in the project vicinity as primarily Poorly Graded Sand. The new embankment levees connecting the marinas to Village Parkway consist primarily of sandy silt (cbec 2015). Six levee breach alternatives were evaluated using a hydraulic model with an input flow corresponding to the peak of the 200-year flood event (cbec 2015). The six breach alternatives that were modeled include combinations of two geometries and three scenarios. The three scenarios include a singular breach along the remnant Chicory Loop levee, a singular breach along the upstream access embankment connecting the Sacramento Yacht Club to Village Parkway, and simultaneous breaches occurring at both the remnant levee and embankment locations. For each of these three scenarios, a minimum and maximum breach geometry were analyzed to bracket the range of the likely resulting conditions. Each model run begins with an empty basin inside the levee ring and a 200-year flood stage in the offset floodplain area and along the remnant levee (to the east and south). Levee breaches develop horizontally from the initial point of failure. In this case, the breach rates of 119 feet/hour and 300 feet/hour were selected to represent the minimum and maximum breach geometries. Given the relatively small volume of the project site’s interior basin (650 acre-feet), the water levels of the basin and Sacramento River reached equilibrium quickly (cbec 2015).

Analysis of the model results predicted that the duration of flow through the breach and maximum breach size would be limited by the small storage volume within the levee ring. The backwater created as land within the levee ring becomes inundated would impede flow through a breach in the remnant levee, mitigating the duration of high velocity flow through the breach, and thus damage to the remnant levee. With maximum velocities for the breach alternatives ranging from 4.3 to 8.2 feet/second and occurring for a few minutes at shallow depths, none of the alternatives produced velocity structures that would likely threaten the integrity of the setback levee (cbec 2015).

PREDICTED SEA LEVEL RISE

The Cal-Adapt website (<https://cal-adapt.org>) was reviewed for information regarding sea level rise. Cal-Adapt is an online resource to help visualize the effect of climate change on the local level. The CalFloD-3D tool displays local impacts of a 100-year storm event coupled with various levels of projected sea-level rise (SLR). By this tool, sea levels are projected to increase from 0 to 1.41 meters (0-4.62 ft) above current sea level. This prediction is based on the 2017 assessment of the vulnerability of Bay Area natural gas pipelines to the effects of climate change commissioned by the California Energy Commission (CEC 2017). In compiling the CalFloD-3D tool, researchers used a high-resolution digital elevation surface in a 3-dimensional hydraulic model that simulated 100-year storm surges coupled with SLR (CEC 2017).

The closest modeled location relevant to the project site is the north end of the Deep Water Ship Channel. The Deep Water Ship Channel meets the Sacramento River at RM 57.9. At this location, the maximum predicted change in water depth during a 100-year flood and a projected SLR of +1.41 meters was between 8.2 and 9.8 feet. Translated directly to the peak stage of the 100-year flood event at RM 55.5 on the Sacramento River, this would raise the river stage from 30.2 feet to the range of 38.4 - 40 feet.

SURFACE WATER QUALITY

The Sacramento River is considered part of waters of the United States and is monitored by the Central Valley Regional Water Quality Control Board (CVRWQCB) (DWR 2017). The CVRWQCB takes into consideration the many possible types of pollutants flowing downstream from agricultural, urban, and industrial sources. They monitor the water for general water quality parameters, pesticides, insecticides, carcinogens, and other toxic substances. As required by the federal Clean Water Act, the State of California has set Total Maximum Daily Loads (TMDLs). Under state law, the responsibility to establish and enforce these limits falls on the State Water Resources Control Board.

The section of river adjacent to the project site is considered part of the Delta Waterways (Northern portion) water body. This water body is currently being monitored for Chlordane, Chlorpyrifos, DDT (Dichlorodiphenyltrichloroethane), Diazinon, Dieldrin, Group A Pesticides, Invasive Species, Mercury, PCBs (Polychlorinated biphenyls), and Toxicity. Although many monitored constituents have exceeded the TMDLs in the past, none of them failed the most recent round of testing available for review in the 2016 Clean Water Act report (DWR 2017).

BEEES LAKES AND SACRAMENTO RIVER WATER QUALITY

The two ponds within the project site are surrounded by a ring of levees yet they are hydraulically connected to the Sacramento River and the shallow groundwater table through seepage. The hydraulic connectivity leads to water levels rising and falling along with the stage in the river and aquifer, but the ponds are expected to have a very high residency time. This lack of flushing leads to stagnant water, which promotes a substantial growth of algae and provides ideal mosquito habitat. Additionally, an abandoned boat and a large amount of trash have been observed in the ponds and are suspected to be negatively affecting water quality.

Based on water quality sampling conducted in July 2020, the water in the small pond had elevated concentrations of aluminum, barium, iron, manganese, diesel range organics, arsenic, beryllium, cadmium, cobalt, copper, lead, nickel, selenium, thallium, vanadium and zinc. The larger pond had elevated concentrations of aluminum, barium, iron, manganese, and diesel range organics (cbec 2020). Iron and diesel range organics were highly elevated above all screening levels in all water samples. Iron is four to more than ten times higher than the screening levels and diesel range organics are roughly two to four times higher. The small pond has barium levels two to ten times above the highest screening level and manganese concentrations at ten times above screening levels.

The understanding of the groundwater quality in the project area is based on studies of local wells at the two adjacent marinas and private domestic water wells. The closest drinking water wells to the project site are the small water system wells at Sherwood Harbor and the Sacramento Yacht Club. The California Department of Public Health conducted tests on these wells in 2001 for Sulfate and Nitrate. Neither of these wells exceeded the Maximum Contaminant level as established by the State of California Drinking Water Standards (LSCE 2015). The available groundwater data is summarized in Table 6.

TABLE 6 TMDLs MONITORED BY STATE WATER RESOURCES CONTROL BOARD

Contaminant	Last Tested	Result	Location
Chlordane	2008	Passed	Clarksburg
Chlorpyrifos	2008	Passed	Clarksburg
DDT (Dichlorodiphenyltrichloroethane)	2008	Passed	Rio Vista
Diazinon	2008	Passed	Clarksburg
Dieldrin	2008	Passed	Rio Vista
Group A Pesticides	2006	Passed	Freeport
Mercury	2007	Passed	Freeport
PCBs (Polychlorinated biphenyls)	2008	Passed	Clarksburg
Toxicity	2009	Passed	Hood
Source: LSCE 2015			

The domestic wells have electric conductivity ranging from 280 to 1,200 microSiemens/centimeter and an average of 665 microSiemens/centimeter. Well C-1 had the highest levels of salinity of these wells. It also had levels of Total Dissolved Solids, Chlorine, and Manganese above the Maximum Contaminant Level (MCL) established by the California Department of Public Health (CDPH) for public water systems (LSCE 2015). Well F-2 exceeded the MCL for Iron with a concentration of 800 micrograms/liter. The most common water quality problem was elevated levels of Manganese in these deep water wells (LSCE 2015).

DISCUSSION

a) **Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

Construction of the proposed project would involve excavating, moving, filling, and temporary stockpiling soil on the project site. Grading and construction activities would remove vegetative cover and expose site soils to erosion via wind and surface water runoff. Also, accidental spills of fluids or fuels from construction vehicles and equipment, or miscellaneous construction materials and debris, could be mobilized and transported off-site in overland flow. These contaminant sources could degrade the water quality of receiving water bodies, potentially degrading surface water quality. This would be considered a **potentially significant impact**.

Mitigation Measure HYD-1

To ensure project construction activities do not adversely affect the water quality of local waterways, the following mitigation measures shall be implemented prior to and during construction:

- A storm water pollution prevention plan (SWPPP) shall be prepared for the proposed project with associated best managements practices (BMPs), consistent with City standards. The SWPPP shall be designed to protect water quality pursuant to the requirements of the National Pollutant Discharge Elimination System (NPDES) stormwater permit for construction activity (Order 99-08-DWQ, as amended). The SWPPP would identify and specify:
 - ▶ the use of erosion and sediment-control BMPs, including construction techniques that will reduce the potential for erosion, specifically into the Sacramento River, as well as other measures to be implemented during construction;
 - ▶ the means of waste disposal;
 - ▶ the implementation of approved local plans, non-stormwater-management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities;
 - ▶ the pollutants that are likely to be used during construction that could be present in stormwater drainage and non-stormwater discharges, and other types of materials used for equipment operation;
 - ▶ spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;
 - ▶ personnel training requirements and procedures, including the use of a sign-in log identifying who attended required trainings, that will be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and
 - ▶ The appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.
- Where applicable, BMPs identified in the SWPPP shall be in place throughout all site work and construction. BMPs may include such measures as the following:

- ▶ Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, and sandbag dikes.
- All construction contractors shall retain a copy of the approved SWPPP on the construction site. The SWPPP shall be submitted to the Central Valley Regional Water Quality Control Board (RWQCB) pursuant to NPDES requirements, and completed and implemented before the start of construction activities.

The implementation of these mitigation measures would reduce the ability of project construction activities to adversely affect the water quality of local waterways. Therefore, this impact would be reduced to **less than significant with mitigation incorporated**.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The proposed project would not include the use of groundwater resources and would have no effect on groundwater supplies. Temporary dewatering activities are proposed to allow the removal of trash and contaminated soils from the two site ponds. However, due to the direct hydraulic connection between the ponds and the Sacramento River, the ponds would be expected to naturally refill quickly following the soil excavation activities. The dewatering activities would not be expected to affect long-term groundwater supplies. Therefore, this would be considered a **less-than-significant impact**.

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 the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

As described under response to Question a) above, construction of the proposed project would include grading and excavation activities that would expose site soils to wind and water erosion. Excessive erosion could result in soils being transported into local drainages including the Sacramento River. This would be considered a **potentially significant impact** during construction activities.

The implementation of Mitigation Measure HYD-1 would minimize this impact by requiring the contractor to develop and implement a SWPPP and applicable BMPs, which would substantially reduce offsite sediment transport and associated water quality degradation. With the implementation of these mitigation measures, this impact would be **less than significant with mitigation incorporated**.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

The proposed project includes the removal of invasive plants, replanting with native species, draining water and removing contaminated soils from the two site ponds, improving foot trails, and installing several recreational amenities. These improvements would not be expected to substantially increase the impermeable surfaces on the

site. Therefore, the project would not be expected to increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite. This would be considered a **less-than-significant impact**.

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?

The project's proposed recreational components are primarily located within the interior northwestern portion of the project site. Runoff water within this area flows into the two existing ponds and does not discharge from the project site. The trail improvements and other recreational amenities would not be expected to substantially alter stormwater flows in this area. For the portion of the project site adjacent to the Sacramento River, the project components are limited to a minor improvement to the trail that extends from Chicory Loop down to the river and invasive species removal and replanting with native species. Similarly, these changes would not be expected to substantially alter stormwater flows in this area. Neither the interior portion nor the river side of the project site contains a stormwater drainage system and no such system is proposed with project implementation. Stormwater would continue to flow either internally to the two ponds or by overland flow into the Sacramento River. Therefore, the proposed project would not 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. Therefore, this would be considered a **less-than-significant impact**.

iv) Impede or redirect flood flows?

Implementation of the proposed project would not physically alter the project site to such a degree that it would impede or redirect flood flows. Only minor changes are being proposed on the portion of the site adjacent to the Sacramento River including minor improvements to the trail that extends from Chicory Loop down to the river to improve accessibility and conducting invasive species removal and replanting with native species. Following construction, the site characteristics adjacent to the Sacramento River would not substantially differ from the current uses.

The remnant levee that forms the foundation for Chicory Loop historically kept high water levels from inundating the agricultural and residential lands to the north and west. However, with construction of the Southport EIP setback levee, the remnant levee is no longer being maintained for flood control purposes. The proposed project includes some improvements, such as access ramps, that would be construction on the northwestern side of the remnant levee. Because these improvements include adding material to the remnant levee, they would not be expected to increase the risk for a levee breach.

A hydraulic analysis was conducted to characterize the potential hazards in the event that a breach of the remnant levee did occur and flood flows entered the site's interior basin. The analysis concluded that given the relative small volume of the interior basin (650 acre-feet), the water levels of the basin and Sacramento River would reach equilibrium quickly (cbec 2015). As equilibrium is reached, the erosive forces of the water entering the basin would quickly dissipate. Therefore, the Southport EIP setback levee would not be exposed to high erosional forces that could contribute to a levee breach. For the reasons described above, the proposed project would not impede or redirect flood flows and this would be considered a **less-than-significant impact**.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The portion of the project site located adjunct to the Sacramento River is subject to inundation when flows are high in the river. However, only minor changes are being proposed adjacent to the Sacramento River including minor improvements to the trail that extends from Chicory Loop down to the river to improve accessibility and conducting invasive species removal and replanting with native species. These project changes would have no effect on the existing flood hazards within this portion of the project site.

A breach in the remnant levee would result in inundation of the interior portion of the site, which could destroy the project's recreational components. However, the project does not propose uses that if exposed to flooding, would release pollutants into the environment. Also, based on its distance from large open bodies of water and location within an area with low potential seismic activity, the project site would not be exposed to tsunamis or seiches. Therefore, there would be **no impact**.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Due to the proposed project's limited area of impact and the relatively minor change to the site's current uses, it would not be expected to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, there would be **no impact**.

3.11 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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"/>

AFFECTED ENVIRONMENT

The City of West Sacramento General Plan land use designation for the site is Open Space (OS) and the zoning designation is Public Open Space (POS). The land use designations directly northwest and west of the project site include Rural Residential, Low-Density Residential, High-Density Residential, Commercial, and Recreation and Parks (City of West Sacramento 2016).

The project site is owned by the West Sacramento Area Flood Control Agency. The portion of the site located southeast of Chicory Loop adjacent to the Sacramento River also includes a State Lands Commission public trust easement for commerce, navigation and fisheries. The purpose of the easement is to preserve, enhance or create wetlands, riparian habitat and open space. The State Lands Commission considers the public trust easement a significant benefit to the public trust because it permanently protects the parcel from commercial and/or residential development and creates new public recreational opportunities, and preserves wetlands, riparian habitat and open space (State Lands Commission 2012).

DISCUSSION

a) Physically divide an established community?

The proposed project includes restoring habitat and constructing recreational improvements. These project improvements would not physically divide the community. Therefore, there would be **no impact**.

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?

The proposed project includes restoring habitat and constructing recreational improvements within an unmanaged natural area within the City. These improvements would not conflict with any of the policies included in the City’s General Plan and would be consistent with the current use of the site. The proposed project would have no adverse effect on applicable land use plans, policies or regulations. Therefore, there would be **no impact**.

3.12 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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"/>

AFFECTED ENVIRONMENT

No commercial mining operations are known to have occurred in West Sacramento. Most of the area is classified as MRZ-1 by the California Division of Mines and Geology (Cupras 1988), which indicates no significant mineral deposits are present. The project area is classified as MRZ-3, which means aggregate deposits of undetermined significance occur on the site. Lands classified as MRZ-1 or MRZ-3 are not affected by state policies pertaining to the maintenance of access to regionally significant mineral deposits under the California Surface Mining and Reclamation Act of 1975. However, as noted in an early geotechnical report for the proposed West Sacramento program (Kleinfelder 2007), the project area contains discontinuous pockets of sand (sand and aggregate being the mineable mineral resources typically found in the program region); therefore, the project area could not be effectively or economically mined and is considered not to contain regionally or locally important mineral resources. Obviously portions of it do, however, contain material suitable for construction of levees, but levee materials are finer grained than mineable aggregates.

DISCUSSION

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?

The proposed project includes restoring habitat and constructing recreational improvements. The project would not result in the loss of known mineral resources of value to the region or residents of the state. There would be **no impact**.

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?

The project site has not been designated as a locally important mineral resource recovery site. Therefore, the proposed project would have no effect on locally important mineral resource recovery sites. There would be **no impact**.

3.13 NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 groundborne vibration or groundborne 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"/>

AFFECTED ENVIRONMENT

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound is mechanical energy transmitted in the form of a wave because of a disturbance or vibration, and as any pressure variation in air that the human ear can detect.

Because of the ability of the human ear to detect a wide range of sound-pressure fluctuations, sound-pressure levels are expressed in logarithmic units called decibels (dB) to avoid a very large and awkward range in numbers. The sound-pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold (California Department of Transportation 1998). Use of this logarithmic scale reveals that the total sound from two individual 65-dBA sources is 68 dBA, not 130 dBA (i.e., doubling the source strength increases the sound pressure by 3 dBA).

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure borne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS), as in RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (FTA 2006,

Caltrans 2002). Caltrans has established a recommended standard for vibration levels of 0.2 inches per second PPV (Caltrans 2002).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

NOISE ENVIRONMENT

The project area consists of undeveloped land with a relatively dense riparian canopy, two small ponds, a historic levee road (i.e., Chicory Loop) that bisects the property, the new Southport EIP levee along the northwestern boundary, and the two marina access roadways that combine with the former segment of the levee road to form the Chicory Loop. The Little Pocket residential neighborhood is located directly southeast of the project site across the Sacramento River and Southport residential neighborhoods are located directly north of the project site. The Sacramento Yacht Club and the Sherwood Harbor Marina are located at the northeastern and southwestern ends of the project site, respectively. The lower elevations of the northwestern portion of the site are protected from surrounding noise sources by the historic levee and new Southport levee. The southeastern portion of the site directly adjacent to the Sacramento River is exposed to noise generated by boaters on the Sacramento River and activities at the two marinas.

Vehicle traffic on Village Parkway, which is located directly northwest of the project site, and boating traffic on the Sacramento River represent the primary noise sources in the project vicinity.

CITY OF WEST SACRAMENTO NOISE ORDINANCE

The City's noise ordinance is the primary enforcement tool for the operation of locally regulated noise sources, such as construction activity or outdoor recreation facilities, and is identified in Chapter 17.32 of the City Code. The noise ordinance sets noise level performance standards for non-transportation noise sources, which are summarized in Table 7. Examples of non-transportation noise sources are construction equipment, industrial operations, and outdoor recreation facilities. The noise ordinance does not include an exemption for temporary daytime construction activity. Therefore, the daytime and nighttime limits specified in the noise ordinance are considered to apply to all construction activities. In addition, the City code stipulates that no operation may be installed that by its construction or nature habitually or consistently produces noticeable vibration beyond the property line.

TABLE 7 CITY OF WEST SACRAMENTO NON-TRANSPORTATION NOISE LEVEL STANDARDS

Land Use	Noise Level Descriptor	Exterior Noise Levels		Interior Noise Levels	
		Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Residential	Hourly L_{eq} , dBA	50	45	45	35
	Max Level, dBA	70	65	-	-
Transient lodging	Hourly L_{eq} , dBA	-	-	45	35
Hospital, nursing home	Hourly L_{eq} , dBA	-	-	45	35
Theaters, auditoriums, music halls	Hourly L_{eq} , dBA	-	-	35	35
Churches, meeting halls	Hourly L_{eq} , dBA	-	-	40	40
Office buildings	Hourly L_{eq} , dBA	-	-	45	45
Schools, libraries, museum	Hourly L_{eq} , dBA	-	-	45	45

Note: Each noise level specified above will be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

dBA = A-weighted decibel.

L_{eq} = equivalent sound level.

Source: ICF International 2014.

DISCUSSION

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?

Implementation of the proposed project would include draining the two ponds, excavating contaminated soils from each pond, importing and placing soil for a parking area and site access ramps, trail grading, and constructing recreational amenities. For impact evaluation purposes, project construction is assumed to be completed in a single construction season. However, individual project components could be constructed in phases over several seasons if dictated by funding availability. Invasive plant removal and replanting is assumed to occur over two seasons. All construction activities would typically be conducted between the hours of 7:00 a.m. and 6:00 p.m. standard time.

Construction activities typically include a variety of construction equipment including backhoes, excavators, loaders, dump trucks, and compaction equipment. As indicated in Table 8, operational noise levels associated with individual equipment would generate typical noise levels ranging from 76 to 88 dBA at a distance of 50 feet.

Combined on-site construction equipment associated with the proposed project would be expected to include a grader, a back hoe and haul trucks during pond excavation and site grading activities. This equipment has the potential to generate collective noise levels up to 88 dB L_{eq} at 50 feet during operations involving the loudest equipment. Typical operating cycles for these types of construction equipment involve limited periods of full

power operation followed by periods of lower power settings. Therefore, construction noise levels would typically be below the 88 dB L_{eq} level.

Noise-sensitive receptors in the vicinity are the residences located approximately 600 feet to the southeast across the Sacramento River within the Little Pocket neighborhood of the City of Sacramento and approximately 850 feet to the north along Tamarack Road within the Southport area of the City of West Sacramento. Because the majority of construction activities would occur within an area that is surrounded by levees, the noise generated from construction equipment would be substantially attenuated. Earthen levees have a noise-reducing effect similar to sound walls, typically reducing noise levels by between 10 and 15 dB. In addition, due to the reduction in noise energy that occurs with distance, the nearest residences would not be expected to experience noise levels in excess of City standards.

The occurrence of elevated construction noise during noise-sensitive evening and nighttime hours would be considered a nuisance for local residents due to the potential for sleep disruption. However, most residents located in developed communities recognize that construction activities are inevitable from time to time and that short-term daytime noise impacts associated with construction activities are expected on occasion.

TABLE 8 CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Equipment Type	Typical Noise Level (dB) @ 50 feet
Air Compressor	81
Backhoe	85
Compactor	82
Concrete Pump	82
Concrete Breaker	82
Truck Crane	88
Dozer	87
Generator	78
Grader	85
Front-end Loader	84
Asphalt Paver	88
Pneumatic Tools	85
Water Pump	76
Power Hand Saw	78
Power Shovel	82
Trucks	88

*All equipment fitted with properly maintained and operational noise control device, per manufacturer specifications.
 Source: Bolt, Beranek and Newman, FTA 2006.

Project construction noise impacts would be temporary in character, as they would extend over a single construction season. In addition, the construction would be limited to the required daylight hour timeframes

identified in the City code. These limitations are generally considered to be reasonable for purposes of ensuring that temporary noise impacts occur in hours when most people are at work or, if at home, are awake. For these reasons, the project's construction noise impacts would be considered **less than significant**.

CONSTRUCTION-GENERATED TRAFFIC

Implementation of the proposed project would result in an increase of traffic volumes due to the addition of construction-generated traffic. Construction-generated traffic volumes would be dependent on material requirements and material availability. Construction related traffic would be expected to include the use of dump trucks, haul trucks, and various deliveries of material and equipment occurring throughout the construction period and well as construction worker commuting to and from the site.

Increases in construction traffic attributable to the project would result in a negligible and imperceptible increase in roadway noise. Typically, traffic volumes have to double before the associated increase in noise levels is noticeable along roadways. The construction activities would be expected to contribute a small percentage to the existing traffic levels in the City. As a result, project generated construction traffic noise levels would be **less than significant**.

LONG-TERM OPERATIONAL NOISE

Following construction, the site activities would consist of passive recreational uses, which would not be expected to result in the exposure of people to long-term operational noise levels exceeding applicable noise standards. Therefore, there would be **no impact**.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Construction of the proposed project would generate some groundborne vibration associated with trucks accessing the site and excavation activities. However, this ground borne vibration would be consistent with typical construction activities in the region and would not be considered excessive. Also, no structures are located within the project vicinity that would be exposed to the vibrations. The nearest sensitive receptors to the project site include residences located approximately 600 feet to the southeast across the Sacramento River within the Little Pocket neighborhood of the City of Sacramento, and residences located approximately 850 feet to the north along Tamarack Road within the Southport area of the City of West Sacramento. At these distances, groundborne vibration associated with project construction activities would be undetectable at the residences. Therefore, these construction activities would not be expected to expose people to excessive groundborne vibration or noise.

Following construction, the site activities would consist of passive recreational uses, which would not be expected to generate groundborne vibrations. Thus, operation of the project would not expose people to excessive groundborne vibration or groundborne noise levels. This impact is **less than significant**.

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?

The project site is located approximately two miles northwest of the Sacramento Executive Airport, which has a Comprehensive Land Use Plan that was adopted in 1998 and amended in 1999 (ALUC 1999). The land use plan

identifies height restriction areas, noise restriction areas, and safety restriction areas surrounding the airport. The project site is not located within any of these areas. The project site is also not located within the vicinity of a private airport. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with public use or private airstrip operations. There would be **no impact**.

3.14 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" 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"/>

AFFECTED ENVIRONMENT

The project site is an unmanaged open space that has historically been utilized by local residents for recreational activities. The project site does not include any housing.

DISCUSSION

- 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)?**

The proposed project does not involve the construction of any components (i.e. roads, residential homes) that would induce population growth. The proposed project includes restoring habitat and constructing recreational improvements. These improvements would not induce growth beyond what has been planned for in the adopted City of West Sacramento General Plan. Therefore, there would be **no impact** on population growth in the area.

- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

The proposed project would not result in the demolition of any homes and does not include any components that would result in the displacement of any homes or create the need for replacement housing. There would be **no impact**.

3.15 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

AFFECTED ENVIRONMENT

Public services include fire and police protection, schools, parks, and other public facilities. The West Sacramento Fire Department is responsible for providing fire protection services within the city. The five fire stations in the city operate 24 hours a day, seven days a week with a combined staffing of 17 personnel on duty, including a battalion chief to respond to all structure fires and other emergencies (ICF international 2016). The closest fire station to the project site is Fire Station #45 located at 2040 Lake Washington Boulevard.

Law enforcement services for the project area are provided by the West Sacramento Police Department. The Department is responsible for patrolling city neighborhoods, responding to calls for service, investigating crime and arresting offenders, and working closely with the community to identify and solve problems of crime and neighborhood disorder (ICF International 2016).

The project area is located within the Washington Unified School District, which provides primary, secondary, and high school education services to city residents. The District is governed by a Board of Education comprising five locally elected officials responsible for policies, curricula, budget, and overseeing facilities (ICF International 2016).

West Sacramento Parks and Recreation consists of three separate functions: a parks division, a recreation division, and a tree program. The Recreation Division provides community members with a wide variety of recreation opportunities: aquatics, children’s programs, teen programs, youth sports, adult sports, Active Aging Programs, leisure interest classes, recreation programs for individuals with special needs, and special events.

DISCUSSION

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

The main driver for emergency and medical services for the project area is the use of the area by the City's homeless population. The homeless community occasionally sets up camp within the project site as it is mostly out of view of the general public. The City has removed homeless encampments from the project area for health and safety reasons. With planned developed near the project area in the near future, interest in and use of this area will increase, requiring the City to take proactive steps to ensure public safety. However, the proposed project improvements are anticipated to reduce the appeal of the project site to the homeless community and to improve the recreational management of the site.

The increased use of the site may increase the number of response calls at the site but the project does not include any specific components that would increase service requirements for the West Sacramento Fire Department or that would require additional fire protection facilities be constructed. The project area would continue to be served by the West Sacramento Police Department and project implementation would be expected to have a negligible effect on the provision of police protection services at the site. The project would not require the construction of additional police facilities.

The proposed project does not include any uses that would increase the demands on local schools or existing local park facilities. Therefore, the proposed project would not be expected to result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities in the City of West Sacramento. There would be **no impact** on public services associated with project implementation.

3.16 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Recreation. Would the project:				
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) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

AFFECTED ENVIRONMENT

The West Sacramento General Plan Policy Document identifies that the Sacramento Riverfront will be a well-known regional destination and attraction that will be a gathering point for people of the Sacramento region and beyond with both active social points of activities and quiet, natural opportunities. The City will continue to expand and enhance its regional and local bicycle/pedestrian trail network, providing active transportation and connecting its citizens and the region to a range of urban and delta destinations.

The Recreation and Cultural Resources element of the General Plan commits the City to ensuring continuous public access to the Sacramento River for its full length within West Sacramento, and calls for access to the Sacramento River to be linked to the City’s overall system of parks, recreational pathways, and open space.

A major goal of the Urban Structure and Design element of the general plan is to enhance the relationship between the City and the Sacramento River. Specific policies call for development of a continuous pedestrian and bicycle path along the river, development of visual and scenic areas along the riverfront, and development of pedestrian links between the river and public schools, parks, and other major open space areas. The Transportation and Circulation element of the general plan specifies that bicycle and pedestrian pathways be included adjacent to waterways, to the extent practical.

Several neighborhood parks and one community park are proposed for construction in the Southport basin near the project area. The Bees Lakes Open Space Area is identified in the Parks Master Plan as “having significant natural resources that warrant protection and that can provide for passive recreation use.” The Parks Master Plan recommends limiting development of this area to pedestrian-only trails (no horses, vehicles, or bicycles), interpretive facilities, and limited picnic facilities. It also recommends that sensitive habitat areas be protected by preventing human intrusion through the use of fencing, boardwalks, railings, or other design solutions.

The project site is an unmanaged open space that has historically been utilized by locals for bird watching, walking and hiking, biking and even paintball activities. The Bees Lakes ponds historically provided fishing opportunities, although they no longer do so. Currently within the project area, two BMX bike courses have been

developed by locals. A narrow and steep footpath provides access for fishing to the waterside beach area along the Sacramento River. In addition, equestrian riders are known to access the trails within the project site.

DISCUSSION

- 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?**

The project includes constructing recreational facilities that would enhance recreational opportunities for local residents and regional visitors. By providing these facilities, the proposed project would be expected to reduce the demands on existing neighborhood and regional parks. Therefore, the project would have **no impact**.

- b) **Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

The project includes the construction of recreational facilities that would alter the existing environmental conditions on the site. However, because the project includes habitat restoration and the implementation of mitigation measures identified in other sections of this Initial Study that would ensure any environmental impacts remain less than significant, the project is expected to have a **less-than-significant impact** on the environment.

3.17 TRANSPORTATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AFFECTED ENVIRONMENT

The following summarizes the local transportation components including the regional roadway system, transit services, the City’s bikeways, and river navigation.

REGIONAL ROADWAY SYSTEM

Regional access to the project area from the local freeways is provided by Interstate 5 (I-5), Interstate 80 (I-80), and US Highway 50 (US-50) via the interchange connections from I-80 to US-50 and I-5 to US-50. From US-50, access to the project area is provided via the Jefferson Boulevard interchange. Table 9 shows the average annual daily traffic (AADT) for the regional highway segments that would be most affected by project-related traffic.

Local access to the project site consists of heading south on Jefferson Boulevard from the US 50 interchange and then east onto Lake Washington Boulevard, Linden Road or Davis Road to Village Parkway, which connects to the Chicory Loop. Chicory Loop provides direct access to the project site.

Jefferson Boulevard is a principal arterial that extends south from Sacramento Avenue at the north end of the city to beyond the City’s southern boundary. Jefferson Boulevard is a four-lane road that includes a center turn lane from Sacramento Avenue to just south of Linden Road. Jefferson Boulevard transitions to a two-lane arterial south of Linden Road. Lake Washington Boulevard, Linden Road, Village Parkway and Davis Road, are two-lane minor arterials that all intersect with Jefferson Boulevard. Village Parkway, which was constructed in 2015, is slated to become a future principle arterial road. Chicory Loop includes the remaining remnant of South River Road, which was a rural two lane road that extended along the top of the former levee along the Sacramento River. Due to removal of much of the levee during the construction of the Southport EIP, the remnant levee now only exists between the Sacramento Yacht Club and Sherwood Harbor Marina. This portion of the road can be accessed via two new roads connecting to Village Parkway, which were constructed as part of the Southport EIP in 2018. These two connector roads along with the remnant portion of the levee road constitute the Chicory Loop.

Table 10 lists the average daily traffic (ADT) on local roads within the project area. This data was collected by a 2017 Citywide Traffic Data Collection Survey for the City of West Sacramento.

TABLE 9 REGIONAL HIGHWAY AVERAGE ANNUAL DAILY TRAFFIC

Highway	Segment	2017 AADT (vehicles/day)
I-80	West Sacramento, Jct. Rte. 50	86,500
I-80	Yolo/Sacramento County Line	92,200
I-80	Sacramento, Jct. Rte. 5	143,900
I-5	Sutterville Road – US 50	161,500
I-5	US 50 – Richards Boulevard	202,000
US 50	West Sacramento Jct. I-80	119,600
US 50	Harbor Boulevard	129,000
US 50	Jefferson Boulevard – Jct. Rte. 84	122,700
US 50	Sacramento, Jct. Rte. I-5	232,300
Source: California Department of Transportation 2017 AADT = average annual daily traffic		

TABLE 10 CITY OF WEST SACRAMENTO LOCAL ROADS ADT

Local Street	Roadway Segment	2017 ADT (vehicles/day)
Jefferson Blvd.	Southport Pkwy to Linden Road	4,748
Jefferson Blvd.	Linden Rd (N) to Linden Road (S)	20,344
Jefferson Blvd.	Linden Rd to Locks Dr.	30,518
Jefferson Blvd.	Locks Dr. to 15th St.	30,326
Jefferson Blvd.	15th St. to West Capitol Ave.	27,881
Jefferson Blvd.	West Capitol Ave. to Sacramento Ave.	21,633
Lake Washington Blvd.	Jefferson Blvd. to Village Pkwy	1,281
Linden Rd.	Jefferson Blvd. to Village Pkwy	2,258
South River Rd.	Locks Dr. to 15th St.	9,344
Stonegate Dr.	Lake Washington Blvd. to Village Pkwy	3,660
Village Pkwy	Gregory Rd. to Lake Washington Blvd.	860
Village Pkwy	Lake Washington Blvd. to South River Rd.	2,828
Source: 2017 Citywide Traffic Data Collection effort – City of West Sacramento ADT = average daily traffic		

Of the local minor arterials that are likely to be used for project site access, Davis Road from Village Parkway to Jefferson Boulevard and Linden Road from Village Parkway to Redwood Avenue were recently resurfaced as part of the Southport EIP and are, therefore, in good condition. The two new access roadways that form a portion of Chicory Loop are in good condition. However, the remnant section of the levee road between the marinas is in poor condition.

TRANSIT SERVICES

Yolobus transit service operates in the City of West Sacramento and provides access to the surrounding communities. In the project area along the major access roads, Yolobus routes 35 (Southport Local), and 39 (Southport/Sacramento Commute), run on Jefferson Boulevard, Linden Road, and Lake Washington Boulevard

(Yolo County Transportation District). Table 11 summarizes the bus service on major local access roads in the project area.

TABLE 11 CITY OF WEST SACRAMENTO BUS SERVICE AND BIKE LANES IN THE PROJECT AREA

Street	Segments	Bus Service Routes	Bike Lane
Jefferson Blvd.	Jefferson to Gateway	35, 39	Class II
Jefferson Blvd.	Jefferson to Linden	35, 39	Class II
Jefferson Blvd.	Jefferson to Marshall	35, 39	Class II
Lake Washington Blvd.	Redwood to Lake Washington	35	Class II (Class I)
Linden Rd.	Linden to Redwood	35	Class II
Linden Rd.	Linden to Stone Gate	39	Class II
Village Parkway	No Bus Service	N/A	Class II
Source: Bus Service - YoloBus Maps West Sac July 2017 Source: Bike Lanes – 2018 West Sacramento Bicycle, Pedestrian, and Trails Master Plan (Class I) – Proposed Future Class I Bike Lane			

BIKEWAYS

The City updated the Bicycle, Pedestrian, and Trails Master Plan (BPTMP) in 2018 to lay out a renewed vision of connected bikeways, walkways, and trails that link together neighborhoods, places of employment, shopping centers, parks, and schools (City of West Sacramento 2018). Bicycle facilities in the City of West Sacramento are divided into three classes: Class I separate multi-use path or trail, Class II striped lane on street, and Class III route designated with signage only. In the project area along the major access routes, there are Class II bike lanes on Jefferson Boulevard north of Davis Road and on Linden Road between Jefferson Boulevard and Redwood Avenue and on Village Parkway from Gregory Road to the Barge Canal. Part of the update to the BPTMP identified the Southport levee crown road as a future off street Class I bikeway, which would connect to the project site.

In addition to the designated bikeways, the Clarksburg Branch Line Bike and Pedestrian Trail is an existing off-street path that runs from the Barge Canal in the north to South River Road near the southern end of the city limits. This trail would connect with the future Southport levee crown Class I bike path providing a regional loop in the Southport area of West Sacramento.

RIVER NAVIGATION

The Sacramento River forms the southeastern edge of the project area. The river flows in a generally southward direction and widths vary with water elevations. Navigation in the Sacramento River is limited to recreational watercraft because the river’s size and fluctuating water levels prevent the accommodation of large commercial vessels.

Access to the Sacramento River in the project area is provided by Sherwood Harbor Marina to the south, and the Sacramento Yacht Club to the north, both located along Chicory Loop. Sherwood Harbor Marina has space for 130 boats and the Sacramento Yacht Club provides space for more than 100 boats.

DISCUSSION

a) **Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

Project construction activities would generate new vehicle trips on the local roadway network associated with construction worker transportation to and from the site, and the hauling of equipment and materials to the site. These trips would represent a minor and temporary increase in traffic volumes on the local roadway network in the project vicinity. Project construction would be expected to occur during a single season and would not be expected to require more than 20 construction workers per day. With the inclusion of equipment and material deliveries, vehicle trips during construction would not typically exceed 100 per day with the majority of these trips occurring during non-peak periods based on the assumption that construction workers would typically arrive prior to 7:00 am and would depart before 4:00 pm. For these reasons, construction activities would not be expected to result in any delays on local roadways, to disrupt local transit service, or to conflict with bicycle or pedestrian circulation.

Following construction, the proposed project would be expected to attract additional recreational users. However, the majority of visitors would be expected to visit the site during non-peak traffic periods, such as on weekends or after work hours. City staff would regularly visit the site for maintenance purposes. However, these trips would likely be limited to one or two trips per day except during unusual events.

Because the project would have negligible effects on local traffic volumes, it would not be expected to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, this impact would be **less than significant**.

b) **Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?**

CEQA Guidelines Section 15064.3(b) applies to land use and transportation projects that would be expected to increase vehicle miles driven during their operations. The proposed project would result in a temporary increase in vehicle miles traveled during construction due to worker trips to the site, the delivery of materials, and trips generated by construction vehicles on the site. Following project construction, the project would be expected to generate additional vehicle miles associated with increased site visits by local residents and city maintenance personnel. However, the project would also provide an improved recreational amenity within the City that could be accessed directly by local residents using alternative transportation modes (e.g., walking, bicycling or horseback riding), which could offset vehicle miles traveled. Based on the passive recreational character of the proposed improvements, the project site would not be expected to generate significant vehicle trips and associated vehicle miles travelled. Therefore, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) and this impact would be **less than significant**.

c) **Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

The project does not include any components that would alter the geometric design of the Chicory Loop or any other local roadways and would not be expected to introduce incompatible vehicle uses such as farm equipment. Therefore, there would be **no impact**.

d) Result in inadequate emergency access?

Access to the remnant levee portion of Chicory Loop, which runs through the center of the project site, is provided from the new northeastern and southwestern roadway segments of the Chicory Loop. These two segments of Chicory Loop allow emergency vehicles to access the site from two separate directions. If access is blocked from one of these roadways, the alternative route can be used to access the site. Similarly, the site can be evacuated from either the northeastern or southwestern segments of the Chicory Loop. In addition, the surrounding roadway network provides a wide array of evacuation routes from the project site including traveling southwest on Village Parkway to Davis Street or Gregory Avenue to access Jefferson Boulevard or traveling north on Village Parkway to access Linden Road or Lake Washington Boulevard to access Jefferson Boulevard. Therefore, the proposed project would not be expected to result in inadequate emergency access either during or after construction. This impact would be **less than significant**.

3.18 TRIBAL CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources. Would the project:				
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p>				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource 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"/>

AFFECTED ENVIRONMENT

Tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: 1) included or determined to be eligible for inclusion in the California Register of Historic Resources (CRHR); or 2) included in a local register of historical resources. Tribal cultural resources are also resources determined by the lead agency (i.e., City of West Sacramento), in its discretion and supported by substantial evidence, to be significant. In making this determination, the lead agency is required to consider the significance of the resource to a California Native American tribe.

The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP). Pursuant to Public Resources Code, Section 21084.1, a “project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” Demolition, replacement, substantial alteration, and relocation of historic properties are actions that would change the significance of an historic resource (California Code of Regulations, Title 14, 15064.5).

DISCUSSION

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

The proposed project does not include any resources that are 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). However, during the cultural resource surveys conducted at the site, several historic era artifacts were discovered. Although no historic structures or facilities were discovered on the site, the proposed project has the potential to disturb historic resources during construction that may be considered significant tribal cultural resources by a California Native American tribe. The disturbance of historic resources during project construction would be considered a **potentially significant impact**.

The implementation of Mitigation Measure CUL-1 would ensure that historic resources discovered during project construction would not be inadvertently destroyed. With the implementation of these mitigation measures, this impact would be **less than significant with mitigation incorporated**.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

During the cultural resource surveys conducted in the project area, numerous isolated prehistoric finds were discovered. The relative proximity and number of artifacts discovered, as well as the reported former presence of a mound site, suggests that the project area has a moderate to high archaeological sensitivity. Given the sensitivity of the area, the proposed project has the potential to disturb tribal cultural resources during construction that may be considered significant by a California Native American tribe. The disturbance of tribal cultural resources during project construction would be considered a **potentially significant impact**.

The implementation of Mitigation Measure CUL-1 would ensure that tribal cultural resources discovered during project construction would not be inadvertently destroyed. With the implementation of these mitigation measures, this impact would be **less than significant with mitigation incorporated**.

3.19 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 stormwater drainage, electric power, natural gas, or telecommunication 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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider that 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 type="checkbox"/>	<input checked="" 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"/>

AFFECTED ENVIRONMENT

The following summarizes the utilities and service systems within the project vicinity including electricity, natural gas, communications, water supply and stormwater drainage.

ELECTRICITY AND NATURAL GAS

Electric and natural gas service is provided to West Sacramento customers by Pacific Gas and Electric Company (PG&E). PG&E currently operates a standard 12 kilovolt electrical overhead distribution line in the area supported by wooden poles. The line runs along the north access road of Chicory Loop, which provides power service to the Sacramento Yacht Club Marina. The line then extends south parallel to Chicory Loop on the northwest side of the road embankment within the project area to provide service to the Sherwood Harbor Marina. (HDR December 2016).

COMMUNICATIONS

Communication service throughout the City of West Sacramento is provided by multiple providers through both overhead and below ground facilities. Specifically, within the project area these services utilize the PG&E

electrical overhead distribution line facilities in order to provide service to the Sherwood Harbor and Sacramento Yacht Club Marinas.

WATER SUPPLY

The City's main municipal water source is the Sacramento River. The intake structure is located at Bryte Bend, upstream of the confluence of the Sacramento and American Rivers. The water withdrawn from the Sacramento River is treated at the Bryte Bend Water Treatment Plant and supplies the users of the City's municipal water system.

The City's municipal water distribution infrastructure is not present within the project area. The nearest water infrastructure to the project location is associated with the Sacramento Yacht Club and Sherwood Harbor Marinas at the northeastern and southwestern project boundaries respectively, which both use small public water system wells for water supply (Luhdorff & Scalmanini 2013).

STORMWATER AND DRAINAGE

Stormwater management in West Sacramento is a cooperative effort between the City, the local reclamation districts, and the State of California. The State and local reclamation districts share responsibility for the levees that manage flood risk from the Sacramento River and the City shares responsibility with the reclamation districts for stormwater infrastructure inside the city.

Most of the City, including the entire Southport area, lies within the boundaries of Reclamation District 900. The primary drainage facilities in the Southport area include the Main Drainage Canal and the Main Drain Pump Station. The canal collects stormwater drainage from the Southport basin area and carries it south to the pump station, which discharges into the Deep Water Ship Channel.

Historical infrastructure within the project area consisted of old abandoned irrigation ditches that ran parallel to the Sacramento River west levee and around the western boundary of the project area. Segments of these irrigation ditches transitioned into burred segments of pipe, which all ultimately discharged into main drainage canals within the Southport basin area. As part of the Southport EIP, most of these historical irrigation ditch systems within the project area were backfilled. The sections with drainage pipes were both excavated and removed or backfilled with grout and left in place (HDR December 2016).

DISCUSSION

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?**

The proposed project does not include the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, natural gas, or telecommunication facilities. The project would include the provision of electric power to aeration pumps to be installed within the two ponds. This electric power would be provided by extending electrical lines from the existing power line located along Chicory Loop to each pond, which would require the installation of several power poles within the project site. Due to the small disturbance footprint of the power poles and the relatively low electrical demand associated with the aeration pumps, the

extension of electrical power to the ponds would not result in significant environmental effects. Therefore, this impact would be **less than significant**.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The proposed project would require the use of water for construction purposes including for dust suppression but would have no effect on long-term water supplies. Water used during construction would be supplied by water tanker trucks. The project would not include water fountains or any other water infrastructure. Therefore, there would be **no impact**.

c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

The proposed project would include the installation of portable restroom facilities for site visitors. The project would not include the installation of wastewater collection infrastructure and would not include any connections to the City's wastewater system. Therefore, the project would have no effect on local wastewater treatment demands and there would be **no impact**.

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?

Project construction would not be expected to generate significant volumes of solid waste. Illegally dumped waste would be removed from the site during construction. However, the volume of waste would not be expected to differ substantially from the waste volumes collected at other illegal dumping sites in the City. During site operations, City personnel would regularly collect trash from the newly-installed waste receptacles. Due to the passive recreational use of the site, the waste volumes collected from these receptacles are expected to be negligible. The proposed project would not generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure and would not otherwise impair the attainment of solid waste reduction goals. Therefore, there would be **no impact**.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Because project construction and operations would not be expected to generate significant volumes of solid waste, the project would not be expected to conflict with any solid waste statutes or regulations. There would be **no impact**.

3.20 WILDFIRE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Wildfire. Would the project:				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
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 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"/>

AFFECTED ENVIRONMENT

The West Sacramento Fire Department (WSFD) is responsible for providing fire protection services within the city. The five fire stations in the city operate 24 hours a day, seven days a week with a combined staffing of 17 personnel on duty, including a battalion chief to respond to all structure fires and other emergencies (ICF International 2016).

The severity of wildland fires is influenced primarily by vegetation, topography, and weather (temperature, humidity, and wind). The California Department of Forestry and Fire Protection (CAL FIRE) has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard. CAL FIRE designates three levels of Fire Hazard Severity Zones (Moderate, High, and Very High) to indicate the severity of fire hazard in a particular geographical area. Fire hazard zoning is used to indicate both the likelihood for a fire (e.g., prevalence of fuels) and the potential for damage (e.g., proximity to residences). Local fire departments also use these severity zone designations within their jurisdictions. The project site is identified as an undesignated local responsibility area that is urbanized and not subject to wildland fires (CALFIRE 2020).

DISCUSSION

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

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. As a result, the proposed project would not be expected to substantially impair an adopted emergency response plan or emergency evacuation plan within such areas. Therefore, there would be **no impact**.

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?

The proposed project would not include any occupants that could be exposed to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The project is limited to habitat and recreational improvements within an area that is separated from the surrounding land uses by a flood control levee. These improvements would be expected to reduce wildfire risk within the project site by managing site vegetation and establishing recreational trails that would provide fire breaks between vegetated areas of the site. Any recreational users within the project boundaries would be expected to evacuate the area in the event of a wildfire. Therefore, there would be **no impact**.

c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The proposed project would include the extension of overhead electrical lines from Chicory Loop to the two ponds to supply electricity to the water aerators within the ponds. However, these electrical line extensions would be installed consistent with building code requirements and would have a negligible effect on fire risks within the City. The project's habitat and recreational components would not include the installation of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Therefore, there would be **no impact**.

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?

The proposed project does not include any physical changes that would be expected to expose people or structures to downslope or downstream flooding or landsliding, as a result of runoff, post-fire slope instability, or drainage changes. The proposed project does include the establishment of a trail extending from Chicory Loop down to the Sacramento River. Although this trail would be relatively steep, its construction would not be expected to substantially contribute to slope instability in the event that a fire occurs within the riparian vegetation adjacent to the Sacramento River due to its relatively small disturbance area. Therefore, there would be **no impact**.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. Mandatory Findings of Significance.				
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 an endangered, rare, or threatened species, 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Authority: Public Resources Code Sections 21083, 21083.5.

Reference: Government Code Sections 65088.4.

Public Resources Code Sections 21080, 21083.5, 21095; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

DISCUSSION

- 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

Based on the information and analysis provided in the questions above, implementation of the proposed project would not substantially degrade the quality of the environment and would not 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, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of California history or prehistory. Also, based on the ability of the identified mitigation measures to reduce potential impacts to less-than-significant levels, the proposed project’s impacts would be considered **less than significant with mitigation incorporated**.

- 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.)**

Implementation of the proposed project would result in less-than-significant environmental impacts with implementation of the identified mitigation measures. The impacts associated with the proposed project are anticipated to be localized at the project site and would not be expected to combine with other projects to cause cumulatively considerable environmental impacts. Given the limited impacts anticipated with project implementation, the proposed project would not be expected to cause cumulatively considerable impacts. This impact is **less than significant with mitigation incorporated.**

- c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

As discussed in this Initial Study, implementation of the proposed project would result in less-than-significant environmental impacts with implementation of the identified mitigation measures. Therefore, the proposed project would not be expected to cause substantial adverse effects on human beings, either directly or indirectly. This impact is **less than significant with mitigation incorporated.**

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