Public Review Draft

Initial Study/ Mitigated Negative Declaration

For the

White Slough Water Pollution Control Facility Storage Expansion and Surface, Agricultural, and Groundwater Supply Improvement Project

TREE CITY USA.

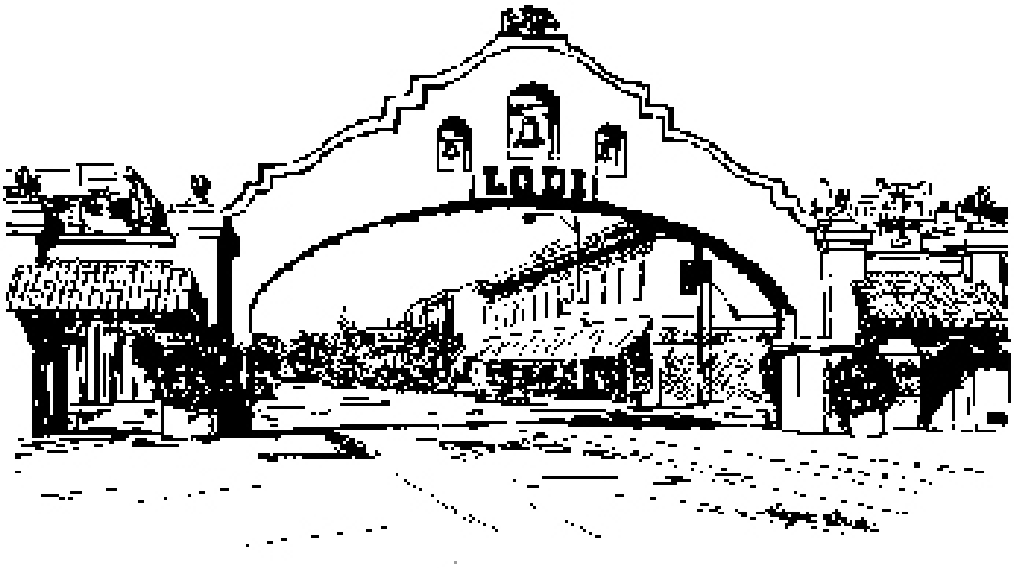
January 2017

PUBLIC REVIEW DRAFT

INITIAL STUDY/ PROPOSED MITIGATED NEGATIVE DECLARATION

FOR THE

WHITE SLOUGH WATER POLLUTION CONTROL FACILITY STORAGE EXPANSION AND SURFACE, AGRICULTURAL, AND GROUNDWATER SUPPLY IMPROVEMENT PROJECT



Prepared by the City of Lodi
Community Development Department
221 West Pine Street
Lodi, CA 95240

January 2017

NOTICE OF AVAILABILITY AND NOTICE TO OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE CITY OF LODI WHITE SLOUGH WATER POLLUTION CONTROL FACILITY STORAGE EXPANSION AND SURFACE, AGRICULTURAL, AND GROUNDWATER SUPPLY IMPROVEMENT PROJECT

The City of Lodi has prepared an Initial Study pursuant to California Environmental Quality Act (CEQA) and the CEQA Guidelines (Public Resources Code, Division 13 and California Code of Regulations, Title 14, Chapter 3) evaluating the potential environmental impacts of the City of Lodi White Slough Water Pollution Control Facility Storage Expansion and Surface, Agricultural, and Groundwater Supply Improvement Project. The City proposes to adopt a Mitigated Negative Declaration ("MND") because the Project construction and operation would not have a significant effect on the environment. This MND and the Initial Study describe the reasons that this project will not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report under CEQA.

FILE NUMBER: 2017-02 MND

PROJECT TITLE: CITY OF LODI WHITE SLOUGH WATER POLLUTION CONTROL FACILITY STORAGE EXPANSION AND SURFACE, AGRICULTURAL, AND GROUNDWATER SUPPLY IMPROVEMENT PROJECT

PROJECT LOCATION: The Project is located at the White Slough Water Pollution Control Facility (WPCF) in unincorporated northern San Joaquin County, approximately 6.5 miles west of the City of Lodi. The WPCF is located in a primarily agricultural area, adjacent to Interstate 5 and 1.2 miles south of Highway 12. The WPCF address is 12751 North Thornton Road, Lodi, California, and consists of 1,026.27 acres of land, including the treatment facilities, the existing recycled water storage facilities and surrounding City-owned agricultural fields. There were originally two proposed locations for the expansion pond, located within the facility agricultural land (APNs: 055-190-01, 055-150-29, 055-130-16). The final preferred location for the expansion pond is located within the facilities agricultural land (APN: 055-150-29), approximately 1,100 feet west of the City's existing storage ponds. The City of Lodi General Plan designates the WPCF as "Industrial" and the surrounding City-owned agricultural fields where the expansion pond is proposed as "Public/Quasi-Public". A regional and project location map are included as Figures 1 and 2, respectively.

PROJECT DESCRIPTION: The City of Lodi is proposing the construction of an approximately 70-acre Expansion Pond and associated conveyance infrastructure at the City-owned White Slough WPCF (Project). The Expansion Pond will be used exclusively to store disinfected, tertiary-treated effluent produced by the WPCF for use as irrigation water on approximately 890 acres of irrigated agricultural land that surrounds the WPCF. The purpose of the Project is to provide additional WPCF effluent supplies for agricultural irrigation on these properties and to offset groundwater pumping. Studies have demonstrated that the storage provided by this project will significantly offset groundwater pumping (West Yost Associates, 2014, 2015). The Project would be funded by the Department of Water Resources (DWR) Proposition 84 Grant Funding Program, which is intended to assist in the development of projects which increase agricultural and drinking water supplies, decrease groundwater pumping, or assist in preserving water quality at source intakes. The Project, as discussed below, meets these criteria as set forth by DWR.

Two alternative Expansion Pond sites were originally considered for the Project:

- The Southeastern Expansion Pond site is located in the southeastern portion of the City's 1,026.27-acre property. The Southeastern Expansion Pond site would be configured within the space currently occupied by the three agricultural fields that are located at this site. These three fields, which are currently irrigated with groundwater supplied from a production well that is also located in this area, would no longer be used for agricultural production.

- The 70-acre Western Expansion Pond Site is located on a portion of the City's existing agricultural fields that are directly west of the existing WPCF treatment and storage facilities. The Western Expansion Pond site would be configured to avoid construction under the power lines that transect the City property and to respect the boundaries of the existing Giant Garter Snake habitat easement that is located along the western boundary of the City's properties. The agricultural fields and associated irrigation water infrastructure in and around the Western Expansion Pond Site would be reconfigured to accommodate the Project, while also minimizing the overall reduction of agricultural production area on the City's properties. This alternative also includes expansion of the City's irrigation facilities to allow for irrigation of the three fields (approximately 90 acres) located in the southeastern corner of the City's property (i.e. the Southeastern Expansion Pond) with water supplied from the WPCF. This expansion would require an additional site expansion pump station equipped with two new, 7.5 HP, 850 GPM vertical turbine pumps and replacement of the existing concrete-lined conveyance channel located on the south side of Thornton Road with a new conveyance pipeline. These improvements will connect the existing WPCF effluent irrigation system infrastructure to the irrigation system infrastructure that currently serves the 90-acre expansion area.

Of the two alternatives originally considered, the 70-acre Western Expansion Pond Site is the preferred site location. The entirety of the Western Expansion Pond site will occupy approximately 88 acres, with approximately 70 acres allotted for a total of four storage ponds. The remainder of the 88 acres of the Western Expansion Pond Site will contain a runoff/agricultural tail water ditch that will serve as a buffer between the ponds and the existing Giant Garter Snake habitat easement. These two alternatives are shown schematically on Figure 3.

The Western Expansion Pond Site is the preferred site location due to the following advantages:

- The distance between this site and the Kingdon Airport is greater than that between the Southeastern Site and the airport's area of influence. Thus, birds attracted to these ponds are less likely to significantly impact air traffic.

- The western location is closer to the WPCF's main irrigation distribution box, which will minimize the cost of conveying tertiary treated wastewater for land applications to agricultural fields.

- The western location will be at the end of the irrigation distribution system, therefore, the construction of ponds at this site will have less impact on the City's existing irrigation water delivery system.

The Western Expansion Pond is the preferred alternative. Therefore, further discussion of storage and conveyance improvements associated with the project will be in regard to the western location. This includes the potential expanded wastewater irrigation site, which will deliver recycled water to the 90 acres of City-owned land at the Southeastern Site that is currently irrigated with groundwater from a dedicated well. Discussion of potential environmental or cultural impacts focuses on the Western Expansion Pond Site and adjacent areas, although the original biology and archeology reports, prepared by Moore Biological Consultants and Michael Baker International, respectively, assessed potential impacts at both sites.

The WPCF receives and treats municipal wastewater influent from the incorporated area of the City of Lodi and from San Joaquin County's Flag City Service Area Number 31. The WPCF has a design average dry weather flow treatment capacity of 8.5 million gallons a day (MGD) and a peak flow treatment capacity of up to 16.3 MGD. The dry-weather wastewater flows entering the WPCF are approximately 5.5 MGD, and are expected to increase up to 8.5 MGD over the next 30 to 50-year period. The WPCF treatment process includes secondary treatment with nitrification and denitrification (to provide an effluent total nitrogen level less than 10 mg/L), tertiary filtration, and ultraviolet (UV) disinfection. The Project will not change the design treatment capacity of the WPCF facilities.

The WPCF discharges the disinfected, tertiary-treated effluent to Dredger Cut, a dead-end slough of the Sacramento-San Joaquin Delta (Delta). The location of the existing outfall in Dredger Cut is shown on Figure 3. The WPCF disinfected, tertiary-treated effluent meets all applicable water quality objectives for discharges to the Delta to protect its beneficial uses, which include warm water fisheries habitat, municipal drinking watery supply, and unrestricted recreational activities. The effluent water quality is demonstrated through regular monthly water quality and acute toxicity monitoring, and quarterly three species chronic toxicity monitoring. The WPCF is permitted to discharge flows to the Delta that correspond to the design average dry weather flow condition of 8.5 MGD. Currently, an average flow of 3.5 MGD is discharged to Dredger Cut. The Project will not change the permitted discharge capacity of the WPCF.

During the irrigation season (generally mid-April through September), undisinfected secondary-treated municipal effluent that has been nitrified and denitrified to provide an effluent total nitrogen level less than 10 mg/L is either directed to four on-site unlined storage ponds (totaling a maximum combined storage volume of 388 acre-feet) or to the approximately 790-acres of surrounding City-owned agricultural land. All of the treated effluent directed to the existing storage ponds is eventually directed to the City-owned agricultural land for irrigation purposes.

The existing storage ponds also can be used to store industrial wastewater and stormwater received through the City's industrial collection system. All of the flows entering the WPCF via the industrial collection system are sent directly to the City's agricultural fields during the irrigation season and are directed to the existing unlined storage ponds during the non-irrigation season.

Crops grown on the City's agricultural properties include fodder crops such as corn, alfalfa, ryegrass and wheat. The irrigation demand generally exceeds the available WPCF supplies in July and August, and supplemental irrigation water is obtained from groundwater pumping.

The City also supplies an average of approximately 1.2 MGD of disinfected tertiary treated municipal effluent to the Northern California Power Agency (NCPA) power plant and the San Joaquin County Mosquito and Vector Control District (SJCM&VCD) fish-rearing ponds year-round. These two facilities are located on City property, adjacent to the WPCF main process

area. The NCPA facility consists of two power generating facilities: a 49.9 Megawatt (MW) Power Plant and the 296 MW Lodi Energy Center. NCPA relies on the City's treated effluent for steam production and cooling system water in both facilities and for two 250,000-gallon fire suppression water tanks. The SJCM&VCD fish rearing ponds are used to cultivate mosquito fish (Gambusia affinis). The Project will not affect the recycled water deliveries to these two facilities.

During the non-irrigation season (generally October through mid-April), treated effluent that is not used by the NCPA and SJCM&VCD facilities is released to Dredger Cut. Given current dry weather conditions, the Project is estimated to reduce the annual volume discharged to Dredger Cut by approximately 160 and 210 million gallons. Flow will be diverted from Dredger Cut at a rate up to 1,700 gallons per minute over an approximate 75 to 90-day period between October 1 and May 31 of each year.

The Expansion Pond will consist of 4 individual ponds with an overall storage capacity of up to 388 acre-feet (shown in Figure 4). The Expansion Pond levees will be constructed from fill dirt removed from the 70-acre construction area. The levees will be up to approximately 10-feet tall, and the Expansion Pond will be designed to operate with a minimum freeboard of 2 feet. The bottom of the Expansion Pond will be graded flat, with a slight slope toward the southwest corner, from where they are drained to a Tertiary Storage Pond Pump Station. The ponds will be able to be filled by gravity up to a few feet, but pumping will be required to completely fill the ponds.

The Tertiary Storage Pond Pump Station will be used to both fill the ponds and to convey stored disinfected tertiary recycled water from the to the City's irrigation water distribution system. The Tertiary Storage Pond Pump Station will contain two constant-speed, 7½-horsepower, 850 GPM vertical turbine pumps, which can maintain a consistent flow of 1,700 GPM when working together. The Project also includes new facilities that allow for diversion of disinfected tertiary recycled water to the new storage ponds. The disinfected tertiary treated wastewater will be diverted from the effluent control chamber of the WPCF's existing Filter Pump Station structure and conveyed through a new 18-inch diameter pipeline to the ponds. This pipeline will also allow for conveyance of the recycled water from the new storage ponds to the City's existing irrigation water delivery system via an existing irrigation distribution box. From the irrigation distribution box, the WPCF's existing irrigation distribution system can deliver this water to various City-owned agricultural fields. These improvements are shown in Figure 4.

As noted above, the new tertiary storage ponds will remove approximately 88 acres of City-owned agricultural fields. To compensate for the loss, the WPCF's irrigation distribution system could be expanded in order to facilitate the delivery of reclaimed water to the area labelled "expanded wastewater irrigation site" on Figure 5. This area contains three fields (Fields 6E, 6F, and 6G) that occupy approximately 90 acres. These fields are currently irrigated with groundwater pumped from a dedicated well located near the southeast corner of these fields. This well currently discharges to an irrigation supply channel on the south side of Thornton Road. Figure 5 shows the current groundwater pumping well and improvements necessary to expand the WPCF's irrigation distribution system and deliver the tertiary treated water to the three southeast fields, thereby reducing or eliminating the need for groundwater pumping. A new site expansion pump station will be equipped with two 750 gallons per minute capacity mixed-flow or vertical turbine pumps, which may operate simultaneously (Figure 5). Each pump will be driven by a 7.5 horsepower electric motor which will withdraw water from an existing supply channel and deliver the water to a new 16-inch supply pipeline that will replace the existing channel on the south side of Thornton Road.

The White Slough WPCF requires expansion and additional measures to prevent excess surface water discharge to the Delta and decrease groundwater pumping for irrigation. The proposed expansion pond (70 acres in size) would allow for Title 22 tertiary treated waters to be stored and used for additional on-site irrigation, rather than discharged to the Delta. Overall, by combining the need to increase on-site wastewater storage with the need to reduce surface water discharge and groundwater pumping, the proposed Project is anticipated to have a multitude of benefits that are both local and regional in scope. Some of the major benefits include increased irrigation water supply, improved surface water quality in the Delta, and the potential to increase groundwater storage.

PUBLIC REVIEW PERIOD: As mandated by State law, the minimum public review period for this document is 30 days. The proposed Mitigated Negative Declaration will be circulated for a 30-day public review period, beginning on **Friday, January 14, 2017** and ending on **Wednesday, February 15, 2017**. Copies of the Draft Negative Declaration are available for review at the following locations:

- **Community Development Department**, 221 West Pine Street, Lodi, CA 95240;
- **Lodi Public Library**, 201 West Locust Street, Lodi, CA 95240; and
- **Online at** http://www.lodi.gov/com_dev/EIRs.html

Any person wishing to comment on the Initial Study and proposed Negative Declaration must submit such comments in writing **no later than 5:00 pm on Wednesday, February 15, 2017** to the City of Lodi at the following address:

Craig Hoffman, Senior Planner
City of Lodi
P. O. Box 3006
Lodi, CA 95241

Facsimiles at (209) 333-6842 will also be accepted up to the comment deadline (please mail the original). For further information, contact Craig Hoffman, Senior Planner, at (209) 333-6711.

A public hearing will be scheduled before the City Council to receive comments on the document and to adopt the Negative Declaration. This meeting is tentatively scheduled for Wednesday, March 15, 2017 at 7:00 p.m. at Carnegie Forum in Lodi. This meeting will be separately noticed.

Craig Hoffman, City Planner

1/9/2017
Date

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APPENDIX F – Draft Technical Memo Preliminary Design Report
APPENDIX G – Preliminary Infiltration Report
APPENDIX H – Flood Hazard Analysis

1. PROJECT TITLE

White Slough Water Pollution Control Facility Storage Expansion and Surface, Agricultural, and Groundwater Supply Improvement Project

2. LEAD AGENCY NAME AND ADDRESS

City of Lodi
Community Development Department
221 West Pine Street
Lodi, CA 9540

3. CONTACT PERSONS

Craig Hoffman: 209-333-6711

4. PROJECT LOCATION

The Project is located at the White Slough Water Pollution Control Facility (WPCF) in unincorporated northern San Joaquin County, approximately 6.5 miles west of the City of Lodi. The WPCF is located in a primarily agricultural area, adjacent to Interstate 5 and 1.2 miles south of Highway 12. The WPCF address is 12751 North Thornton Road, Lodi, California, and consists of 1,026.27 acres of land, including the facility and surrounding City-owned agricultural fields. The two proposed locations for the expansion pond are located within the facility agricultural land (APNs: 055-190-01, 055-150-29, 055-130-16). The City of Lodi General Plan designates the WPCF as “Industrial” and the surrounding City-owned agricultural fields where the expansion pond is proposed as “Public/Quasi-Public”. A regional and project location map are included as Figures 1 and 2, respectively.

5. PROJECT SPONSOR'S NAME AND ADDRESS

City of Lodi, Community Development Department
221 W. Pine Street
Lodi CA 95240

6. PROJECT DESCRIPTION

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The existing storage ponds also can be used to store industrial wastewater and stormwater received through the City's industrial collection system. All of the flows entering the WPCF via the industrial collection system are sent directly to the City's agricultural fields during the irrigation season and are directed to the existing unlined storage ponds during the non-irrigation season.

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The Tertiary Storage Pond Pump Station will be used to both fill the ponds and to convey stored disinfected tertiary recycled water from the to the City's irrigation water distribution system. The Tertiary Storage Pond Pump Station will contain two constant-speed, 7½-horsepower, 850 GPM vertical turbine pumps, which can maintain a consistent flow of 1,700 GPM when working together. The Project also includes new facilities that allow for diversion of disinfected tertiary recycled water to the new storage ponds. The disinfected tertiary treated wastewater will be diverted from the effluent control chamber of the WPCF's existing Filter Pump Station structure and conveyed through a new 18-inch diameter pipeline to the ponds. This pipeline will also allow for conveyance of the recycled water from the new storage ponds to the City's existing irrigation water delivery system via an existing irrigation distribution box. From the irrigation distribution box, the WPCF's existing irrigation distribution system can deliver this water to various City-owned agricultural fields. These improvements are shown in Figure 4.

As noted above, the new tertiary storage ponds will remove approximately 88 acres of City-owned agricultural fields. To compensate for the loss, the WPCF's irrigation distribution system could be expanded in order to facilitate the delivery of reclaimed water to the area labelled "expanded wastewater irrigation site" on Figure 5. This area contains three fields (Fields 6E, 6F, and 6G) that occupy approximately 90 acres. These fields are currently irrigated with groundwater pumped from a dedicated well located near the southeast corner of these fields. This well currently discharges to an irrigation supply channel on the south side of Thornton Road. Figure 5 shows the current groundwater pumping well and improvements necessary to expand the WPCF's irrigation distribution system and deliver the tertiary treated water to the three southeast fields, thereby reducing or eliminating the need for groundwater pumping. A new site expansion pump station will be equipped with two 750

gallons per minute capacity mixed-flow or vertical turbine pumps, which may operate simultaneously (Figure 5). Each pump will be driven by a 7.5 horsepower electric motor which will withdraw water from an existing supply channel and deliver the water to a new 16-inch supply pipeline that will replace the existing channel on the south side of Thornton Road.

The White Slough WPCF requires expansion and additional measures to prevent excess surface water discharge to the Delta and decrease groundwater pumping for irrigation. The proposed expansion pond (70 acres in size) would allow for Title 22 tertiary treated waters to be stored and used for additional on-site irrigation, rather than discharged to the Delta. Overall, by combining the need to increase on-site wastewater storage with the need to reduce surface water discharge and groundwater pumping, the proposed Project is anticipated to have a multitude of benefits that are both local and regional in scope. Some of the major benefits include increased irrigation water supply, improved surface water quality in the Delta, and the potential to increase groundwater storage.

7. SURROUNDING LAND USES AND SETTING

The proposed Project is located at the City of Lodi's White Slough WPCF, in a primarily agricultural area. The surrounding area is designated Agricultural (AG-40) within the San Joaquin County General Plan. Bishop Cut, designated as Resource Conservation (OS/RC) is located west of the proposed Project. Wineries, crop fields, grape production, orchards and a dairy farm make up the uses in the surrounding area.

8. NECESSARY PUBLIC AGENCY APPROVALS

It is anticipated that the following "typical" permits and compliance may be needed for this Project:

- City of Lodi: Lead agency with responsibility for approving the proposed expansion pond. Preparation of a Stormwater Pollution Prevention Plan (SWPPP) to City of Lodi standards. Pollutant Discharge Elimination Permit (Stormwater/Erosion Control) issued by the City of Lodi.
- Central Valley Regional Water Quality Control Board (RWQCB): The owner or operator of any facility that is currently discharging waste to groundwater must follow Waste Discharge Requirements (WDRs) obtained from the Central Valley RWQCB. If changes in the quantity or quality of a discharge or a change in the treatment process are proposed, amended WDRs are required.
- State Water Resources Control Board Division of Drinking Water (DDW): DDW approval of a Title 22 Engineering Report is required to support an amendment of the WDR incorporating the new storage and discharge facilities.
- United States Fish and Wildlife Service – Compliance with the Federal Endangered Species Act: Construction activities would not directly or indirectly adversely affect a federally listed species or its habitat (see Biological Resources section of this document for additional information). Therefore, the proposed project would not be required to obtain Section 7 clearance from the U.S. Fish and Wildlife Service prior to SRF loan commitment.
- State Historic Preservation Office – Compliance with the National Historic Preservation Act: There are no prehistoric or historic archaeological resources, historic properties, or resources of value to local cultural groups within the

project area. Therefore, the proposed project would not be required to demonstrate to the satisfaction of the State Historic Preservation Office that the project complies with Section 106 of the National Historic Preservation Act (see Cultural Resources section of this document for additional information).

- Native American Heritage Commission: Compliance with Assembly Bill 52 (AB 52). Lead agencies consult with Native American tribes who have previously contacted the Lead Agency early in the CEQA planning process. Lead Agency was contacted by the Wilton Rancheria and Northern Valley Yokuts and notified them of the proposed Project (see Cultural Resources section of this document for additional information).
- San Joaquin Valley Air Pollution Control District (SJVAPCD): Air Quality mitigation permit for grading work.
- San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP): Annexation into the Habitat Conservation Plan.
- County of San Joaquin: Preparation of a SWPPP to County of San Joaquin (and City of Lodi) standards. Pollutant Discharge Elimination Permit issued by the County of San Joaquin (and City of Lodi).
- San Joaquin County Airport Land Use Commission: Subject to a Consistency Determination in accordance with the Airport Land Use Commission Plan, based on the Project location within the Kingdon Airport's area of influence

9. PROJECT CONSTRUCTION

Project construction is expected to begin by June 2017 and take approximately 7 months. Construction of the proposed Project is estimated to require approximately 40 workers at its peak and an average of about 11 workers per day, including skilled local professionals and labor resources. During construction, single shifts, 5 days per week are anticipated (West Yost, 2016).

Construction activity will first include vegetation clearing and mass site grading of the 70-acre pond area. The pond will then be excavated, with excavated soil stockpiled for later use. The pond bottom will then be compacted as necessary. The berms and embankments will be constructed using the on-site stockpiled soil, as well as earth fill (i.e. riprap and rock) transported to the site by dump trucks. Any excess on-site soil will be placed within haul trucks and carried off as needed. Roadways will be swept clean as needed. Water will be applied to any potential dust-generating materials during construction.

During construction, it is anticipated that the following vehicles will be used:

- 3-4 Excavators
- 4 to 6 Graders/Earth Movers
- 6 Backhoes
- 6 Front Loaders
- 6 Boom Trucks
- 6 Concrete Trucks
- 2-3 Dozers
- 4 Passenger Trucks
- 3 Vans

- 2-3 Dump Trucks
- 8 Dumpsters
- 1 Water Truck
- 1 Street Sweeper
- 2 Move on/off Trailers

The Project has been designed to eliminate environmental impacts by requiring the following measures:

- Project design to meet City of Lodi and applicable San Joaquin County design standards.
- Air Quality Mitigation through SJVAPCD.
- Annexation into San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.
- Preparation of a Stormwater Pollution Prevention Plan (SWPPP) to County of San Joaquin and City of Lodi standards.
- Pollutant Discharge Elimination Permit (Stormwater/Erosion Control) issued by the County of San Joaquin and City of Lodi.

A Stormwater Pollution Prevention Plan (SWPPP) and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operations. Best management practices (BMPs) for erosion control will be implemented to avoid and minimize impacts on the environment during construction.

Figure 1 - Regional Map

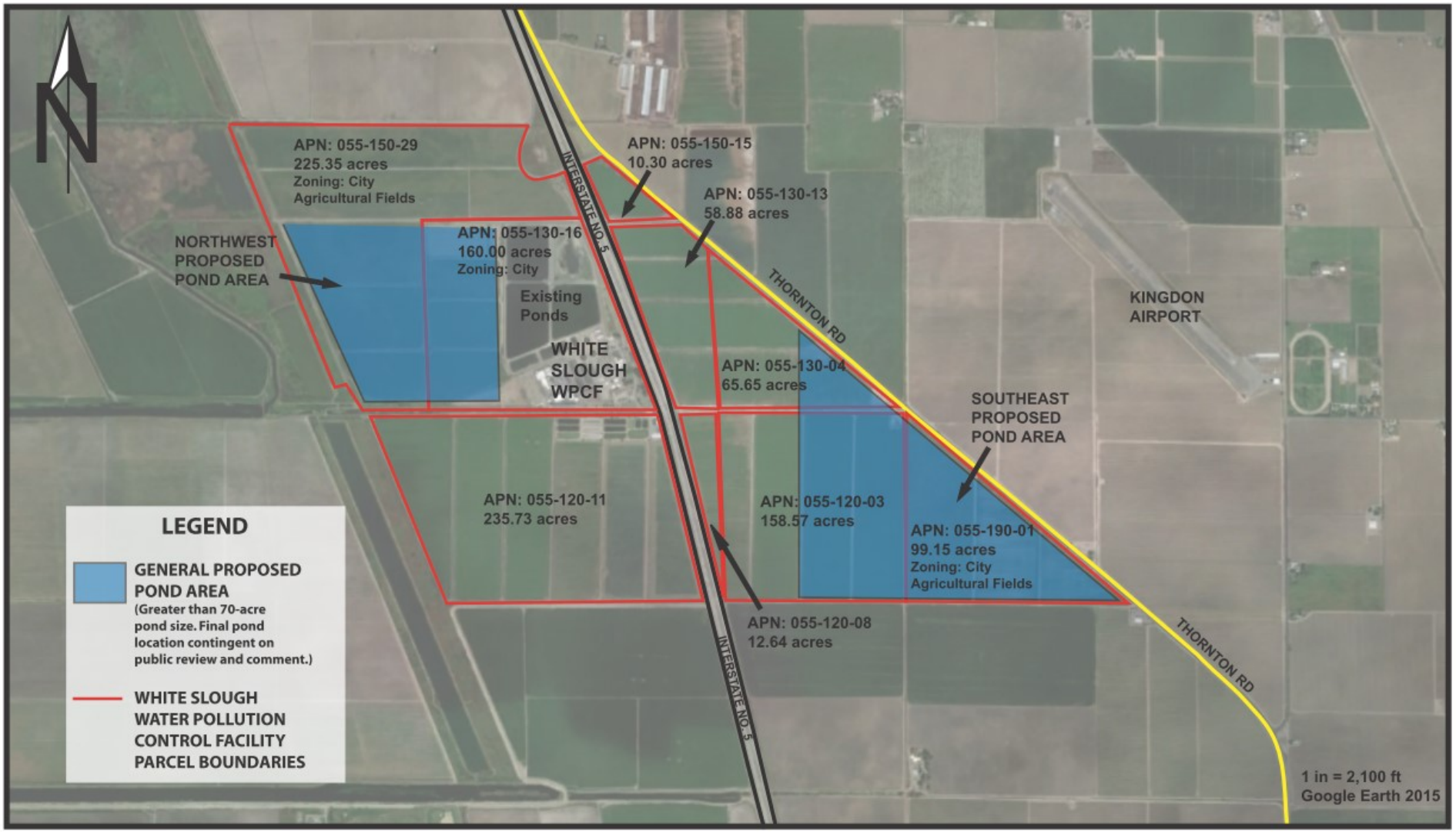

Figure 2 - Originally Proposed Pond Locations

Figure 3 - Western Expansion Pond and Expanded Wastewater Irrigation

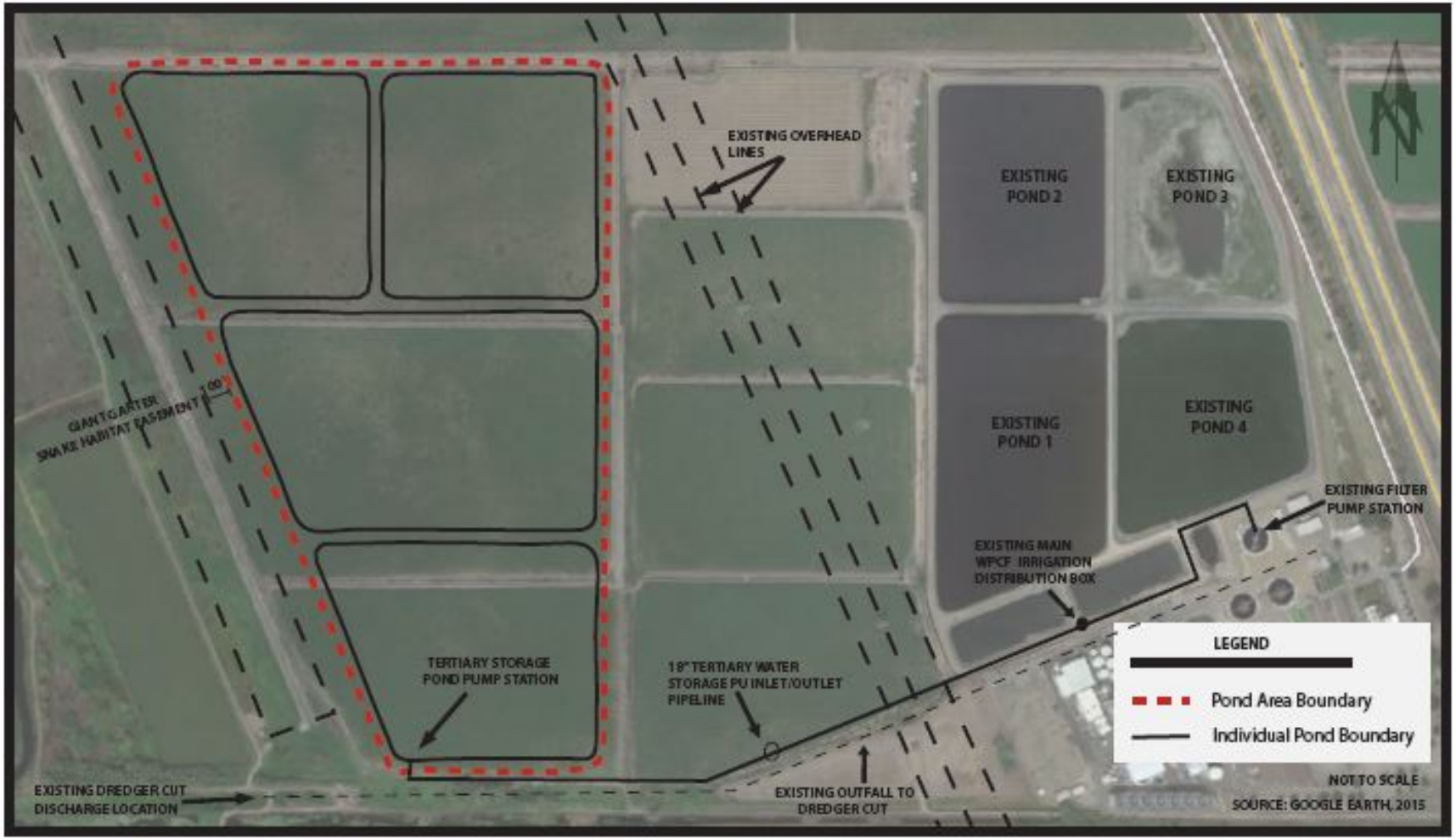

Figure 4 – Preferred Western Expansion Pond Details

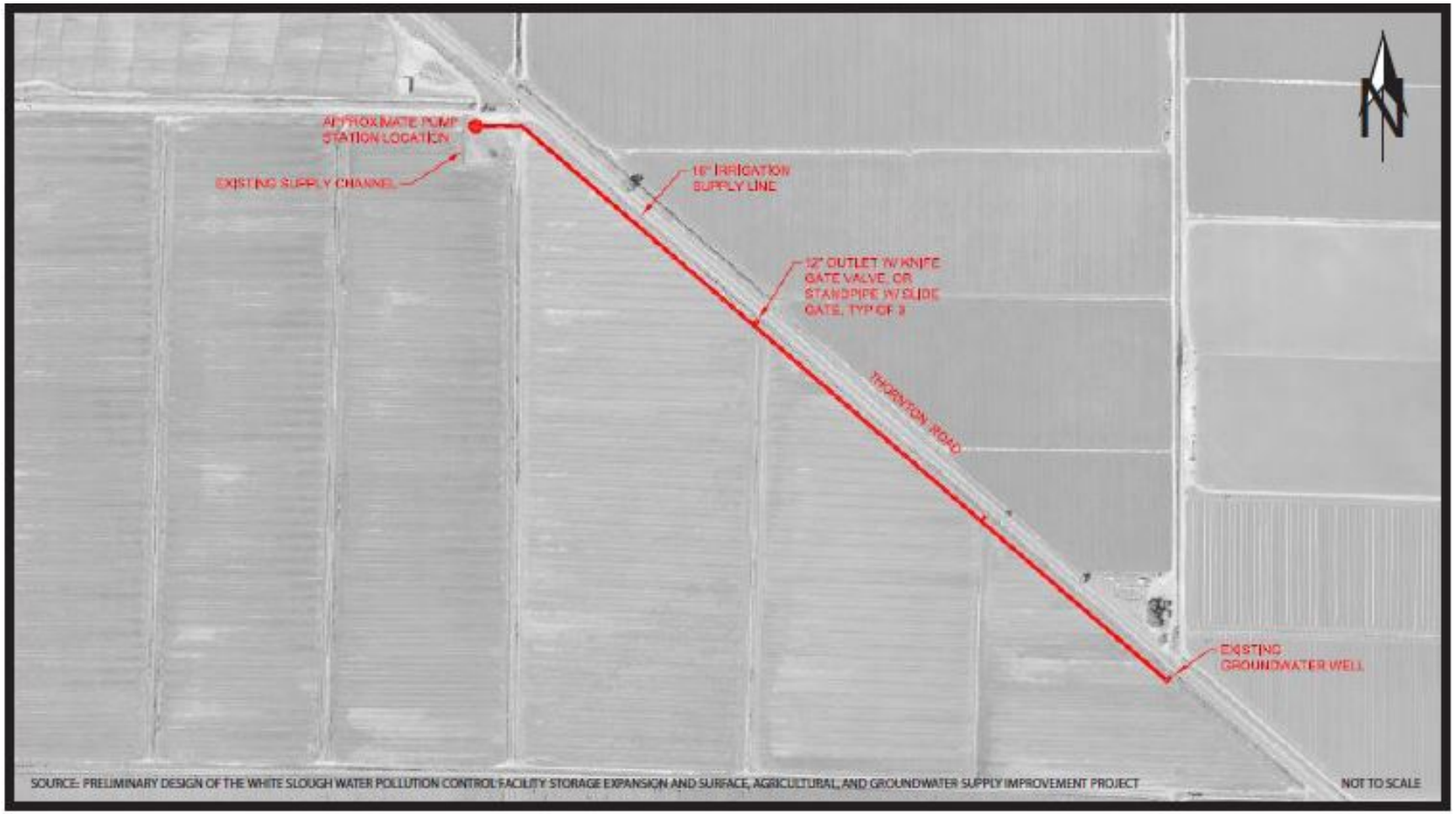

Figure 5 - Expanded Irrigation Conveyance

10. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project as indicated by the checklist on the following pages.

Environmental Factors Potentially Affected		
☐ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Greenhouse Gas Emissions	☒ Biological Resources	☒ Cultural Resources
☐ Geology/Soils	☐ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☐ Utilities/Services Systems	
☒ None With Mitigation	☒ Mandatory Findings of Significance	

11. ENVIRONMENTAL DETERMINATION

☐ 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 measure 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.

Craig Hoffman, City Planner

Date 1/9/2017

12. ENVIRONMENTAL CHECKLIST

I. Aesthetics

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
	a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	■
	b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
	c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	■	☐
	d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	■

The view of the area surrounding the WPCF is one of agricultural fields with scattered agricultural and residential buildings. The visual character is rural, with Interstate 5 running north to south, adjacent to the Project site. The WPCF is viewed mainly by motorists traveling south on Interstate 5. As motorists near the facility, the four existing storage ponds and facility structures are visible. A buffer of eucalyptus and conifer trees and grass partially obscures the view of the facility as motorists pass.

a) **No Impact**. The San Joaquin County General Plan does not identify any scenic vistas within the Project area.

b) **Less Than Significant Impact.** No State “designated scenic highways” or “eligible scenic highways” are located within the vicinity of the project site (California Scenic Highway Program). There are no rock outcroppings, or historic buildings located on the project site. The San Joaquin County General Plan does identify Interstate 5, running north-south adjacent to the Project site, as a Scenic Route of agricultural/rural value. However, the Project site is part of the existing WPCF. The addition of one 70-acre expansion pond to the existing facility and storage ponds would not have an adverse effect on the existing visual character or quality of the site and its rural agricultural surroundings.

c) **Less Than Significant Impact.** The Project would add one 70-acre expansion pond to the existing WPCF wastewater ponds and structures. The Project would visually blend in with the surrounding WPCF and agricultural and rural land uses.

d) **No Impact.** Nighttime lighting for the 24-hour operation of the facility is currently present on the site. The proposed Project will not result in the construction of any new lighting or materials that could result in glare.

II. Agricultural Resources

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. 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 in the California Resources Agency, to non-agricultural use?	☐	■	☐	☐
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c.	Conflict with existing zoning for, or cause rezoning of forest land (as defined in PRC Sec. 4526), or timberland zoned Timberland Production (as defined in PRC Sec. 51104 (g)?	☐	☐	☐	■
d.	Result in loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
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?	☐	■	☐	☐

Land use surrounding the White Slough WPCF Project area generally consists of agricultural land zoned as General Agriculture in the San Joaquin County General Plan. Residences in the area are associated with agricultural land use. Interstate 5 is located adjacent to the Project site. The Project site consists of the WPCF and surrounding City-owned agricultural land, consisting of corn crops or alfalfa/fodder grass.

a) **Less than Significant Impact with Mitigation Incorporated.** The San Joaquin County General Plan identifies the Project area as Class III Prime Agricultural Land. According to the San Joaquin County Important Farmland 2014 Map (Figure 6), the WPCF is “Urban and Built-Up Land” and the surrounding agricultural fields where the expansion pond is proposed are designated as both “Unique Farmland” and “Prime Farmland”. However, the City of Lodi General Plan designates the WPCF as “Industrial” and the surrounding City-owned agricultural fields where the expansion pond is proposed as “Public/Quasi-Public”. According to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), the proposed projects activities are subject to SJMSCP, as the Expansion Pond will convert 88 acres from Open Space Agricultural Habitat Lands to Urban Use. The City submitted the SJMSCP Review Form (Appendix A), dated December 8, 2016, and will be working with the SJCOG to comply with mitigation to address the loss of Open Space Agricultural Lands. With the implementation of **Agricultural Resources Mitigation 1**, which

requires appropriate permitting with the SJCOG, the project impacts to agricultural resources will be **less than significant with mitigation**.

Agricultural Resources Mitigation 1 - Add SJCOG 1:1 Acre Easement
Conversion of the Agricultural Habitat Lands will comply with the SJMSCP required compensation ratio of one acre of preserve acquired, enhanced and managed in perpetuity for each acre of habitat converted from open space use, along with associated fees, or as instructed by SJMSCP pending final review.

b) **No Impact.** The City of Lodi General Plan designates the WPCF as "Industrial" and the surrounding City-owned agricultural fields where the expansion pond is proposed as "Public/Quasi-Public". The Project does not propose to convert any land zoned for agricultural use to non-agricultural use. According to the San Joaquin County Williamson Act FY 2013/2014 map (Figure 7), the WPCF is "Urban and Built-Up Land". The surrounding agricultural fields where the expansion pond is proposed are mapped as "Non-Enrolled Land", meaning the land is not enrolled in a Williamson Act contract and not mapped by the Farmland Mapping & Monitoring Program as "Urban and Built-Up Land" or "Water".

c-d) **No Impact.** The Project site consists of the WPCF and surrounding City-owned agricultural fields zoned as "Public/Quasi-Public". The Project area is not comprised of any timber or forested properties.

e) **Less than Significant Impact with Mitigation Incorporated.** The expansion pond is proposed within City-owned agricultural fields immediately surrounding the WPCF zoned as "Public/Quasi-Public". The proposed pond would convert existing agricultural land, either corn crops or alfalfa/fodder grass, to non-agricultural land. According to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), the proposed projects activities are subject to SJMSCP, as the Expansion Pond will convert 88 acres from Open Space Agricultural Habitat Lands to Urban Use. The City submitted the SJMSCP Review Form (Appendix A), dated December 8, 2016, and will be working with the SJCOG to comply with mitigation to address the loss of Open Space Agricultural Lands. With the implementation of **Agricultural Resources Mitigation 1**, which requires appropriate permitting with the SJCOG, the project impacts to agricultural resources will be **less than significant with mitigation**.

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Conversion of the Agricultural Habitat Lands will comply with the SJMSCP required compensation ratio of one acre of preserve acquired, enhanced and managed in perpetuity for each acre of habitat converted from open space use, along with associated fees, or as instructed by SJMSCP pending final review.

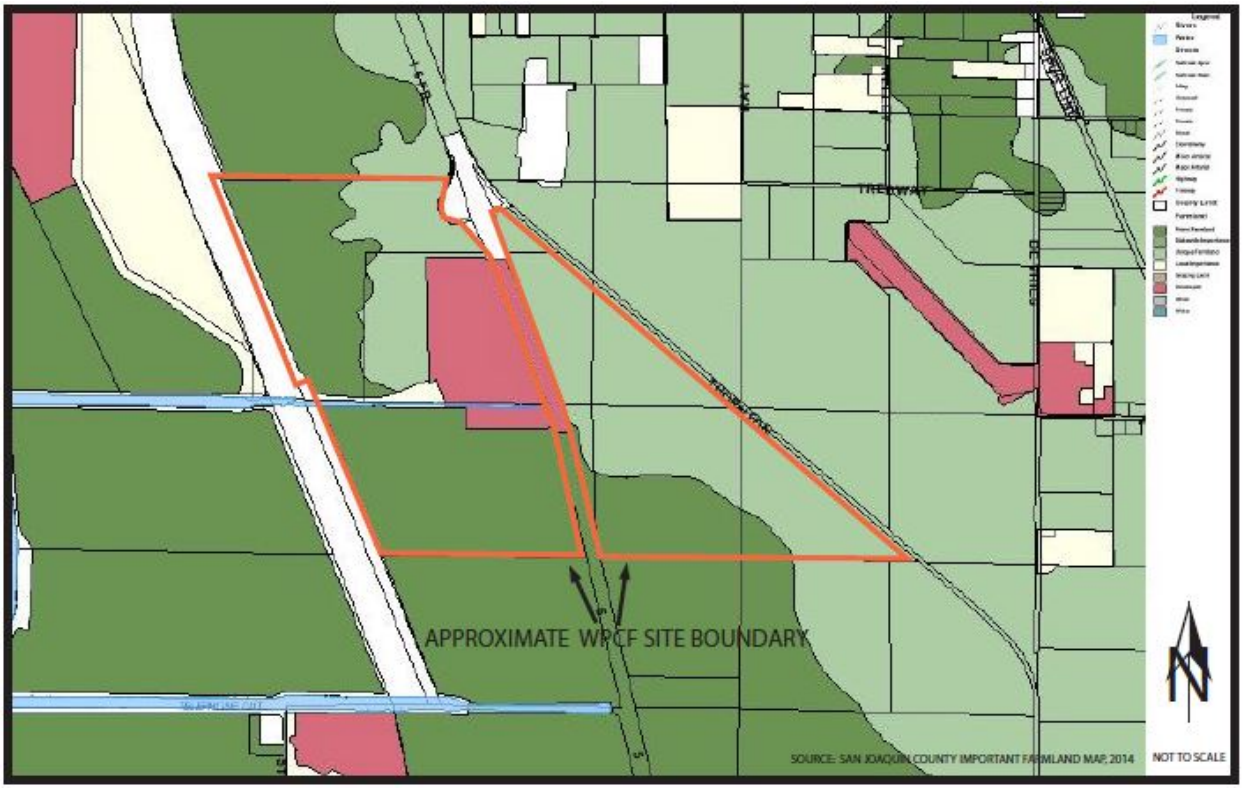


Figure 6 - Important Farmland Map

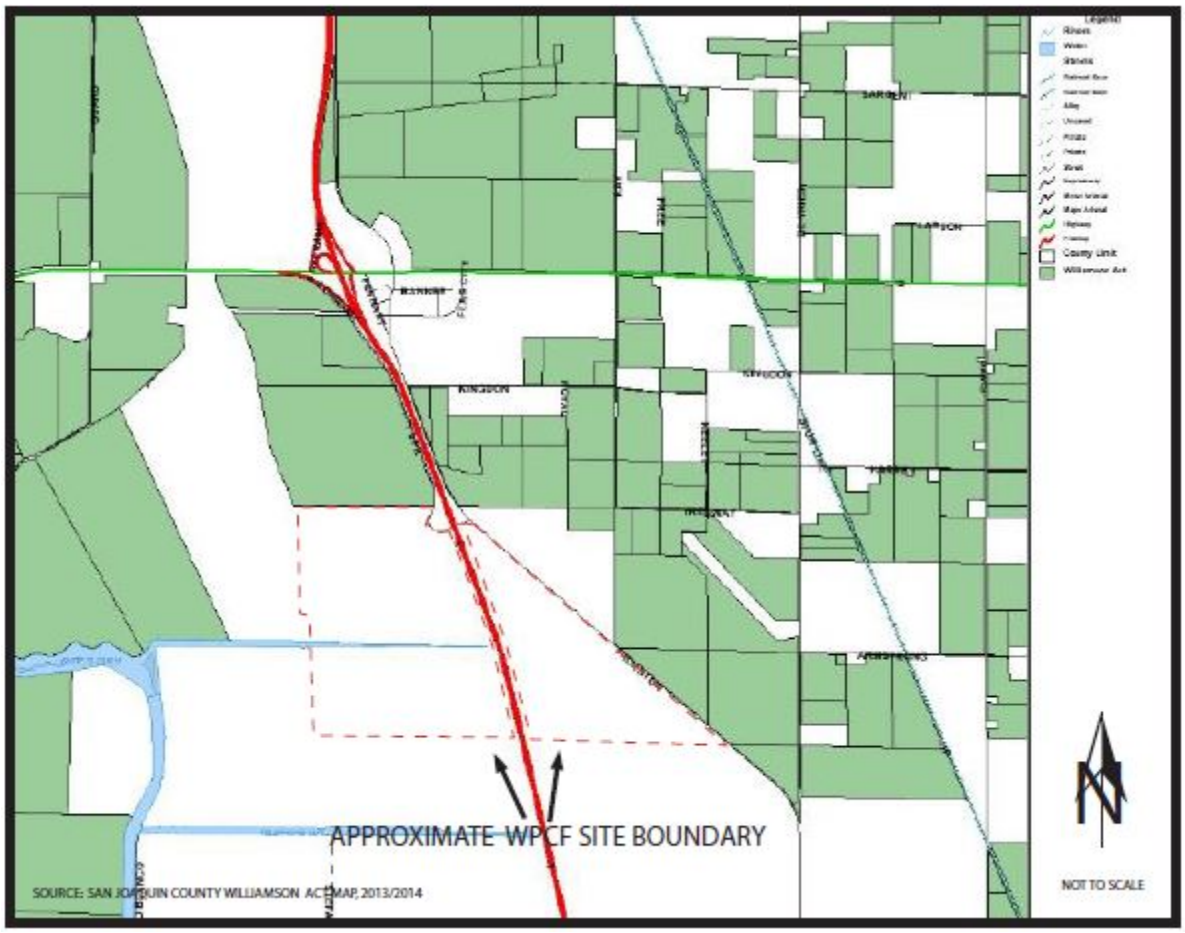


Figure 7 - Williamson Act Map

III. Air Quality

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b.	Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?	☐	■	☐	☐
c.	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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	■	☐	☐
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	■	☐

The proposed Project site is located west of the City of Lodi in San Joaquin County, which is within the jurisdictional boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The San Joaquin Valley's relatively flat topography surrounded by elevated terrain and its meteorology provide ideal conditions for trapping air pollution and producing harmful levels of air pollutants, such as ozone and particulate matter. Elevated temperatures, cloudless days, low precipitation levels, and light winds during the summer in the Valley are favorable to high ozone levels. Inversion layers in the atmosphere during the winter months can also trap emissions of directly emitted $PM_{2.5}$ (particulate matter that is 2.5 microns or less in diameter) and $PM_{2.5}$ precursors (such as NOx and sulfur dioxide (SO2)) within the Valley for several days, accumulating to unhealthy levels.

Project construction is expected to begin by June 2017 and take approximately 7 months. Construction of the proposed Project is estimated to require approximately 40 workers at its peak and an average of about 11 workers per day, including skilled local professionals and labor resources. During construction, single shifts, 5 days per week are anticipated (West Yost, 2016).

During construction, it is anticipated that the following vehicles will be used:

- 3-4 Excavators
- 6 Backhoes
- 4 to 6 Graders/Earth Movers
- 6 Front Loaders
- 6 Boom Trucks
- 6 Concrete Trucks
- 2-3 Dozers

- 4 Passenger Trucks
- 3 Vans
- 2-3 Dump Trucks
- 8 Dumpsters
- 1 Water Truck
- 1 Street Sweeper
- 2 Move on/off Trailers

a) **Less Than Significant Impact.** The proposed Project site is located within the jurisdictional boundaries of the SJVAPCD. At the federal level, the jurisdictional area of the SJVAPCD is designated as extreme nonattainment for the 8-hour ozone standard, nonattainment for $PM_{2.5}$, and attainment or unclassified for all other criteria pollutants. At the State level, the area is designated as severe nonattainment for the one-hour ozone standard, and nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. The area is designated attainment or unclassified for all other State standards. Due to the nonattainment designations, the SJVAPCD has developed plans to attain the State and federal standards for ozone and particulate matter. The plans include the *2013 Plan for the Revoked 1-Hour Ozone Standard*, the *2007 Ozone Plan*, the *2007 PM_{10} Maintenance Plan and Request for Redesignation*, the *2008 $PM_{2.5}$ Plan*, and the *2012 $PM_{2.5}$ Plan*.

The SJVAPCD's recommended thresholds of significant impact are a major component of the SJVAPCD's air quality plans. According to the SJVAPCD, projects with emissions should be compared to the thresholds of significance for criteria pollutants in order to determine potential conflict with or obstruction of the applicable air quality plan. As detailed below, the proposed Project would produce temporary emissions of criteria pollutants that will not surpass the applicable thresholds of significance listed in **Table 1**. Therefore, the proposed Project would not be considered in conflict with or obstruct implementation of the applicable air quality plan.

Table 1.
SJVAPCD Thresholds of Significance

Pollutant	Construction Emissions (tons/yr)	Operational Emissions (tons/yr)
ROG	10	10
NO_X	10	10
CO	100	100
SO_X	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

Source: SJVAPCD, March 2015.

b,c) **Less Than Significant Impact with Mitigation Incorporated.** Typically, construction and operation of a project generates emissions of various air pollutants, including criteria pollutants such as carbon monoxide (CO), ozone precursors such as nitrous oxides (NO_X), reactive organic gases (ROG) or Volatile Organic Compounds (VOC), particulate matter 10 (PM_{10}) and particulate matter 2.5 ($PM_{2.5}$), as well as sulfur oxides (SO_X). For example, typical emission sources during construction include equipment exhaust, dust from wind erosion, earth moving, excavation and other earthmoving activities, and vehicle movements.

To assist in evaluating impacts of project-specific air quality emissions, the SJVAPCD has adopted thresholds of significance for criteria pollutant emissions, expressed in units of tons per year (tons/yr), as presented in **Table 1**.

Operation-Related Emissions

No on-site emissions are anticipated from the completed and operational expansion pond. Any operational service required will be performed by City staff already on-site at the WPCF; there will be no designated service vehicles or vehicle trips to service the proposed expansion pond operations. The proposed Project operations will require two 7.5-HP electric pumps to fill the pond. These pumps will also be used to remove water from the ponds and divert it into the agricultural water distribution system. There will not be emission of criteria pollutants at the Project site; emissions from electricity use will occur at an off-site power plant and is discussed in the following greenhouse gas section.

There is currently one 2,847.5 BHP diesel-fired emergency standby generator at the WPCF to power an electric generator, if needed. The diesel-fired generator is already permitted with the District (Permit N-3404-6-0), dated December 11, 2014, expiration December 31, 2019 (included in Appendix B). Any Project use of the generator will be short-term, as a result of electric power loss, and will be in accordance with permit requirements and restrictions. According to the Early Consultation for an Initial Study response from the SJVAPCD, since the City is currently permitted (N-3404 City of Lodi/White Slough) with the District, any modification that would result in a change in emissions or change in method of operation/equipment requires the submittal of an Authority to Construct Permit Application. With the implementation of **Mitigation Measure Air 1**, which requires appropriate permitting with the SJVAPCD, the project operational impacts to air quality will be **less than significant**.

Project emissions would be short-term, as a result of construction activities, as discussed below.

Air Quality Mitigation 1

The City shall not begin construction activities until first securing appropriate permits from the San Joaquin Valley Air Control District.

Construction-Related Emissions

During construction of the Project, various types of equipment and vehicles would temporarily operate on the Project site. Construction exhaust emissions would be generated from construction equipment, earth movement activities, construction workers' commute, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. Since construction of the proposed Project would generate air pollutant emissions intermittently within the site and in the vicinity of the site, until all construction has been completed (estimated to be about a seven-month period), construction is a potential short-term concern because the proposed project is in a nonattainment area for ozone and PM.

According to SJVAPCD, an acceptable procedure for calculating and assessing impacts of this kind may be analyzed using the 2013 California Emissions Estimator Model (CalEEMod). A CalEEMod analysis was completed for the proposed Project with the following project characteristics: User Defined Industrial, 70 acres for expansion pond development, Operational start year 2017, Climate Zone 2, Statewide Average (for emission factors), 2.7 m/s Wind Speed, and 45 days Precipitation Frequency. Due to the lack of an Agricultural Land Use category in CalEEMod, the User Defined Industrial Land Usage characteristic was selected as a best fit, conservative category, for analyzing the expansion pond Projects potential emissions. The analysis provided the maximum daily emissions for unmitigated and mitigated construction. Where project-specific parameters are unknown, the default values in CalEEMod are used, as they provide a conservative estimate of emissions.

Short-term emissions for this project are considered to be related to the construction phase of the project. Of the many emissions generated during this type of construction, however, PM_{10} is the pollutant of greatest concern. PM_{10} emitted throughout the duration of a construction project can vary greatly, contingent on the level of activity, the specific operations, the equipment utilized, local soil, weather conditions and other factors, making quantification difficult. The SJVAPCD has adopted a set of PM_{10} Fugitive Dust Rules, collectively called Regulation VIII. Several components of Regulation VIII specifically address fugitive dust generated by construction related activities. The highest unmitigated PM_{10} and $PM_{2.5}$ of this project are estimated levels of 10.24 tons/year or 95.67 lb/day and 1.21 tons/year or 11.30 lb/day, respectively. Mitigated PM_{10} and $PM_{2.5}$ resulted in somewhat lower estimated levels for PM_{10} of 10.22 tons/year or 95.48 lb/day (a 0.2 percent reduction); $PM_{2.5}$ mitigated levels are estimated to be 1.21 tons/year or 11.28 lb/day (a 0.18 percent reduction). Both the mitigated and unmitigated values are below the threshold of significance.

According to the SJVAPCD, project emissions should be identified and quantified in order to compare with the Thresholds of Significance, as referenced above. In addition to the yearly threshold of significance comparison, the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts document recommends that an ambient air quality analysis be performed in order to determine when the increase in on-site emissions from construction activities exceeds the 100 pounds per day (based on the estimated 7 months of construction) screening level of any criteria pollutant. The following estimated emissions remained unchanged post mitigation analysis. Highest estimated ROG emissions (another ozone precursor emission) during the construction phase of this project are 0.395 tons/year, or 3.69 lb/day, well below the SJVAPCD Thresholds of Significance 10 tons/year or 100 lb/day. SO_2 emissions during the construction phase are low (0.00376 tons/year or 0.035 lb/day), and are therefore of little concern. A cumulative significant impact for CO does not already exist in this region and CO emissions (2.43 tons/year or 22.73 lb/day) during construction alone would not result in localized CO concentration above the SJVACD thresholds. The Project's construction NOx emissions were reduced with mitigation (estimated to be 4.12 tons/year or 38.50 lb/day unmitigated and 2.54 tons/year or 23.77 lb/day mitigated) and are less than the SJVAPCD Threshold of Significance for Construction Emissions up to 10 tons/year or 100 lb/day. Based on the highest estimated emissions, evaluated per the SJVAPCD Thresholds of Significance; the implementation of **Mitigation Measure Air 1**, which requires appropriate permitting with the SJVAPCD prior to construction; and the implementation of **Mitigation Measure Air 2**, which incorporates

Regulation VIII measures, the project Construction impacts to air quality will be **less than significant**.

Air Quality Mitigation 2

- Construction of the proposed Project shall comply with all applicable regulations specified in the San Joaquin Valley Air Pollution Control District Regulation VIII (Fugitive Dust Rules), including, but not limited to, compliance with the following mitigation measures:
  - Visible Dust Emissions (VDE) from construction, demolition, excavation or other earthmoving activities related to the Project shall be limited to 20% opacity or less, as defined in Rule 8011.
  - Pre-water all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and phase earthmoving.
  - Apply water, chemical/organic stabilizer/suppressant, or vegetative ground cover to all disturbed areas, including unpaved roads.
  - Restrict vehicular access to the disturbance area during periods of inactivity.
  - Apply water or chemical/organic stabilizers/suppressants, construct wind barriers and/or cover exposed potentially dust-generating materials.
  - When materials are transported off-site, stabilize and cover all materials to be transported and maintain six inches of freeboard (i.e., minimum vertical distance between the top of the load and the top of the trailer) space from the top of the container.
  - Remove carryout and trackout of soil materials on a daily basis unless it extends more than 50 feet from site; carryout and trackout extending more than 50 feet from the site shall be removed immediately. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. If the Project would involve more than 150 construction vehicle trips per day onto the public street, additional restrictions specified in Section 5.8 of Rule 8041 shall apply.
  - Traffic speeds on unpaved roads shall be limited to 15 mph.

- During construction, all earth moving activities shall cease during periods of high winds (i.e., greater than 30 mph). To assure compliance with this measure, grading activities are subject to periodic inspections by City staff.
- Construction equipment shall be kept in proper operating condition, including proper engine tuning and exhaust control systems.
- Areas following clearing, grubbing and/or grading shall receive appropriate BMP treatments (e.g., re-vegetation, mulching, covering with tarps, etc.) to prevent fugitive dust generation.
- All exposed soil or material stockpiles that will not be used within 3 days shall be enclosed, covered, or watered twice daily, or shall be stabilized with approved nontoxic chemical soil binders at a rate to be determined by the on-site construction supervisor.
- Unpaved access roads shall be stabilized via frequent watering, non-toxic chemical stabilization, temporary paving, or equivalent measures at a rate to be determined by the on-site construction supervisor.

- Trucks transporting materials to and from the site shall allow for at least two feet of freeboard. Alternatively, trucks transporting materials shall be covered.
- Where visible soil material is tracked onto adjacent public paved roads, the paved roads shall be swept and debris shall be returned to the construction site or transported off site for disposal.
- Wheel washers, dirt knock-off grates/mats, or equivalent measures shall be installed within the construction site where vehicles exit unpaved roads onto paved roads.
- Diesel powered construction equipment shall be maintained in accordance with manufacturer's requirements, and shall be retrofitted with diesel particulate filters where available and practicable.
- Heavy duty diesel trucks and gasoline powered equipment shall be turned off if idling is anticipated to last for more than 5 minutes.
- Where feasible, the construction contractor shall use alternatively fueled construction equipment, such as electric or natural gas-powered equipment or biofuel.
- Heavy construction equipment shall use low NOx diesel fuel to the extent that it is readily available at the time of construction.
- The construction contractor shall maintain signage along the construction perimeter with the name and telephone number of the individual in charge of implementing the construction emissions mitigation plan, and with the telephone number of the SJVAPCD's complaint line. The contractor's representative shall maintain a log of any public complaints and corrective actions taken to resolve complaints.
- During grading and site preparation activities, exposed soil areas shall be stabilized via frequent watering, non-toxic chemical stabilization, or equivalent measures at a rate to be determined by the on-site construction supervisor.
- During windy days when fugitive dust can be observed leaving the construction site, additional applications of water shall be required at a rate to be determined by the onsite construction supervisor.

This mitigation measure shall be a note on construction plans.

d) **Less Than Significant Impact.** Sensitive receptors are a category of land use that serves a population considered more sensitive to pollutant concentrations. Sensitive receptors include, but are not limited to, facilities such as hospitals, schools, convalescent homes, and residential areas. The potential for negative air quality impact on sensitive receptors increases as the distance between the sensitive receptors and source of emissions decreases. As stated in the Project location description, the project area is located in an agriculturally zoned land use area and thus not located near any sensitive receptors.

With the exception of a short period of time associated with the construction phase, implementation of the proposed Project would not result in any substantial increase in traffic on local area roadways. Therefore, the proposed Project's impact associated with mobile-source concentrations of CO are considered less than significant.

Another category of environmental concern is Toxic Air Contaminants (TACs). According to the California Air Resources Board (CARB), diesel exhaust particulate matter (DPM) is a TAC associated with diesel exhaust. DPM is identified as the most common TAC source for

this type of project, which will utilize heavy diesel fueled equipment intermittently for the duration of the construction phase, estimated to last almost seven months. Health risks from TACs are a function of both the duration of exposure and the concentration of emissions. Due to the lack of proximity to sensitive receptors, the short duration of the construction phase utilizing diesel fueled equipment, as well as **Air Quality Mitigation 2** requiring diesel powered equipment be retrofitted with diesel particulate filters where available, the Projects impact of TACs is considered less than significant.

The Project site is located near a substantial source of TACs, the Interstate 5 freeway; however, there are no sensitive receptors located at the site. In addition, the Proposed Project would not introduce new sensitive receptors to the area. Therefore, the proposed Project would not be affected by any existing sources of TACs.

As discussed above, the proposed Project would not cause substantial pollutant concentrations, including TACs or localized CO. Therefore, impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

e) **Less Than Significant Impact.** Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative or formulaic methodologies to determine the presence of a significant odor impact do not exist. The intensity of an odor source's operations and its proximity to sensitive receptors influence the potential significance of odor emissions. Common types of facilities that have been known to produce odors in the San Joaquin Valley include, but are not limited to, wastewater treatment facilities, landfills, composting facilities, petroleum refineries, food processing facilities, feed lots, and/or dairies.

The proposed Project is an expansion pond for the White Slough WPCF. Facilities such as the WPCF may produce objectionable odors. However, the development of an additional pond to the existing facility will not substantially increase objectionable odors in the area, and would not introduce any new sensitive receptors to the area that could be affected by any existing objectionable odor sources in the area. In addition, the Project is located in a primarily agricultural area with few rural residences. Lima Ranch is located approximately 500 feet northeast of the eastern facility boundary, and the Kingdon Airport is located 0.60 miles east-northeast of the eastern faculty boundary. Few sensitive receptors are located within the immediate vicinity of the Project site. Therefore, operation of the proposed Project would not create objectionable odors affecting a substantial number of people.

Diesel fumes from construction equipment are often found to be objectionable; however, as discussed in further detail above, construction is temporary and associated diesel emissions would be regulated. As such, substantial levels of DPM associated with the temporary, intermittent construction activities would not be expected at the nearest sensitive receptor. Thus, odors related to DPM from construction equipment would not be expected to be considerable or affect a substantial number of people.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors, and a less-than-significant impact related to objectionable odors would result.

IV. Greenhouse Gas Emissions

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

California has adopted a wide variety of regulations aimed at reducing the State's greenhouse gas (GHG) emissions. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, requires California to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 directs ARB to develop and implement regulations that reduce statewide GHG emissions. The *Climate Change Scoping Plan* (Scoping Plan) was approved by ARB in December 2008 and outlines the State's plan to achieve the GHG reductions required in AB 32. The Scoping Plan contains the primary strategies California will implement to achieve a reduction of 169 MMT CO2e, or approximately 28% from the State's projected 2020 emission levels. In the Scoping Plan, ARB encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State commitment to reduce GHGs. The Scoping Plan recommends that local governments consider adopting a goal of 15% below current emissions levels to assist the State in implementing AB 32.

a) **Less Than Significant Impact.** The construction of the expansion pond will create short term, small impacts on GHG emissions from construction trips and equipment. During construction, it is anticipated that the following vehicles will be used:

- 3-4 Excavators
- 6 Backhoes
- 4 to 6 Graders/Earth Movers
- 6 Front Loaders
- 6 Boom Trucks
- 6 Concrete Trucks
- 2-3 Dozers
- 4 Passenger Trucks
- 3 Vans
- 2-3 Dump Trucks
- 8 Dumpsters
- 1 Water Truck
- 1 Street Sweeper
- 2 Move on/off Trailers

Mitigated GHG emissions during construction include 344.20 Metric Tons (MT)/Year of CO_2 and 0.099 MT/Year of CH_4. **Mitigation Measure 2** in Section III - Air Quality will help to reduce these emissions. This is a less than significant impact.

The proposed Project operations will require two electric 7½ HP pumps located in the expansion pond that will both: (a) lift water into the tertiary water storage ponds; and (b) pump water from the storage ponds into the WPCF's irrigation distribution system. Both pumps may be operated simultaneously. In addition, two more 7½ HP pumps will be located at a new pump station as part of the conveyance system that will deliver stored wastewater to the three agricultural fields located in the southeastern portion of the site that is currently irrigated with groundwater pumped from a dedicated well. The irrigation site expansion will eventually eliminate the need for groundwater pumping and allow for a discontinuation of an older, less efficient 10 HP electric pump. In terms of operational emissions, ARB staff allows small projects to be considered insignificant if a project consists of a quantitative threshold of 7,000 metric tons of carbon dioxide equivalent per year for operational emission. (Carbon dioxide equivalent, or CO_2E, is a term that is used for describing different greenhouse gases in a common and collective unit). Because there are no agricultural land use fields in the CalEEMod model, and the basin pump stations/conveyance systems did not fit with CalEEMods detailed program screen inputs, the operational emissions of the four 7½ HP were calculated separately, using the same CalEEMod emission intensity factors that were applied to the construction emissions. The calculations are included in Appendix B. Estimated GHG emissions are for the operation of the new pumps, which will be used to transfer wastewater to the expansion pond, as well as deliver the wastewater to the agricultural fields. Estimated GHG emissions during project operations include 51.96 Metric Tons (MT)/Year of CO_2, and 0.0015 MT/Year of CH_4. The CO_2 equivalent for the project is 52.1 MT/Year. This is well below the proposed threshold of significance of 7,000 MT/Year of CO_2E for operations proposed by ARB. This is a less than significant impact.

b) **Less Than Significant Impact.** ARB staff allows small projects to be considered insignificant if a project consists of a quantitative threshold of 7,000 metric tons of CO_2 equivalent per year for operational emissions. The CO_2 equivalent for the operation of the project with the addition of the four 7½ HP pumps is 52.10 MT/Year, well below the proposed threshold of significance proposed for a small project to be considered insignificant per ARB staff recommendations. Furthermore, the San Joaquin Valley Air Pollution Control District adopted a Zero Equivalency Policy for Greenhouse Gases dated March 24, 2010, revised on January 24, 2012, which states Greenhouse gas emissions of 230 metric tons-CO_2E/Year or less are considered to be zero for District permitting purposes. Consistent with the goals and policies to reduce GHG emission, the project will remove a 10 HP pump from service, with an estimated reduction of approximately 39 percent compared to the GHG emissions calculated from the anticipated new pumps. This is a less than significant impact.

V. Biological Resources

Issues		Potentially Significant Impact	Potentially Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:					
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	■	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	■	☐
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	■	☐
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 wildlife nursery sites?	☐	☐	■	☐
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	■	☐
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Moore Biological Consultants prepared a biological assessment (included in Appendix C) of the two original proposed project sites and how the project could affect the environment within and adjacent to the sites. Their report includes biological information regarding Waters of the U.S. and wetlands, Federal and State special-status species, and other natural resources in the project site, in accordance with the Federal Endangered Species Act (FESA), the Clean Water Act (CWA), the Rivers and Harbors Act, the Migratory Bird Species Act (MBTA), the California Endangered Species Act (CESA), the California Environmental Quality Act (CEQA), the Fish and Game Code of California, the Porter-Cologne Water Quality Control Act, the California Native Plant Protection Act, and the San Joaquin County Multispecies Habitat Conservation and Open Space Plan (SJMSCP). The results of their assessment are hereby incorporated by reference (Moore Biological Consultants, 2016).

Moore Biological Consultants utilized the California National Diversity Database (CNDDB) to identify wildlife and plant species that have been previously documented in the project vicinity or that have the potential to occur based on suitable habitat and geographical distribution. They

also conducted field surveys of the proposed project sites, which included an assessment of potentially jurisdictional waters of the U.S., special-status species, and suitable habitat for special-status species. Under contract to Moore Biological Consultants, ECORP Consulting, Inc. prepared a habitat assessment of the federally threatened giant garter snake, and Fishbio prepared a habitat assessment of special-status fish. The results of these supplemental assessments are hereby incorporated. While Moore Biological Consultants surveyed and assessed both the original proposed project sites at the southeastern and northwestern corners of the WPCF, all references to the Project site will hereby mean the designated western expansion pond site.

a) **Less than Significant Impact.** The Project would not significantly modify, either directly or indirectly, habitats of any species identified as candidate, sensitive, or special status. Special-status species are plants and animals that are legally protected under the CESA, FESA, or other regulations. Special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat (Moore Biological Consultants, 2016).

   The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531-1543) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. Section 7 of FESA requires Federal agencies to insure that the actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The California Endangered Species Act (CESA) (Fish and Game Code 2050 et seq.) establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species, if reasonable and prudent alternatives are available that would avoid jeopardy. The CDFW is required to issue a written finding indicating if a project would jeopardize threatened or endangered species and specifying reasonable and prudent alternatives that would avoid jeopardy.

   The California Native Plant Protection Act (codified in Fish and Game Code Sections 1900-1913) is intended to preserve, protect, and enhance endangered or rare native plants in the state. A species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

   CEQA Guidelines Section 15380 provides that a species not listed under the FESA or CESA may be considered rare or endangered under specific criteria. These criteria have been modeled after the definitions in FESA and CESA.

   The likelihood of occurrence of listed, candidate, and other special-status species in the project site is generally low. This determination is based on an assessment of the likelihood of occurrence of each of these species in and/or near the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations (Figures 8 and 9) (Moore Biological

Consultants, 2016). The proposed Project also takes place within existing road rights-of-way and does not disturb any native or undisturbed areas.

Within the project site, intensively farmed fields provide foraging habitat for a variety of birds and seasonal habitat for a variety of migratory wildlife, primarily waterfowl. The existing wastewater treatment ponds just east of the intended site do not provide nesting habitat or a food source for birds, but are often used for loafing. The well-developed riparian woodlands and wetlands of White Slough, Dredger Cut, and other Delta waterways (Figure 10) adjacent to or near the WPCF support a more diverse assemblage of plant and wildlife species, including special-status species, though the potential for intensive use of habitats within the project site by special-status wildlife is generally low (Figures 8 and 9) (Moore Biological Consultants, 2016).

Special status plant species recorded along the waterway in the greater project vicinity include Wooly rose mallow, Delta tule pea, Mason's lilaeopsis, Delta mudwort, Side-flowering skullcap, and Suisus marsh aster. However, the leveled fields, maintained irrigation ditches, and patches of highly disturbed ruderal upland grassland habitat within the WPCF do not provide suitable habitat for any special-status plants (Moore Biological Consultants, 2016).

Special status wildlife species with the potential to occur in the proposed project site on a more than transitory or very occasional basis include Swainson's Hawk, Tri-colored blackbird, Burrowing owl, and Pacific pond turtle. Special consideration is also given to Giant garter snake. White-tailed kite and song sparrow are also considered to have a moderate potential for occurrence in the site. Generally, special-status mammals, reptiles, amphibians, and fish are all unlikely to occur within the project site itself, although surrounding riparian and aquatic areas provide habitats for these animals (Moore Biological Consultants, 2016).

The nearest occurrences of Swainson's Hawk are immediately east and west of the project site, at locations near roads and highways, demonstrating that these birds are accustomed to traffic and noise. The agricultural fields currently at the project site provide suitable foraging habitat for the hawks, but the conversion of these fields to ponds would only result in a minor reduction of suitable foraging habitat, given the surrounding availability of similar habitat (Moore Biological Consultants, 2016).

Tricolored blackbird, a species endemic to California, is a State of California Species of Concern and is protected by the federal Migratory Bird Treaty Act and Fish and Game Code of California. The patches of tules and cattails in White Slough, Dredger Cut, and the peripheral canal west of the WPCF provide suitable nesting habitat for this bird, and the fields currently at the project site are used for foraging. The conversion of agricultural fields to ponds would result in a minor reduction of suitable tricolored blackbird foraging habitat (Moore Biological Consultants, 2016).

Burrowing owls are not listed under FESA or CESA, but the MBTA and Game Code of California protects them year-round and protects their nests and eggs during nesting season. No burrowing owls or evidence of occupancy were observed in or near the site (Moore Biological Consultants, 2016).

The Pacific pond turtle is a state species of concern. The agricultural fields currently within the project site are not suitable habitat for this turtle, though White Slough, Dredger Cut, and

other Delta waterways are suitable habitat, and these turtles were observed in these areas during the 2015 surveys. The lower water temperatures and improvements of water quality resulting from the project's reduction of annual discharge would actually result in minor improvements of Pacific pond turtle habitat (Moore Biological Consultants, 2016).

ECORP conducted an assessment of the Giant garter snake, a species endemic to the Sacramento and San Joaquin valleys that is listed as threatened under both FESA and CESA. Giant garter snake habitats exist at the Coldani Marsh, one mile northwest of WPCF, and at the Lodi White Slough Preserve, located along the western edge of the WPCF (Figure 4). White Slough, Dredger Cut, and the Delta waterways are suitable habitat for this snake, but the agricultural fields of the project site do not provide suitable foraging and aestivation habitat for this species. The irrigation and drainage ditches that serve the fields in the project site do not provide suitable foraging habitat but could be used for movement. ECORP concluded that if giant garter snakes are present in off-site lands just west of Northwest Survey Area, individual snakes may move through the project site on occasion, but movement would be limited. The conversion of agricultural fields to ponds would result in a minor reduction of potential giant garter snake movement habitat at the site. The ECORP study also concluded that the change in discharge from the WPCF into Dredger Cut and White Slough, a reduction in annual discharge volume from about 160 to 210 million gallons, is not anticipated to affect giant garter snakes, particularly during the hibernation period of January through April (ECORP Consulting, Inc., 2016; Moore Biological Consultants, 2016).

According to Fishbio, White Slough, Dredger Cut, the San Joaquin River, and other Delta waterways provide movement and rearing habitat for the special-status fish species fall-run Chinook salmon, Central Valley steelhead, and Delta smelt (Figure 10). However, it is unlikely that these species occur in Dredger Cut or in immediately adjacent or downstream waterways on more than a very occasional or transitory basis. Fishbio concluded that no appreciable changes in the total volume of the overall San Joaquin River or Delta waterways would be expected to occur from changes in volume discharged from the WPCF. The reduction in temperature and changes in water quality during January through April is expected to result in negligible or even positive effects on the suitability of Dredger Cut, White Slough, and downstream waterways as habitat for special-status fish. These fish species are also not expected to occur in the proposed ponds once completed (Fishbio, 2016; Moore Biological Consultants, 2016).

Implementation of the following mitigation measures would reduce the above-identified impacts to biological resources to a less-than-significant level.

Biological Resources Mitigation Measure 1

The Project shall participate in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. The Project shall coordinate with San Joaquin Council of Governments (555 E. Weber Avenue, Stockton, CA 95202), prior to any construction activities. Inclusion within the plan is required prior to construction.

Biological Resources Mitigation Measure 2 - Preconstruction Survey Requirement

A qualified biologist shall conduct a preconstruction clearance survey for special-status species and migratory birds in all potential habitats throughout the project area; thus, any action that disrupts surface soils (e.g., clearing and grubbing, rough grading, excavation, compaction for temporary staging areas or permanent construction sites) shall be subject to a preconstruction survey. Surveys shall be undertaken not more than 30 days prior to ground disturbing activity to ensure avoidance during construction. All areas within 250 feet

of the project area shall be surveyed where site access and visibility allows. If no special-status species or migratory birds are present, further mitigation is not necessary. If any special-status species and/or migratory birds are found nesting on-site, the biologist shall implement protective measures to ensure that animals are not adversely affected, and construction does not commence until the biologist has determined no harm would result to breeding animals as a result of construction. Written results of the preconstruction survey shall be submitted to the City of Lodi and San Joaquin County Council of Governments Habitat Conservation Program.

The ECORP Assessment of the Giant garter snake and their habitat also describes key minimization and avoidance measures that would be required pursuant to project compliance with the SJCMSHCP. These measures include construction scheduling, pre-construction surveys, protective fencing, worker training, minimizing vegetation clearing, and other measures (ECORP Consulting, Inc., 2016; Moore Biological Consultants, 2016).

b) **Less Than Significant Impact.** The Project will have no adverse impacts on sensitive or regulated habitat because the Project site itself is devoid of native riparian vegetation or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. In addition, none of the irrigation channels identified bordering the Project site is vegetated with riparian shrubs or trees. However, White Slough and the natural delta areas west of the WPCF support a wide variety of riparian and woodland vegetation. Dredger cut is completely choked with water hyacinth, and White Slough, the Highland Canal, and other Delta waterways to the west of the WPCF have more open water and support a larger variety of emergent wetland vegetation within them and/or along their banks. The proposed project and increased discharge to Dredger Cut is not expected to have any effect on such riparian and aquatic habitat (Moore Biological Consultants, 2016).

c) **Less Than Significant Impact.** Despite the San Joaquin River and other Delta waterways located west and southwest of the site, no waters or wetlands that fall under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), California Regional Water Quality Control Board (RWQCB), and/or CDFW are found on the actual proposed project site (Aspen Environmental, 2013). The San Joaquin River is a navigable Water of the U.S. subject to Section 404 of the Clean Water Act, as well as Section 10 of the River and Harbor Act. White Slough, Dredger Cut, Highline Canal, Bishop Cut, and other Delta waterways west and southwest of the site are also Waters of the U.S., although some may not be considered navigable. The limit of federal jurisdiction on all of these waterways is high tide, which is a few feet above mean sea level. These waterways also fall under the jurisdiction of CDFW and the RWQCB.

The Clean Water Act (CWA) (33 U.S.C. 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Jurisdictional wetlands and Waters of the U.S. include, but are not limited to, navigable waterways, their tributaries, and adjacent wetlands; perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Section 404 of the CWA requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S.; this permit program is administered by the U.S. Army Corps of Engineers (ACOE). Implementing regulations by ACOE are found at 33 CFR Parts 320- 330. Guidelines for implementation allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts. Section 401 of the CWA requires an applicant for a Federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain a state

certification that the discharge complies with other provisions of the CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California. Section 10 of the Rivers and Harbors Act requires permits in, above, or below navigable waters of the U.S. for all structures such as docks, bridges, riprap, and activities such as dredging. A CWA Section 404 permit process usually also covers Section 10 of the Rivers and Harbors Act, where appropriate. Projects that affect Waters of the State may also be required to meet waste discharge requirements (WDRs) of the RWQCBs. The Central Valley Regional Water Quality Board is expected to develop a program requiring WDRs for the fill of isolated wetlands that are not subject to CWA Section 404.

There is no worked proposed in White Slough, Dredger Cut, or any other Delta waterways, and beyond the San Joaquin River and other Delta waterways west and southwest of the site, no other potentially jurisdictional wetlands or Waters of the U.S. were observed in or near the site. Indicators of hydrologic activity (topographical or geological), hydric soils, or hydrophytic vegetation were not observed on-site. All of the managed and maintained irrigation and drainage ditches that serve the fields were excavated in uplands and are do not meet the technical and regulatory criteria of jurisdictional wetlands or Waters of the U.S. Further, there are no vernal pools, seasonal wetlands, or other types of wetlands within the leveled fields, paved and dirt roads, and patches of highly disturbed ruderal upland grassland habitat within the WPCF where the project facilities will be constructed (Moore Biological Consultants, 2016). Therefore, no significant impact would occur.

d) **Less Than Significant Impact.** The Project site is surrounded by unobstructed movement habitat and is not located within a linkage area between important habitat areas or resources. Due to availability of movement routes throughout the Project vicinity, Project impacts to sensitive species movement routes would be less than significant under CEQA.

Wallace Environmental Consulting, Inc. conducted a survey of bird visits and movement within the Project site. Generally, regardless of time of day or year, birds move from the Delta into the existing agricultural fields or vice versa. Removing the 70-acres of agricultural land for pond construction is not expected to negatively impact such bird movements or habitat accessibility. In fact, Wallace Environmental Consultants, Inc. expect an approximately 1.35% increase in birds, attracted to the new expansions ponds primarily for the use of loafing. This is a less than significant impact.

ECORP concluded that if giant garter snakes are present in off-site lands just west of the Northwest Survey Area, individual snakes may move through the project site on occasion, but use of the fields and ditches would be limited. The conversion of agricultural fields to ponds would result in only a minor reduction of potential giant garter snake movement habitat in the site (ECORP Consulting, Inc., 2016; Moore Biological Consultants, 2016). Overall, the proposed Project will not interfere substantially with the movement of any other 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.

e) **Less Than Significant Impact.** Construction and operation of the Project would not conflict with any local policies or ordinances protecting biological resources. The local authority for the Project area is detailed in the provisions of the San Joaquin County General Plan address the preservation of environmentally sensitive areas that have existing natural watercourses, drainage basins, sloughs, or other natural water features, including maintaining the quality of existing wetland areas. Other than conserving native oaks and native trees associated with rivers, creeks, and streams, no specific tree preservation

ordinances exist for the project area. Activities associated with the operation and maintenance of the proposed Project would have no impact on sensitive biological resources protected by local ordinances.

f) **No Impact.** A significant impact may occur if the proposed Project were inconsistent with mapping or policies in any conservation plans of the types cited. In an effort to protect sensitive and threatened species throughout San Joaquin County, SJCOG prepared the San Joaquin County Multispecies Habitat Conservation and Open Space Plan (SJMSCP). The purpose of the SJMSCP is to provide for the long-term management of plant, fish and wildlife species, especially those that are currently listed or may be listed in the future under the FESA or CESA, and to provide and maintain multiple-use open space that contributes to the quality of life of residents of San Joaquin County.

The City of Lodi has adopted the SJMSCP and the Project's participation in the plan is required by the City. The proposed Project is consistent with the SJMSCP, as amended, as reflected in the conditions of project approval for this proposal. The plan should involve payment of fees and implementation of standard Take Avoidance measures outline in the HCP for Swainson's Hawks, burrowing owls, Pacific pond turtles, and giant garter snakes (ECORP Consulting, Inc., 2016). Pursuant to the Final EIR/EIS for the SJMSCP, dated November 15, 2000, and certified by the San Joaquin Council of Governments on December 7, 2000, implementation of the SJMSCP is expected to reduce impacts to biological resources resulting from the proposed Project to a level of less-than-significant. That document is hereby incorporated by reference and is available for review during regular business hours at the San Joaquin Council of Governments (555 E. Weber Avenue, Stockton, CA 95202) or online at: www.sjcog.org. Thus, the proposed Project would comply with the SJMSCP, and no impact would occur.

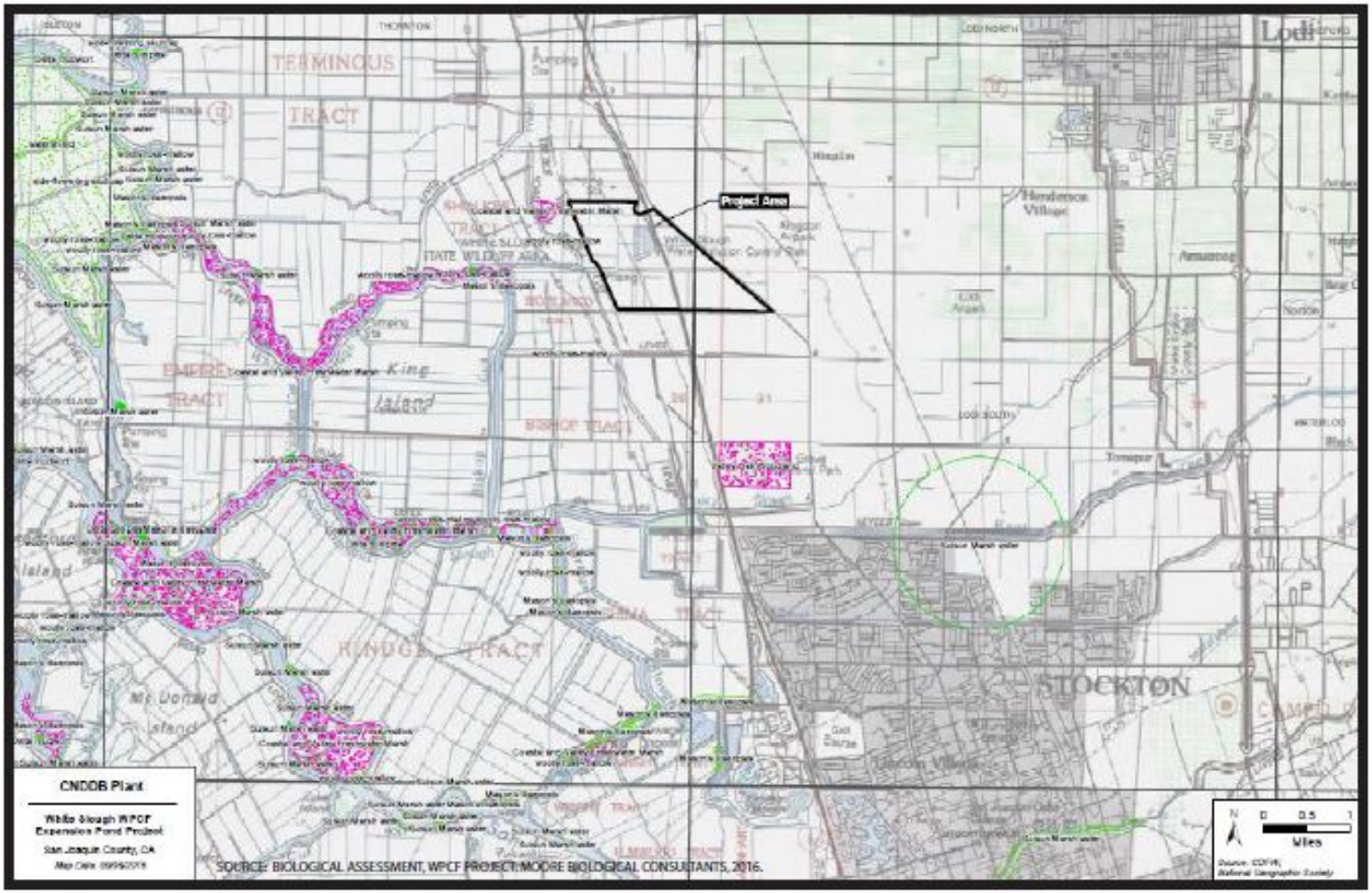


Figure 8 - Federal and State Special Status Plant Species Distribution Map

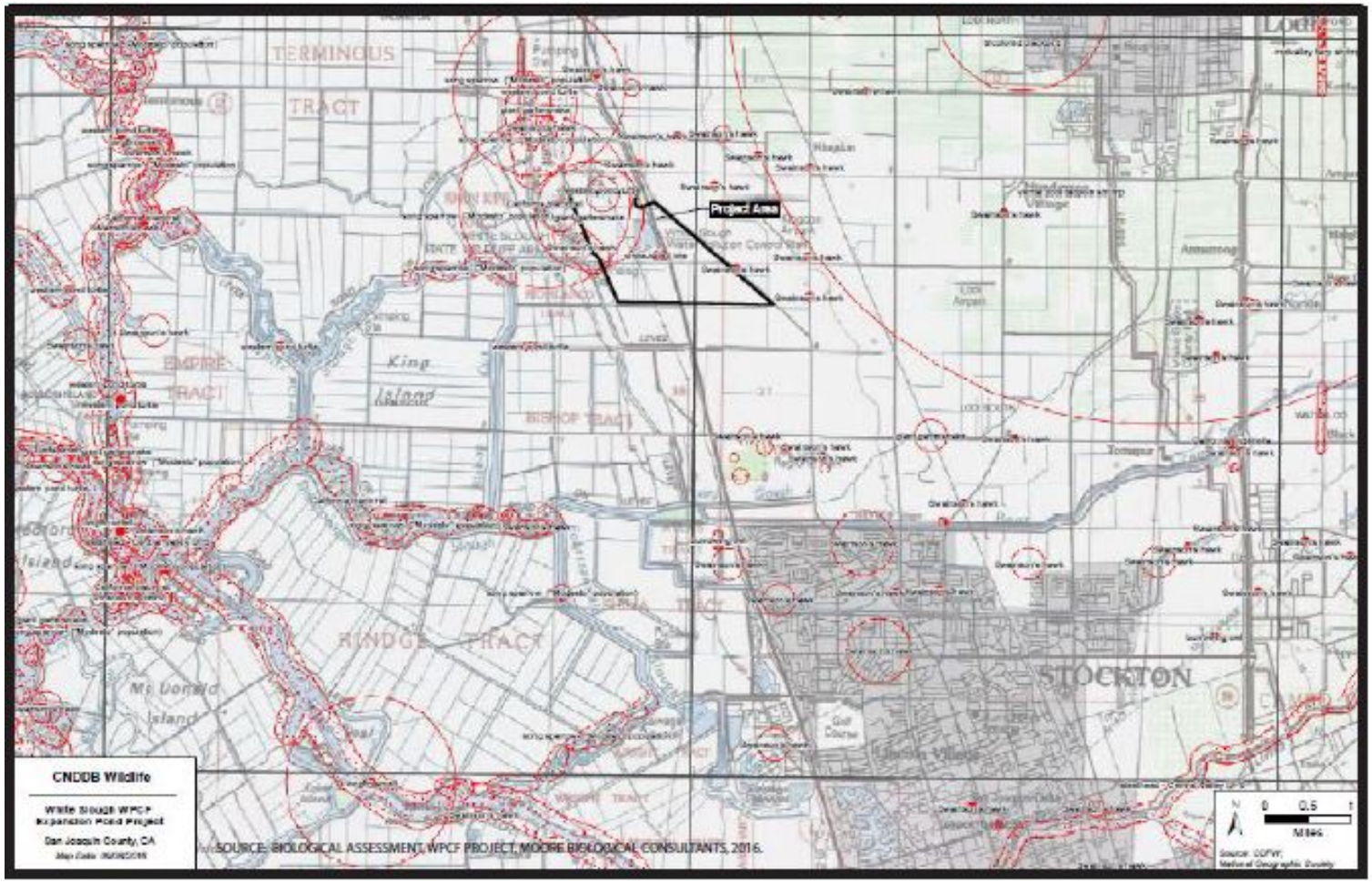


Figure 9 - Federal and State Special Status Wildlife Species Distribution Map

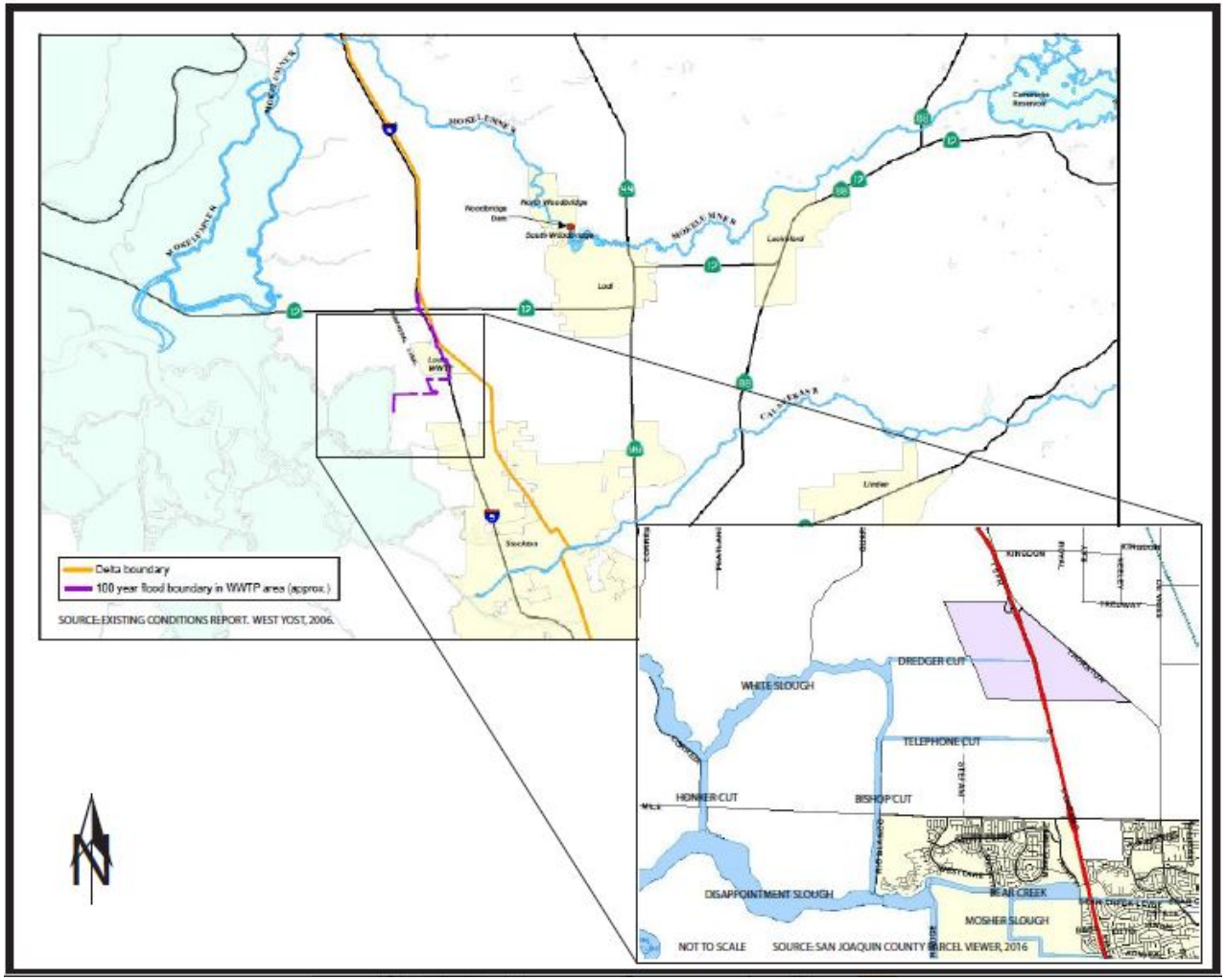


Figure 10 - Surface Waterways

VI. Cultural Resources

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or unique geologic feature?	☐	■	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries.	☐	■	☐	☐
e. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?	☐	■	☐	☐

Michael Baker International (Michael Baker) completed a Cultural Resources Identification Report (November 2015) in support of environmental review of the proposed Project under CEQA. The investigation included archival research, a field survey, and Native American and historical society consultation. They evaluated both the two original potential pond locations, in the northwest and southeast portions of the facility (see Figure 2). An approximately 135-acre area was evaluated in the northwest potential pond location and an approximately 185-acre area was evaluated in the southeast potential pond location, to ensure sufficient evaluation around the 70-acre proposed pond location. However, since the northwest potential pond location has been chosen for the Project site, any reference to the Project will hereby mean the northwest site, however, information regarding the southeast site is still included in this report. Due to confidentiality provisions, the Michael Baker report is not included as an appendix to this environmental document. The report findings are summarized below.

a) **Less than Significant.** As summarized in the below table, the Cultural Resources Identification Report identified two built environmental resources within the Northwest Preferred Project Area, one built environmental resource adjacent to the Northwest Project Area, one built environmental resource within the now abandoned Southeast Project Area, and one built environmental resource adjacent to both Project Areas.

Table 2.
Cultural Resources Identified within and Adjacent to Project Areas

Resource Name	Built Date	Resource Type	Location	Impact by Project
Northwest Area Power Administration Transmission Line	Circa 1960	Transmission Line	Within Northwest Project Area	No Direct Impact
Pacific Gas & Electrical Company Transmission Line	Circa 1960	Transmission Line	Within Northwest Project Area	No Direct Impact
Animal Husbandry Features	Unknown	Animal Husbandry	Adjacent to Northwest	No Direct Impact

Resource Name	Built Date	Resource Type	Location	Impact by Project
			Project Area	
White Slough Canal P-39-005183	Circa 1930	Water Conveyance Features	Within Southeast Project Area	No Direct Impact
White Slough Water Pollution Control Facility	1966	Industrial Facility	Adjacent to Northwest and Southeast Project Areas	No Direct Impact

The Project will not directly impact the above five built environment cultural resources identified, and evaluation of the resources for the California Register is not recommended by Michael Baker. Evaluation of the resources is, however, recommended should Project plans change to directly impact resources. Impacts to built environment resources should be avoided by Project activities, but if such impacts cannot be avoided, the resources would be evaluated for their California Register eligibility. If the resources are not California Register–eligible, no further protection will be performed. If the resources are California Register–eligible, they would be protected from Project-related impacts, or such impacts would be mitigated. Mitigation might consist of, but is not necessarily limited to, Historic American Engineering Record, Historic American Building Survey, and Historic American Landscape Survey mitigation documentation. Public educational outreach may also be appropriate.

b) **Less than Significant with Mitigation Incorporated.** A significant impact would occur if the Project causes a substantial adverse change to an archaeological resource through demolition, construction, conversion, rehabilitation, relocation, or alteration. No archaeological resources were identified within the Project Area. However, archaeological resources may exist within the Project Area. In the event that archaeological resources are observed during Project construction-related activities, **Mitigation Measure CR-1** is in place to reduce impacts to a less than significant level. Therefore, the impact on archaeological resources is considered less than significant with mitigation incorporated.

Cultural Resources Mitigation Measure 1

If prehistoric or historic-period archaeological deposits are discovered during Project activities, all work within 25 feet of the discovery should be redirected and the archaeologist should assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Impacts to archaeological deposits should be avoided by Project activities, but if such impacts cannot be avoided, the deposits should be evaluated for their California Register eligibility. If the deposits are not California Register–eligible, no further protection of the finds is necessary. If the deposits are California Register–eligible, they should be protected from Project-related impacts, or such impacts should be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate.

c) **Less than Significant with Mitigation Incorporated.** A significant impact may occur if grading or excavation activities associated with the proposed Project would disturb paleontological resources or geologic features that exist within the Project site. No

paleontological resources or unique geologic features have been noted on the surface of the Project site. The likelihood of paleontological resources or unique geologic features being present subsurface within the boundaries of the proposed Project is unlikely given the rapid rate of deposition in the area. The possibility exists, however, that previously unidentified paleontological resources could be encountered during ground-disturbing activities associated with the proposed Project and therefore is considered a potentially significant impact if mitigation measures are not implemented. Implementation of **Mitigation Measure CR-2** would ensure that any previously unidentified paleontological resources encountered during ground disturbing activities for the proposed project would be managed in accordance with applicable regulations. Therefore, the impact on paleontological resources is considered less than significant with mitigation incorporated.

Cultural Resources Mitigation Measure 2

Should paleontological resources be identified on the Project site during any ground disturbing activities related to the Project, all ground disturbing activities within 100 feet of the discovery shall cease and the City of Lodi shall be notified within 24 hours of the discovery. The Project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, specific plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

d) **Less than Significant with Mitigation Incorporated.** A significant impact may occur if grading or excavation activities associated with the proposed Project would disturb previously interred human remains. Implementation of **Mitigation Measure CR-3** would ensure that human remains encountered during Project activities are treated in a manner consistent with state law and reduce impacts to human remains to a less than significant level as required by CEQA. This would occur through the respectful coordination with descendant communities to ensure that the traditional and cultural values of said community are incorporated in the decision-making process concerning the disposition of human remains that cannot be avoided. The implementation of these mitigation measures would reduce this potential impact to a less than significant level.

Cultural Resources Mitigation Measure 3

Any human remains encountered during Project ground-disturbing activities should be treated in accordance with California Health and Safety Co de Section 7050.5. The lead agency should inform its contractor(s) of the sensitivity of the Direct Area of Potential Effect for human remains and verify that the following directive has been included in the appropriate contract documents:

> If human remains are encountered during Project activities, the Project shall comply with the requirements of California Health and Safety Code Section 7050.5. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the county coroner has determined the manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation or to his or her authorized representative. At the same time, an

archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel/ construction workers shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

e) **Less than Significant with Mitigation Incorporated.** On October 15, 2015, pursuant to Assembly Bill (AB) 52, the City of Lodi initiated consultation with the Northern Valley Yokut Tribe and the Wilton Rancheria, the two traditionally and culturally affiliated California Native American tribes that had requested notice of projects where AB 52 applies in Lodi. AB 52 is required because the Project will publish a Notice of Preparation or circulate a (Mitigated) Negative Declaration or Environmental Impact Report on or after July 1, 2015. Consultation is summarized below.

Steve Hutchason, Wilton Rancheria – In an e-mail and letter sent via certified mail, the City requested any information that Mr. Hutchason may have regarding tribal cultural resources within the Project Areas so that this information would be incorporated into the planning phase of the Project. Mr. Hutchason received but did not respond to the email on October 15, 2015, and the letter was received on October 16, 2015. No response to the consultation efforts has been received to date. The City of Lodi sent the Cultural Resources Identification Report completed by Michael Baker to Mr. Hutchason via e-mail and certified mail on November 19, 2015 with a request for any questions or comments.

Katherine Erolinda Perez, MLD, Northern Valley Yokut Tribe – In a letter sent via certified mail and e-mail, the City requested any information that Ms. Perez may have regarding tribal cultural resources within the Project Area so that this information would be incorporated into the planning phase of the Project. Ms. Perez responded via e-mail on October 15, 2015, requesting that the City inform her once the environmental and archaeological evaluation is complete so that she can review and comment. The City agreed to forward the documents to Ms. Perez after their completion and added her to the environmental document distribution list. The City of Lodi sent the Cultural Resources Identification Report completed by Michael Baker to Ms. Perez via e-mail on November 19, 2015 with a request for any questions or comments. Ms. Perez responded via e-mail on November 19, 2015 stating that a hard copy of the report is not necessary, and that the report recommendation of implementing precaution for inadvertent discoveries (**Mitigation Measures CR-1 and CR-2**) is good. The completed environmental document will additionally be sent to Ms. Perez.

Any additional comments received from Wilton Rancheria and Northern Valley Yokut Tribe will be considered prior to Project construction. In the event that Native American remnants are observed during Project construction-related activities, **Mitigation Measures CR-1 and CR-2** are in place to reduce impacts to a less than significant level. Therefore, the impact on Native American resources is considered less than significant with mitigation incorporated.

VII. Geology and Soils

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	■	☐
ii. Strong seismic ground shaking?	☐	☐	■	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion, or the loss of topsoil?	☐	☐	■	☐
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?	☐	☐	■	☐
d. Be located on expansive soils, as defined in Table 18-1-13 of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■

Terracon Consultants, Inc. (Terracon) completed a Geotechnical Engineering Services Report (included in Appendix D) for the proposed White Slough Wastewater Treatment Facility Tertiary Ponds project, dated September 16, 2016. The Project proposes the construction of a 70-acre expansion pond within the City of Lodi's WPCF boundary. The Project is in a preliminary design stage. Pond construction will be completed in accordance with County of San Joaquin and City of Lodi design standards. Terracon's report presents the results of subsurface exploration, including findings on faulting and seismic hazard, soil conditions, and slope stability. Their report also provides geotechnical recommendations for earthwork and the design and construction of pond embankments for the proposed project.

Carlton Engineering, Inc. (Carlton Engineering) also completed a Geotechnical Feasibility Study, dated July 29, 2008, for the Lodi Energy Center Property, located at 12745 North Thornton Road, Lodi, California. The Lodi Energy Center project site is approximately 2.6 acres, located within San Joaquin County Assessor's Parcel Number 055-130-16, the parcel where the WPCF (12751 N Thornton Road) is located. The Lodi Energy Center Project site is located approximately 0.9 miles northwest of proposed pond location #1 and 800 feet

southeast of proposed pond location #2 (see Figure 2). Based on the close proximity of the Lodi Energy Center project site, this study is referenced below.

a) **Less than Significant Impact.**

i. **Less than Significant Impact.** The subject site is located in the California Central Valley Area, which is a relatively low to moderate seismically active area. The Project area is not listed within a State designated Alquist-Priolo Earthquake Fault Zone. There are no mapped surface or subsurface faults that traverse the Project area per review of Fault-Rupture Hazard Zones in California, Special Publication 42. Hence, the type and magnitude of seismic hazards affecting the site are dependent on the distance to causative faults and the intensity and magnitude of the seismic event (Terracon, 2016). According to County Wide General Plan (Public Health and Safety Volume 1) of the known fault lines in San Joaquin County, none are classified by the State Geologist as active, however, likely sources of seismic hazards potentially exist from the San Andreas, Hayward, Calaveras, Midland, Green Valley-Concord or Tracy-Stockton Faults, amongst others. The following table indicates the distances of key faults and the associated maximum credible earthquake that can be produced by nearby seismic events, as calculated using the United States Geologic Survey 2008 Interactive Deaggregations program. The Green Valley Connected Characteristic Fault, which is located about 56 kilometers from the site, is considered to have the most significant effect at the site from a design standpoint (Terracon, 2016). Construction will be required to meet the design standards set forth in the County of San Joaquin and City's Standards, and given the distance of these faults, earthquake hazard is considered to have a less than significant impact.

Table 3.
Distances of Key Faults and Associated Maximum Credible Earthquake

Fault Name	% Contribution	Approximate Distance to Site (km)	Maximum Credible Earthquake (MCE) Magnitude
Green Valley Connected Characteristic Fault	4.11	56.2	6.89
Mount Diablo Thrust D2.1 & D2.4, C	3.28	47.2	6.61
Greenville Connected Characteristic Fault	3.22	44.6	6.89

ii. **Less than Significant Impact.** In general, strong ground shaking from an earthquake is the cause of most seismic ground shaking damage. Based on the likely sources of seismic shaking per the aforementioned faults, the probability of a seismic ground-shaking occurrence affecting the proposed Project site is moderately high. The California Building Code Site Classification for the proposed project site is D, corresponding to a stiff soil profile. From this, the USGS Design Maps Detailed Report evaluates the Peak Ground Acceleration (PGA_M) to be 0.368g. Based on the 2008 interactive deaggregations, the PGA at the subject site for a 2% probability of exceedance in 50 years (return period of 2475 years) is expected to be about 0.439g (Terracon, 2016). These peak ground accelerations are relatively moderate. The proposed project, however, is not located within an Alquist-Priolo Earthquake Fault Zone and does not involve the construction of buildings. It is therefore not likely to

subject people to seismic ground shaking, and for this reason, strong seismic ground shaking is considered to have a less than significant impact.

iii. **Less than Significant Impact.** Liquefaction is a mode of ground failure that results from the generation of excess pore-water pressures during earthquake ground shaking, causing loss of shear strength. This phenomenon generally occurs in areas of high seismicity, where groundwater is shallow and soils are loose and granular. Strong seismic shaking can also cause cyclic softening of saturated relatively non-plastic fine-grained soils. The California Geologic Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the likely presence of a relatively shallow water table. This site is not mapped within a designated area of potential liquefaction (Terracon, 2016).

However, Carlton Engineering concluded in their survey for the nearby Lodi Energy Center Project that the potential for liquefaction is moderate, considering the relatively loose sandy soil and shallow (3-20 feet bgs) groundwater conditions. Liquefiable zones are anticipated to be restricted to pockets of loose, shallow, sandy soils. Likewise, due to the depth to groundwater, at depths of 5 and 8 feet bgs, and the relatively cohesionless soils encountered in exploratory borings, Terracon conducted two liquefaction analyses with data from borings B1 and B2 (Terracon, 2016). Based on the analyses, the liquefaction potential is judged to be relatively low. Potential liquefaction-induced settlement was calculated based on the soil conditions encountered in these borings. Potential settlement from liquefaction is relatively minor and expected to be about 1⁄2 inches total settlement with differential settlement expected to be about 1⁄2 this value across the site based on the soil conditions at boring B1. Liquefaction induced settlement based on the soil conditions at boring B2 are expected to be less than 1⁄2 inch. Estimates of settlement due to liquefaction are generally expected to vary on the order of a factor of 2. In considering potential liquefaction-induced settlement at this site, Terracon also considered that the soils are Pleistocene age deposits, which do not typically undergo liquefaction due to aging effects (Terracon, 2016).

A geotechnical investigation should be completed for the Project prior to construction, to evaluate areas that may be subject to seismically included settlement. Standard design and construction techniques should then be used to mitigate the potential for damage due to seismically induced settlement. Based on the planned mitigation, and lack of proposed structures, potential for liquefaction is considered less than significant.

iv). **No Impact**. The Project area is located on geographically level terrain (average grade less than five degrees) considered insufficient to produce a landslide. The Project area is not located within an earthquake-induced landslide zone (defined as “an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement”) per the reviewed Official Maps of Seismic Hazard Zones provided by the State of California Department of Conservation. As a result, no impacts related to landslides are anticipated.

b) **Less than Significant Impact**. The Project will involve the removal of the upper 1 to 2 feet of topsoil within the pond construction area. The Project will be subject to the County’s

Grading Ordinance and the County of San Joaquin and City's Design Standards to reduce erosion impacts. As a normal and standard requirement, the Project would be required to prepare and have approved individual Stormwater Pollution Prevention Plans (SWPPPs) that mandate construction and post-construction water quality provisions, including but not limited to erosion control plans during construction, installation of biofilters and/or mechanical cleansing of stormwater run-off, and similar elements. As a result of these standard engineering measures, the Project would have a less than significant impact on substantial soil erosion and issues resulting from the removal of topsoil during and after the construction process.

Regarding erosion of the pond structures themselves, Terracon recommends the pond embankment slopes be covered with an erosion control measure immediately after construction. The surface soils at the site primarily consist of silty sands and sandy silts which are typically subject to significant wind/water erosion. The project civil engineer, while developing the plans, should plan to limit wind/water erosion during and after construction. Rip rap or other erosion control measures, such as vegetation or jute netting, should be implemented to reduce the potential for wave damage to the waterside slope of the embankments. Some minor and relatively shallow erosion should be anticipated and planned for. Routine maintenance will be required on all embankment slopes. Any detected problems should be repaired immediately. It is important that the bottom of all embankments be protected from erosion or undercutting that could jeopardize the integrity of the slope. Substantial slope failure could occur if the bottoms of the slopes are not protected. A rigorous program of reducing the amount of animal burrows should be in place to reduce the potential for seepage-related problems (Terracon, 2016). As a result of these standard engineering measures, the ponds should experience a less than significant amount of soil erosion.

c) **Less than Significant Impact**. The Geotechnical Feasibility Study performed by Carlton Engineering for the nearby Lodi Energy Center project identified relatively flat layers of silty sands/sandy silts to depths of 10 feet bgs, underlain by clay to 13 feet bgs, sand to 20 feet bgs, and silty clays/clayey silts to 50 feet bgs. Based on the results of borings, the Terracon study more or less corroborates these findings, summarized in the table below, with some stratigraphic variation given the difference in location between the proposed project site and the Energy Center.

Table 4.
Results of Soil Borings

Stratum	Approximate Depth to Bottom of Stratum (ft)	Material Description	Consistency/Density
1	4 to 7.5	Sandy Silt	Very Loose to Medium Dense
2	4 to 9	Silty Sand; Sandy Lean Clay	Very Loose to Medium Dense; Stiff
3	19	Interbedded layers of Sandy Silt, Silty Sand, Poorly Graded Sand with Silt, Clayey Sand, Sandy Lean Clay	Very Loose to Dense, Stiff
4	24	Lean Clay with Sand	Very Stiff to Hard
5	51.5	Silty Sand, Clayey Sand, Sandy	Medium Dense to

Stratum	Approximate Depth to Bottom of Stratum (ft)	Material Description	Consistency/Density
		Silt, Silt with Sand	Dense

Average depth to groundwater encountered during the Carlton Engineering survey was 10 feet bgs, with historic groundwater ranging from 3 to 20 feet bgs. However, the Terracon study only encountered groundwater at depths of 5 and 9.5 bgs in only two of their borings. It is not known why groundwater was not encountered in the other borings. During percolation tests performed by Petralogix, groundwater was encountered at depths between 3 and 6.5 feet bgs (Petralogix, 2016). Groundwater conditions in the future could change due to rainfall, construction activities, irrigation, or other factors. However, a groundwater depth of no less than 3 feet bgs should be utilized for design purposes unless a more detailed groundwater study is performed (Terracon, 2016).

Based on their observations during subsurface exploration at the Lodi Energy Center Site, Carlton Engineering concluded that the collapse potential of soils beneath the site is anticipated to be low due to the shallow groundwater. They also concluded that future land subsidence due to groundwater pumping is anticipated to be low due to the proximity to the bay, relatively constant historic groundwater depth, and the proposed reuse of water from the WPCF rather than depletion of groundwater resources. The proposed expansion pond will further reduce the need for groundwater pumping, thus reducing the potential for subsidence. The Terracon study likewise concludes that settlement from the new embankments should be relatively minor and occur only as the embankments are being constructed. Like Terracon, Carlton Engineering additionally concluded that the potential for liquefaction is moderate, considering the relatively loose sandy soil and shallow groundwater conditions, and that landslide potential in the area is anticipated to be low due to the flat topography of the site.

Terracon conducted a seepage and slope stability analysis of the proposed pond embankments using computer models and utilizing the general criteria from the Urban Levee Design Criteria (ULDC), even though the pond embankments (levees) do not protect an urban area (Terracon, 2016). This provides a conservative estimate of slope stability. The proposed pond dimensions used in Terracon's preliminary analysis include embankments with waterside and landside slopes of 2 horizontal to 1 vertical, a crown width of 12 feet, a maximum internal pond embankments height of 9 feet above the pond bottom, and a maximum external pond embankments height of 6.5 ft above the existing ground surface. It is proposed that the pond embankments be constructed of compacted engineered fill obtained from the upper 2 feet of soil from the bottoms of the ponds. Although the levees are now proposed to be 10 ft above the pond bottom, the slopes are still 2 horizontal to 1 vertical, so this change should not significantly effect the slope stability analysis. A final geotechnical investigation will also be completed prior to construction.

Based on Terracon's analysis, seepage through the pond embankments is not likely to result in boils or cause significant stability problems. The exit gradient at the toe of the embankment is lower than the ULDC criteria for the embankment toe. Therefore, from a steady state seepage perspective, the pond embankments can be constructed as planned, in accordance with Terracon's recommendations. Some minor seepage through the embankments may occur shortly after construction. However, the amount of seepage should be relatively minor and slow down or stop after a short period of time as silt and

other material from the effluent water will tend to seal the inside of the pond embankment. Some seepage may occur through the bottom of the pond but this is not expected to surface in areas adjacent to the ponds. Seepage through the bottoms of the ponds will migrate vertically downward into the ground. The slope stability analysis revealed that the calculated factor of safety against a slope failure for steady state seepage static conditions is greater than the ULDC recommended factor of safety for levees. Therefore, from a slope stability standpoint, the pond embankments can be constructed as planned, in accordance with Terracon's following recommendations (Terracon, 2016).

In their report, Terracon presents recommendations for site preparation, excavation, subgrade preparation and placement of engineered fills on the project. Construction should include stripping and removing existing debris, vegetation, and other deleterious materials from the outline of the proposed embankments plus 5 feet beyond the proposed toe of the embankments. Exposed surfaces should be free of mounds and depressions, which could prevent uniform compaction. The area beneath the proposed embankments should be over-excavated to a depth of 3 feet below the existing ground surface. This may require local dewatering in order to reach the recommended depth and compaction. The exposed subgrade should then be scarified and compacted to the appropriate relative density. The exposed subgrade should then be scarified and compacted, and the over-excavated material should be placed and compacted as engineered fill. On-site soils may be used for pond embankment construction, but may need to be mixed with more clayey soils to meet the minimum Plasticity Index. Imported soils may also be used as engineered fill provided they meet the requirements provided by Terracon prior to construction (Terracon, December 2016).

It is anticipated that excavations for the proposed construction can be accomplished with conventional earthmoving equipment. Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively workable. The workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors. If unworkable conditions develop, workability may be improved by scarifying and drying. If the construction schedule does not allow for scarifying and drying by aeration in place, soil stabilization by the addition of chemical agents, such as cement or lime, may be required (Terracon, 2016). If soil stabilization is needed, Terracon should be consulted to evaluate the situation as needed.

All final grades must provide effective drainage away from the pond embankments during and after construction. Water permitted to pond next to the embankments can result in slope stability issues at the toes of the embankments. Stormwater runoff should be directed, collected, and discharged away from the embankments. A rigorous maintenance program should be planned to keep vegetation from growing on the sides of the embankment as well as controlling rodents burrowing into the embankments. Care should also be taken to not undercut the toes of the embankments during maintenance operations (Terracon, 2016). Excavations should be sloped or shored in the interest of safety following local and federal regulations, including current Occupational Safety and Health Administration (OSHA) excavation and trench safety standards (Terracon, 2016).

Terracon recommends additional testing be performed on the upper near surface soils for the final geotechnical engineering report to determine their suitability for use as embankment material. This site-specific geotechnical investigation will be completed for the Project to support project design and construction. The investigation will evaluate

specific areas that may be subject to liquefaction, lateral spreading, land-sliding, subsidence, and collapse. Standard design and construction techniques will then be used to mitigate the potential for damage. In addition, the construction will be completed per improvement plans and County of San Joaquin and City of Lodi design standards. The Project will be subject to applicable engineering and County and City code requirements, which would ensure that they are developed in a way that minimizes the possible effects of unstable soil. Therefore, the impact from potentially unstable soil due to pond construction is considered less than significant.

Regarding the construction of the pump station, Terracon discusses potential unstable soil conditions in their report (Terracon, December 2016; see Appendix D). The excavation for the pump station will extend to about 15 to 17 feet below the existing ground surface. Groundwater was encountered at a depth 5 feet bgs in boring B1 near the proposed pump station. Groundwater should be lowered to a depth of at least 3 feet below the bottom of the proposed pump station foundation. If the bottom of the excavation is still unstable after dewatering, then the excavation should be over-excavated another 12 inches and a geotextile should be placed in the bottom of the excavation, as well as 12 inches of 3⁄4-inch crushed gravel in order to stabilize it. The soils encountered in boring B1 consisted of sandy silt soils to a depth of 19 feet bgs. These soils varied in consistency from very soft to stiff. These soils will likely not be stable due to a relatively high moisture content. Since these soils will need to be sloped back to side slopes of between 1⁄2 to 1 (horizontal to vertical) and 2 to 1, this will require a fairly large excavation, which will be made with sheet piling to provide stable slopes. Lateral loads on the pump station walls should be designed for the at-rest condition since the walls will not deflect. Sheet pile walls should thus be designed to resist lateral soil pressures of 55 pcf for soils above the water table and 92 pcf for soils below groundwater. This value includes the hydrostatic pressure of groundwater. Excavations should be sloped or shored in the interest of safety following local, and federal regulations, including current OSHA excavation and trench safety standards.

In order to resist uplift/buoyant forces from groundwater, Terracon (December 2016) recommends the base of the pump station's foundation be extended horizontally to provide uplift resistance. The pump station should be designed to withstand buoyant forces assuming a groundwater depth of 3 feet below the existing ground surface. Backfill around the pump station should be compacted to a minimum of 95 percent relative compaction based on the maximum dry density, and the upper 5 feet of backfill should be compacted to a minimum of 90 percent relative compaction based on the maximum dry density. Terracon notes that inadequate compaction of the backfill can result in unacceptable settlement of the backfill that could damage pipes coming into or connected to the pump station.

The pump station foundation may be designed for an allowable bearing pressure of 2,500 pounds per square foot for dead plus live load. This value may be increased by 1/3 to account for wind or seismic forces. Buoyant forces may also be resisted by the friction created from the overburden soil weight against the concrete sides of the pump station or the steel sheet piling. Due to the stress relief from excavating 15 feet of soil, the anticipated total settlement of the pump station will be less than 1⁄2 inch. This should occur during construction. Given these results and the standard engineering and construction measures recommended by Terracon (December 2016), any unstable soil conditions at the pump station are considered to have a less than significant impact.

Terracon also analyzed potential unstable soil conditions regarding the 18-inch Tertiary

pipeline to be constructed (Terracon, December 2016; see Appendix D). An 18-inch diameter pipeline will extend from the new pump station east/northeast to the existing treatment facility as well as extending northwest beneath the west pond embankment. The pipeline will be 6 to 8 feet below the existing ground surface. Since groundwater will likely be encountered at a depth of about 3 to 5 feet bgs, it will be necessary to dewater the excavation to allow construction of the pipeline. Depending on the depth of groundwater, it may be possible to control the seepage with only a sump pump. However, if the excavation extends 1 to 2 feet below groundwater, the groundwater will need to be lowered to allow construction of the pipeline. A single stage well point system, where small diameter wells are installed by jetting, driving or boring methods, may be needed. Once the wells are installed they are connected to a manifold, which feeds to a large pump. Terracon recommends that the groundwater be lowered to at least 2 feet below the bottom of the excavation. If the bottom of the excavation is unstable, we recommend over-excavating the trench 6 to 12 inches, and placing 3⁄4-inch crushed gravel in the bottom to stabilize the trench bottom. If necessary to further stabilize the bottom of the trench, a geotextile, such as Mirafi RS289i, should be placed in the bottom of the trench prior to placement of the gravel. The pipe should then be placed and backfilled in accordance with City of Lodi standards.

Since sandy silt and silty sand soils were encountered within the upper 8 feet throughout the project site, it may be necessary to shore the pipeline trench excavation. The individual contractor(s) is responsible for designing and constructing stable, temporary excavations as required to maintain stability of both the trench excavation sides and bottom. Excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards. Given these results and the standard engineering and construction measures recommended by Terracon (December 2016), any unstable soil conditions encountered during pipeline excavation are considered to have a less than significant impact.

d) **Less Than Significant Impact**. Carlton Engineering's 2008 Geotechnical Feasibility Study for the adjacent Lodi Energy Center project concluded that expansive soils may be present on-site based upon their subsurface exploration. However, they anticipate that damage potential is low and can be mitigated using standard design and construction techniques. Based on the proximity to the proposed pond locations, the Project likely has the potential for expansive soils. Terracon predicts that subgrade soils exposed during construction are anticipated to be relatively workable. On-site fine-grained soils may pump or become unworkable at high water contents, and excavations of the existing ground may encounter difficulty from the high groundwater levels. The workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors.

If unworkable conditions develop, workability may be improved by scarifying and drying. If the construction schedule does not allow for these measures, soil stabilization by the addition of chemical agents, such as lime or cement, may be required (Terracon, 2016). If soil stabilization is needed, Terracon should be consulted to evaluate the situation as needed. The construction will be completed per improvement plans and County of San Joaquin and City of Lodi design standards. The Project will be subject to applicable engineering and County and City code requirements, which would ensure that they are developed in a way that minimizes the possible effects of expansive soil. In addition, since no structures are planned, the risk to life and property is minimal. This is a less than significant impact.

e) **No Impact**. The proposed Project will store effluent treated at the WPCF, and will not involve septic systems or the use of alternative wastewater systems. Even so, the soils at the project site have a low liquefaction potential, and seepage through the pond embankments is not likely to result in boils or slope stability problems. These soils are adequate to support pond and pond embankment construction, in accordance with Terracon's recommendations (Terracon, 2016). A geotechnical investigation will be completed for the proposed Project prior to design and construction, which will evaluate the capacity to store the treated wastewater.

VIII. Hazards and Hazardous Materials

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	■
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	■
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste 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 Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	■	☐
e.	For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	■	☐
f.	For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	■	☐
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
h.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	■

The Project involves the construction of a 70-acre expansion basin within the White Slough WPCF property boundary. The proposed expansion basin will store Title 22 tertiary treated effluent water in order to increase the agricultural water supply and decrease the need for groundwater pumping for irrigation.

a,b) **No Impact.** The proposed expansion pond would not involve the routine use, transport or disposal of hazardous material. The project does not produce hazardous material, the need for disposal of hazardous material or the potential accidental release of hazardous material; hazardous materials are not a part of this project.

c) **No Impact**. The project is not located within one-quarter mile of an existing or proposed school. The proposed project does not incorporate direct handling of hazardous materials or produce hazardous emissions.

d) **Less Than Significant Impact**. The project takes place within the boundary of the WPCF facility grounds. The project is not included in any hazardous materials sites compiled pursuant to Government Code Section 65962.5. In addition, two records requests were submitted with the San Joaquin County Environmental Health Department (EHD) on October 13, 2015 and October 21, 2015 requesting Hazardous Waste/Hazardous Materials information for all parcels located within the boundary of the WPCF, as well as properties immediately adjacent. The Department of Toxic Substances Control ENVIROSTOR website and the State Water Resources Control Board GeoTracker website were additionally reviewed for the site and adjacent parcels, in an attempt to identify hazardous materials that would create a significant hazard to the public or the environment. The parcels identified during this review are discussed below.

12751 N. Thornton Road (EHD Hazardous Waste Records)
This parcel is located within the WPCF boundary and contains the WPCF operational facility. Per EHD's Emergency Response Record, on September 17, 2013 5 gallons of waste oil stored in plastic containers were reported as abandoned under the I-5 freeway adjacent to the City-owned parcel located at 12751 N. Thornton Road. According to an employee at the WPCF, the containers of oil were abandoned approximately a week and a half prior. Per the Hazardous Materials Spill Report, dated September 17, 2013, the waste oil was contained upon EHD arrival, with no water involved, and the clean-up consisted of the abandoned waste oil being loaded for transport and disposed of at the Waste Accumulation Site into bulk storage drums on September 17, 2013. No apparent staining or obvious release of waste oil form the containers were observed from available photos included in the Incident Report. Based on the reported containment of waste oil with no apparent signs of release, the abandoned waste oil located adjacent to the WPCF is determined to have less than a significant impact.

The EHD records the facility (ID FA002212, San Joaquin County Mosquito & Vector Control) as having filed a Hazardous Materials Business Plan on January 23, 2014. The Plan only records one chemical onsite: an 85-gallon diesel above ground storage tank, with spill control equipment. No releases were noted; this is a less than significant impact.

Per an EHD Facility File, dated August 22, 1997, the facility (ID 007704, Noell Inc.) was registered with the Hazardous Waste Program (2200) as a Hazardous Waste Generator (category 50 to 250 tons), generating 63.37 tons of unspecified hazardous waste. According to an EHD file dated April 4, 1998, the facility is since inactivated as a Hazardous Waste Generator, and defined as a "one time generator" of Hazardous Waste generating greater than 50 and less than 250 tons/year. No files reviewed for the facility (ID 007704) reveal any fines or reports of incompliance pertaining to the generation of hazardous waste on record. This is a less than significant impact.

A Small Quantity Hazardous Waste Generator Facility Permit to Operate is listed on file for the White Slough Water Pollution Control Facility (ID FA0009474), valid January 1, 2014 to December 31, 2014. Invoices recording payments for Small Quantity Hazardous Waste Generation operations are reviewed for the following years, 2002, 2007 and 2008. Files reviewed for the facility (ID 007704) reveal the following Hazardous Waste Inspection Report dated June, 2010, with the following violations:

- Failed to completely label containers or tanks of hazardous waste
- Failed to keep containers of hazardous waste closed except when adding or removing hazardous waste.
- Stored hazardous waste onsite greater than 180 days
- Failed to keep signed copy of manifest for 3 years
- Failed to determine status of hazardous waste when manifest copy not received
- Failed to file an exception report
- Failed to store UW batteries in a closed container
- Failed to store UW lamps in a closed container
- Failed to label universal waste to identify type of waste
- Stored UW onsite for more than 1 year
- Failed to keep records of each shipment of universal waste
- Report of spilled oil on concrete loading dock, next to a used oil tank, amount unspecified

Photographs in connection with the inspection reveal the following hazardous waste onsite June 1, 2010:

- 1 250-gallon above ground storage tank labeled as containing waste oil
- Multiple 5-gallon buckets containing oil/waste oil, several without lids
- Several unlabeled 5-gallon buckets
- 4 55-gallon oil drums
- 1 5-gallon bucket containing Universal Waste batteries
- Approximately 40 Universal Waste Lamps, not stored in closed container
- Spilled oil on what appears to be a concrete loading dock

Return to Compliance for the Violations reported above was filed with EHD, recorded as completed on June 10, 2010. The return to compliance addressed the above violations; in addition, the Facility adopted a Spill Prevention, Control and Countermeasure Plan, indicating the site contains a minimum of 1,320 gallons of oil. No major releases to the environment were noted and the facility returned to compliance. Therefore, this is considered a less than significant impact.

12751 N. Thornton Road (EHD Aboveground Storage Tanks (ASTs) Records)
The site is registered with the Aboveground Petroleum Storage Act Program, with an inspection report dated June 1, 2010 stating there are three (one 4,000-gallon diesel, one 300-gallon used oil and one 605-gallon oil) above ground storage tanks located on-site, totaling 4,905 gallons. The site was found to be in violation of failing to prepare a written SPCC Plan in accordance with CFR Part 112. The map included in the inspection report shows the facility, with what appears to be the location (based on a hand circled area within the facility infrastructure) of ASTs in the northeastern section of the White Slough Facility, near Thornton Road. Based on the visible nature of ASTs and distance from the two proposed expansion pond locations, the ASTs are considered a less than significant impact.

12751 N. Thornton Road (EHD Underground Storage Tank Records)
According to EHD records reviewed, the site has a history of three USTs formerly located on-site. One 550-gallon diesel tank located near the City of Lodi Sewage plant, last used in 1970 and removed by a certified contractor in 1997; the tank had no visible leaks and

no odor was detected, however, no soil testing was reported. One 1,000-gallon diesel tank installed in 1968 and one 2,000-gallon diesel tank installed in 1977, both reportedly removed in 1989 by a certified contractor; the tanks were each located between the "offices and lab" and the sewage treatment plant. The removal contractor recorded both tanks were in good visible condition, with no leaks detected, and no detectable odor. Multiple soil samples were collected under each tank, as well as the pipes connected to the tanks, and analyzed for Total Petroleum Hydrocarbon (TPH) Diesel, Benzene, Toluene, Ethylbenzene, and Xylene (B-T-E-X). The lab results came back with no detectable limits for tested contaminants of concern, however, per a letter dated in 1993 from SJCEHD, the site is not eligible for closure, due to the laboratory detection limit of 0.025 mg/kg for B-T-E-X considered too high. Due to the location of the 1,000-gallon and 2,000-gallon former USTs, the reported good condition of tanks at time of certified removal and the non-detected laboratory results, the tanks are considered to be less than significant.

12745 N. Thornton Road (ENVIROSTOR Records)

Carlton Engineering, Inc. performed a Phase I Environmental Site Assessment (ESA), dated June 30, 2008, for the Lodi Energy Project, located at 12745 North Thornton Road, Lodi, California. The Lodi Energy Center project site is approximately 2.6 acres, located within San Joaquin County Assessor's Parcel Number 055-130-16, the parcel where the WPCF (12751 N Thornton Road) is located. The Lodi Energy Center Project site is located approximately 0.9 miles northwest of preferred western pond location and 800 feet southeast of previously proposed pond southeastern pond location. This assessment identified several environmental concerns. As a result, a Phase II ESA was performed by CH2M Hill, dated February 26, 2009. This investigation identified elevated concentrations of Polycyclic Aromatic Hydrocarbons (PAHs) and Organochlorine Pesticides (OCPs) in site soil. The City of Lodi subsequently entered the Department of Toxic Substances Control (DTSC) Voluntary Cleanup Program (VCP) to further evaluate site contamination, and request DTSC oversee any remedial efforts. Stantec performed a Preliminary Endangerment Assessment (PEA), dated November 2, 2009, submitted to DTSC, further evaluating constituent concentrations in site soil and their risk to human health. Stantec identified low concentrations of PAHs and OCPs in site soil, and upon consultation with CH2M Hill, discovered that the previously reported elevated concentrations were actually incorrectly reported. DTSC issued a No Further Action letter for the site on December 10, 2009. Based on the ENVIRSTOR records reviewed, no significant hazards from hazardous materials are identified at either of the two potential pond locations. In addition, soil sampling performed in 2009 did not find elevated PAHs or OCPs in site soil at a location approximately 0.9 miles northwest of proposed pond location #1 and 800 feet southeast of proposed pond location #2. It is not anticipated that hazardous materials are present at either site that would create a significant hazard to the public or environment. Also, the southeastern project site is no longer considered an option for development. Thus, this is a less than significant impact.

The available EHD and ENVIRSTOR records discussed above indicate the WPCF currently qualifies as a small quantity hazardous waste generator, with a valid operating permit, with no current violations on record. The WPCF reportedly contains enough oil to qualify for a Spill Prevention Control and Countermeasure Plan (1,320 gallons), recorded as complete as of 2010. There is a Hazardous Materials Business Plan in effect (for The San Joaquin County Mosquito & Vector Control) as of 2014, which addresses a registered 85-gallon diesel storage tank onsite. The records of aboveground and underground storage tanks for the site do not report any significant violations, hazards or potential

hazards in connection with the proposed expansion pond. Therefore, the information reviewed collectively for the parcels within the WPCF are interpreted to have a less than significant impact. In addition, records were reviewed for adjacent parcels. No hazardous materials impact was identified from any surrounding parcels.

The proposed unlined expansion pond would store tertiary treated, UV disinfected municipal wastewater that was previously discharged to the Delta during the winter months. This wastewater will be used to irrigate the on-site Agricultural Fields during irrigation season (April – September). Secondary treated wastewater, treated to lower quality than the tertiary treated wastewater, is already stored in the four existing on-site unlined ponds during the winter months, and applied to the surrounding Agricultural Fields during irrigation season. As discussed in Section VIII – Hydrology and Water Quality, West Yost's 2015 BPTC study concludes that the current on-site storage and application of secondary treated wastewater at the WPCF is not the source of background exceedance of COCs. Therefore, it is not expected that the tertiary treated wastewater stored in the additional proposed expansion pond and applied to surrounding land will violate any water quality standards or waste discharge requirements, or present a hazard to the public or environment; the impact is less than significant.

e,f) **Less than Significant Impact.**. The proposed project lies within the Kingdon Executive Airport's Area of Influence (AIA) identified in the San Joaquin County Airport Land Use Compatibility Plan (ALUCP) (Figure 11) California law defines the area of influence as the "area where airport-related factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission." According to the State Division of Aeronautics, AIA is usually the planning area designated by an airport land use commission for each airport. Moreover, the ALUCP states, "The AIA indicates those areas in which current or future airport-related over-flights, noise, safety, or airspace protection conditions may significantly affect land uses and may require land use restrictions to address those conditions. The airport influence area indicates the area within which the Airport Land Use Commission (ALUC) review of certain land use actions is required" (Wallace Environmental Consulting, Inc.).

California State Aeronautics Act, Public Utilities Code Sections 21670 – 21679.5. Article 3.5 outlines the statutory requirements for ALUCs, including the preparation of an ALUCP. In February 2016, the City of Lodi met with ALUC staff to discuss the proposed expansion pond and to more fully understand the ALUC consistency determination guidance. The ALUC staff deferred any decisions until a full set of environmental and planning documents were available, but inferred that the ultimate land use decision could be made by the City. Wallace Environmental Consulting, Inc. prepared a report (included in Appendix E) to assess whether construction and operation of the expansion pond is a compatible land use with Kingdon Air Park in accordance with guidelines established in the San Joaquin County Airport Land Use Compatibility Plan, and whether the expansion pond will act as a wildlife attractant that increases the number of birds within the airport's Area of Influence.

The Kingdon Executive Airport is a private airport with public access. The one runway located at the Kingdon Executive Airport, oriented northwest/southeast and measuring 3,705 feet in length and 60 feet in width, is located approximately 3,100 feet east of the closest point on the Southeast Pond and 8,100 feet east of the closest point on the Northwest pond. The Southeast Pond is located within Zone 8 (AIA) of the Kingdon Executive Airport and within the 5,000 ft separation distance for wildlife attractants

recommended by federal guidance for airports serving piston powered aircraft (Figures 11 and 12). This Southeastern site was not recommended for an expansion pond based on its proximity to the airport. Since this recommendation was made, the Western Expansion Pond site has been chosen as the site to be developed. The proposed Northwest Pond construction site is also located within Zone 8 (AIA) of the Kingdon Executive Airport, but is not within the 5,000 ft separation distance for wildlife attractants, as shown in Figure11 and 12. In 2015, the Kingdon Air Park reported about 8,000 annual operations (takeoffs and landings). The long-range forecast for anticipated annual aircraft operations is 84,500, although no data or analytics are provided to determine when or how these operational numbers are expected to occur (Wallace Environmental Consulting, Inc.).

None of the tracks created by aircraft when arriving, departing or during pilot training, including touch-and-go tracks, cross over the preferred alternative WPCF expansion pond location, but they do cross over the existing WPCF ponds. Based on normal aircraft operations, most aircraft are probably at an altitude of 800 to 1,000-feet when they pass over the existing WPCF ponds (Wallace Environmental Consultants, Inc.).

Most federal aviation land use guidelines for development within the vicinity of an airport address impacts caused by aircraft noise or the construction of objects that penetrate federally regulated airspace. In the case of the WPCF expansion ponds, neither of these general conditions is at issue. At the WPCF the central land use issue is the construction of an infill expansion pond and the potential creation of a wildlife attractant – a new body of water.

Federal guidance for assessing potential wildlife attractants near an airport is found in FAA Advisory Circular (AC) 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports*. One purpose of the AC is to provide guidance regarding certain land uses that have the potential to attract hazardous wildlife on or near public use airports such as Kingdon Air Park. The ALUCP incorporated the AC into the ALUCP by stating, in part, “Projects having the potential to cause attraction of birds or other wildlife that can be hazardous to aircraft operations to be increased within the vicinity” should be assessed in “accordance with Advisory Circular 150/5200-33B, H*azardous Wildlife Attractants On or Near Airports*” (Wallace Environmental Consultants, Inc.).

According to a letter dated November 10, 2015 from the San Joaquin Council of Governments, acting as the Airport Land Use Commission (ALUC), the project is subject to a Consistency Determination (in accordance with the ALUCP) by the San Joaquin County ALUC based on the Project location within the Kingdon Airport’s area of influence. The letter additionally states that any environmental document should contain a consistency analysis of the proposed land uses relative to the ALUCP zones for Kingdon Airport, particularly as they relate to the potential for increased attraction of birds.

However, Kingdon Air Park is not a federally obligated airport; it is not eligible for federal airport improvement grants and is not part of the National Plan of Integrated Airport Systems. Therefore, the FAA has no authority to review and comment on land use issues that may be examined for Kingdon Air Park in accordance with AC 150/5200-33B. While the ALUC has used guidance in the AC as part of its review process for wildlife attractants, the FAA is not a statutory or volunteer reviewing agency (Wallace Environmental Consultants, Inc.). Nevertheless, the City of Lodi submitted FAA Form 7460-1, Notice of Proposed Construction or Alteration, via mail to the FAA Western-Pacific Regional Office and the FAA San Francisco Airports Division Office on November 19, 2015, and via an

electronic Off Airport case on December 1, 2015, as notification of the proposed project. A hazard determination by the FAA was anticipated within 45 days of the electronic submission. Although the FAA has no authority to review, their determination indicated that there was no hazard associated with their review. The letters are included in Appendix E.

It is also important to note that even though the entirety of the WPCF lies within the Kingdon Air Park AIA, the ALUC has no authority to command changes to land uses that are existing or vested, regardless of whether they are incompatible with airport activities. The City of Lodi General Plan (as of April 2010) has designated the WPCF as a Public/Quasi-public land use since the mid-1960's. According to the California Airport Land Use Planning Handbook, the WPCF is considered an existing use and has a vested right to construct treatment facility improvements. Moreover, where development that does not conform with the criteria in the ALUCP already exists, additional infill development of similar land uses, such as the proposed Project, may be allowed to occur even if such land uses are prohibited elsewhere in the zone. However, since the WPCF is located within the ALUCP area of influence for the Kingdon Air Park, the ALUC may initiate a consistency determination review due to the prohibition of land use that may cause an increase in the attraction of birds (Wallace Environmental Consultants, Inc.).

General hazards to be considered in a consistency analysis include:

- Visual hazards, including tall buildings, distracting lights, glare, sources of dust, steam or smoke;
- Electronic hazards that may cause interference with aircraft communications and/or navigation;
- Hazards to aircraft in flight.

The Project involves the construction of a treated effluent storage pond. No tall buildings, sources of light, steam, smoke or electric hazards are associated with the proposed Project. However, it is important to note pre-existing structures that may be viewed as a potential hazard to aircraft in the vicinity of Kingdon Air Park.

Regarding electric hazards, an overhead high voltage (230 kV) dual electrical transmission line traverses the WPCF from north to south and is the eastern boundary of the proposed expansion pond (Figure 13). The transmission line is approximately 100-feet tall and about 8,100-feet west of Kingdon Air Park, it is at the western limit of flight tracks shown on ALUCP, Exhibit AKA- 1. High voltage power transmission lines pose peculiar hazards to low flying aircraft and the FAA specifies that such structures be marked and lighted. Aircraft operating over or near the transmission lines are typically at an altitude of 800 to 1,000 feet, so there is little threat of electrical interference with communication and navigation devices (Wallace Environmental Consultants, Inc.).

Regarding existing hazards associated with steam or smoke, in 2012 the California Energy Commission and Northern California Power Agency constructed a natural gas-fired 255-megawatt power generation facility with an evaporative cooling system on about 4.5-acres of the WPCF. The power plant emits thermal plumes in the form of steam generated by its cooling towers. Although the FAA as found that thermal emission is not likely to pose a threat to aircraft, it is recommended that aircraft maintain a vertical separation of 1,000 feet above such facilities. This is the existing vertical separation distance for aircraft using designated Kingdon Air Park flight tracks, so the power plant

has a less than significant impact on aircraft (Wallace Environmental Consultants, Inc.).

Regarding existing wildlife hazards, San Joaquin County Mosquito and Vector Control District operates the White Slough Mosquitofish Rearing Facility on the WPCF property. The district operates about 8 acres of rearing ponds for mosquitofish (*Gambusia affinis*), which produce several thousand pounds of fish annually. The ponds attract a variety of bird species including herons and egrets, which feed on the mosquitofish in the shallow rearing ponds (Wallace Environmental Consultants, Inc.).

These structures and facilities are already in existence and currently do not pose any notable threat to air-traffic safety for any of the reasons in the consistency analysis components listed above. They do not affect the proposed project or any associated future hazards.

During Project construction, dust may be generated. However, this will be temporary and mitigated by Air Quality Mitigation 2 (Section III – Air Quality). Therefore, the main hazard of concern is hazard to aircraft in flight due to the potential for increased attraction of birds.

According to the AC the first step towards evaluating the potential for wildlife hazards within the vicinity of an airport is to determine the separation distance (in linear feet) from the airport to a potential wildlife attractant. Following federal guidance in the AC, the minimum separation distance for wildlife attractants from Kingdon Air Park is 5,000 feet. The Kingdon Air Park does not service aircraft that would require a greater separation distance from wildlife attractants, and the ALUCP does not establish any more stringent requirements for special land uses (Wallace Environmental Consultants, Inc.). The Kingdon Air Park area of influence Zone 8 encompasses the WPCF (Figure 11). Among the land use restrictions in Zone 8 are hazards to flights, most notably land use and development that may cause an increased attraction to birds. The reasoning is that if an increase in the number of birds attracted to a new body of water is greater than the number of birds attracted to an existing body of water, then there may be an increase in hazard to aircraft using the Kingdon Air Park (Wallace Environmental Consultants, Inc.).

The City of Lodi General Plan designates the WPCF as “Industrial” and the surrounding City-owned agricultural fields where the expansion pond is proposed as “Public/Quasi-Public”. The Project proposes the construction of a 70-acre expansion pond within the City of Lodi’s WPCF boundary for storage of tertiary treated wastewater; this is in accordance with current land use at the Project site. The proposed expansion pond would be located within one mile of four existing on-site treated effluent storage ponds. The proposed project site also does not lie within the 5,000 ft minimum distance separation for wildlife attractants. The addition of the new treated effluent storage ponds is not anticipated to significantly attract hazardous wildlife in the area.

Bird observations at the WPCF and the mosquito abatement ponds, conducted by a qualified airport wildlife biologist with Wallace Environmental Consulting, Inc., are considered to be representative of a given year, since observations were conducted seasonally over a one year period. These observations were unobstructed because of the open nature of the facility. A total of about 6,445 birds were observed over the course of four observation periods either on or in the vicinity of the existing ponds. These numbers are consistent with regional bird counts, indicating that the California Delta and the Sacramento and San Joaquin Valleys offer wintering habitat to migratory bird species along the Pacific Flyway.

Over the course of eight days, about 805 individual birds were observed each day. Extrapolating this to a one-year period, about 294,000 birds visit the ponds annually. Since the existing ponds occupy about 50-acres, there are about 5,875 bird visits per acre of pond surface per year (Wallace Environmental Consultants, Inc.). However, since the proposed infill expansion pond will be operated only 10 months of the year and be dry in July and August, the actual number of birds likely to be attracted to the ponds is less than if they were used year-round. Thus, based on 70-acres of new ponds operating 10 months of the year, the estimated number of annual bird visits is probably about 411,000, which is offset by the number of birds already visiting the 70-acres of agricultural land. Over the course of the eight days, 460 birds were observed each day in the fields. If extrapolated to a one-year period, about 167,000 birds currently visit the 70-acres of agricultural land to be replaced by the ponds each year. This equates to about 2,400 bird visits per acre of agricultural fields (Wallace Environmental Consultants, Inc.).

Extrapolating 2,400 bird visits per acre per year over the 7,481 acre Kingdon Air Park AIA yields a total of about 17,954,000 annual bird visits. At the WPCF, the increase in annual bird visits could be around 243,100. From this it is projected that the infill expansion pond acts as a minor bird attractant within the area of influence, representing only about a 1.35% increase in total birds attracted to the AIA. Regardless of the time of day or time of year, most birds move from the Delta into the agricultural fields (west to east) that lie east of the WPCF, or from the fields back into the Delta. Such bird movements indicate that the Kingdon Air Park AIA is an active and attractive habitat for many species of birds. Typically, birds will fly at altitudes between 300 and 500 ft, but birds crossing the Delta without using the WPCF habitat may travel at altitudes as high as 3000 ft. These types of flights are high enough to encounter aircraft from Kingdon Air Park, which are usually at altitudes between 800 and 1000 ft when crossing over the existing WPCF ponds (Wallace Environmental Consultants, Inc.). However these flight elevations would not likely be associated with loafer birds. Considering the relatively minimal increase of 1.35% increase in total birds attracted to the area due to the ponds, and also considering the height of bird flights in the pond area (being relatively low – less than 1,000 feet in general), it is concluded that the construction of the proposed expansion ponds will not likely impact that safety of air travel. In addition, the additional hazards associated with existing site use, power plant, and power lines should void any flight patterns from areas where loafer birds would be considered to have this minimal increase, and be present.

Therefore, considering the existing use, the historic permitted use for this type of project, overall reduced flight pattern to avoid current power lines and existing structures, and the very minimal overall increase in bird use, this is considered to be **less than significant**.

g) **No Impact**. The Project involves the construction of a 70-acre expansion pond within the White Slough WPCF property boundary. The Project will not interfere with road access, adopted emergency response plan or emergency evacuation plans for safety vehicles or personnel. No impact is expected.

h) **No Impact**. The Project is located within agricultural land use. The Project will not expose people or structures to a significant risk of loss, injury or death involving wildland fires. No impact is expected.

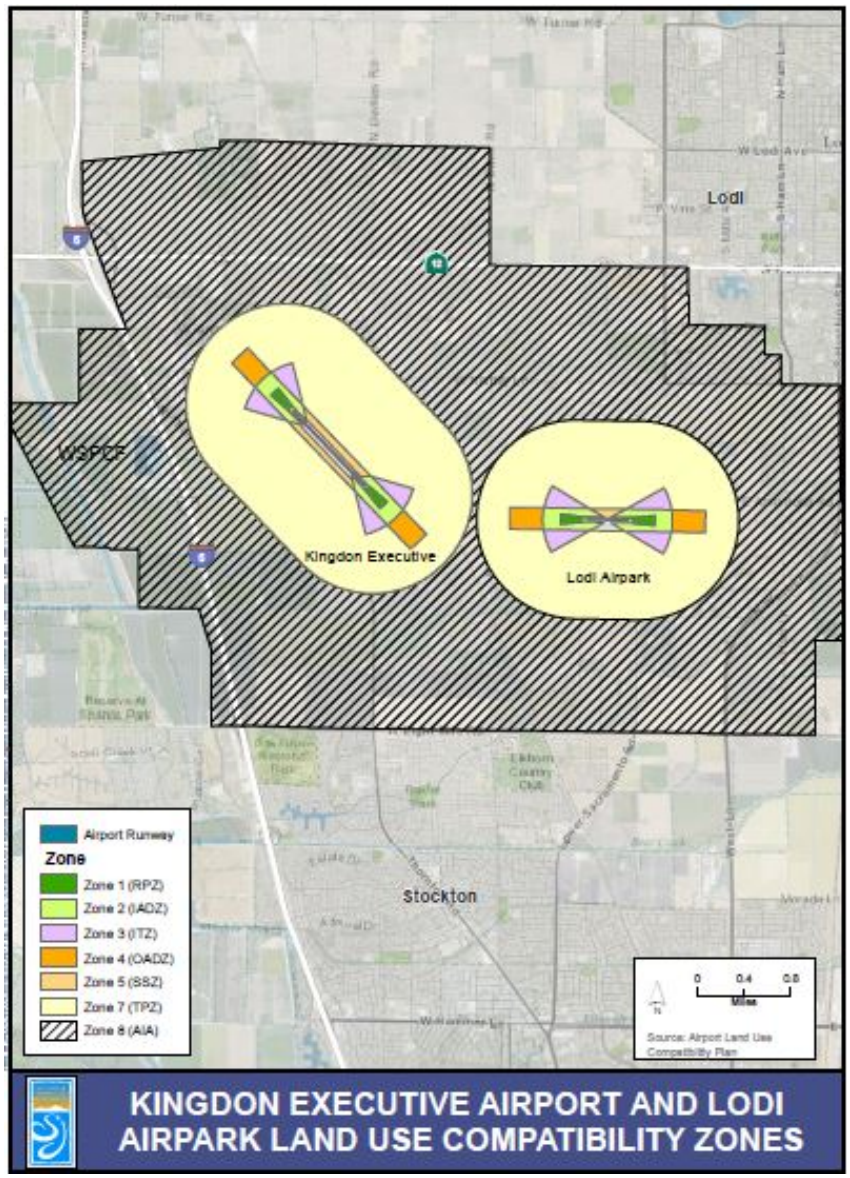


Figure 11 - Airport Land Use Compatibility Zones

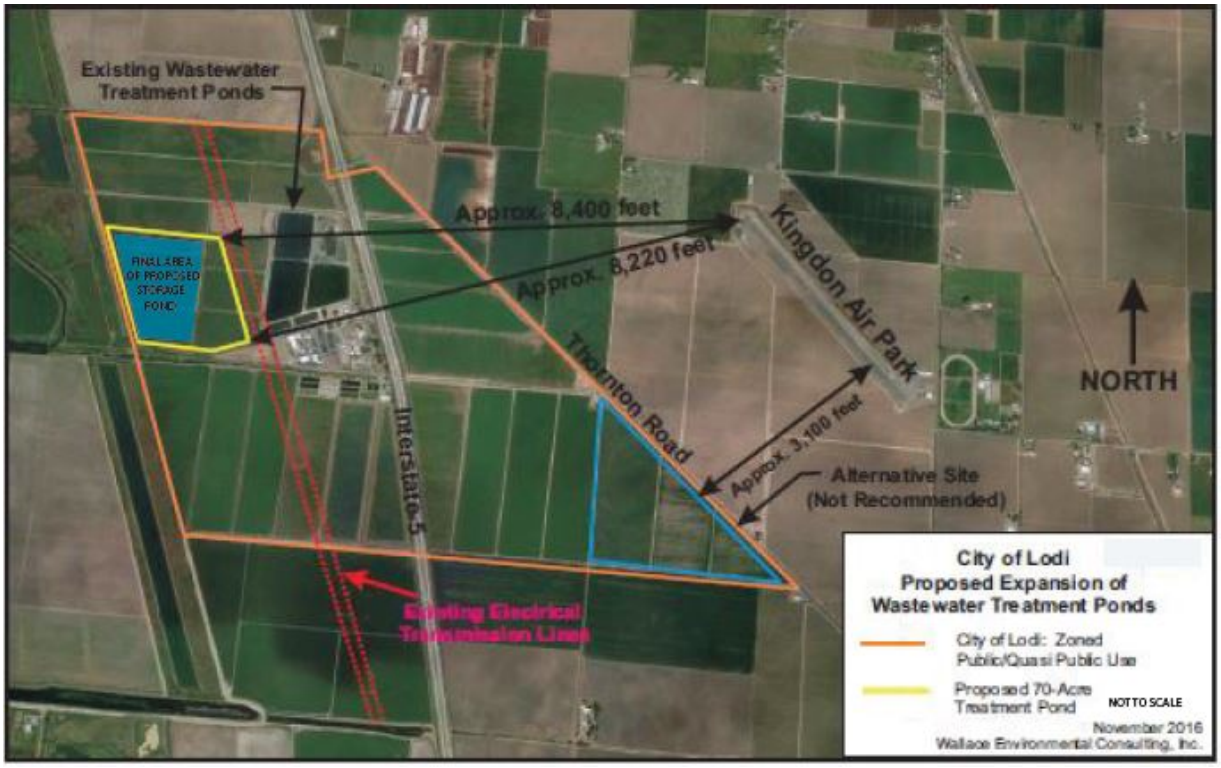


Figure 12 - Distance of Proposed Ponds from Air Parks

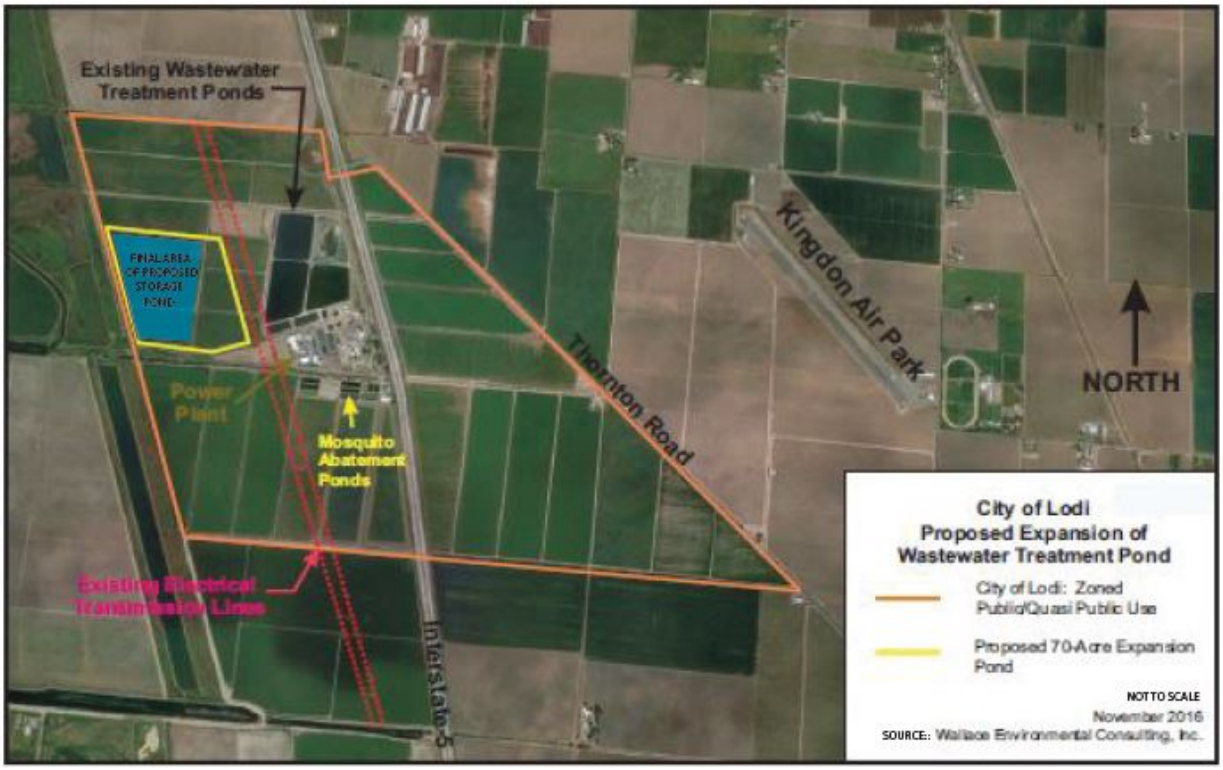


Figure 13 - Locations of Existing Potentially Hazardous Structures

IX. Hydrology and Water Quality

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	■
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	■	☐
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	■	☐
e.	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?	☐	☐	■	☐
f.	Otherwise substantially degrade water quality?	☐	☐	■	☐
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	■
h.	Place within a 100-year floodplain structures which would impede or redirect flood flows?	☐	☐	■	☐
i.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	■
j.	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

During non-irrigation months (generally October through mid-April), the WPCF discharges an average of approximately 3.5 million gallons per day (MGD) of tertiary treated wastewater to Dredger Cut, a dead-end slough of the Sacramento-San Joaquin Delta (Delta). During the irrigation months (generally mid-April through the end of September), the City discharges a similar amount of recycled water (approximately 3.5 MGD) to existing onsite storage ponds and/or the 790-acre City-owned agricultural fields that surround the WPCF. Irrigation water

demands for the City-owned properties are also met by groundwater pumping from a dedicated onsite well (Figure 5) (West Yost, 2016).

The City intends to construct improvements necessary to capture and store a portion of the flow that is currently discharged to Dredger Cut in the non-irrigation months and use this water to reduce, or eliminate, the amount of groundwater used for irrigation on City property. The City also intends to expand the existing City-owned recycled water irrigation system to include an additional 90 acres of City-owned land that is currently irrigated solely with groundwater (Figure 2) (West Yost, 2016).

According to the Preliminary Design of the White Slough Water Pollution Control Facility Storage Expansion and Surface, Agricultural, and Groundwater Supply Improvement Project Technical Memorandum (included in Appendix F), the Project proposes the construction of a 70-acre expansion pond, consisting of four ponds, within the WPCF boundary (Figure 4). The expansion pond would have an approximate storage capacity of 388 acre-feet for tertiary treated wastewater. The proposed expansion pond would be located within approximately 1,100 feet west of four existing on-site ponds that are currently used to store secondary treated wastewater prior to using it for irrigation of the 790 acres of surrounding City-owned agricultural fields. The tertiary treated wastewater would also be used to irrigate the surrounding City-owned agricultural fields, decreasing discharge to the Delta and the need for groundwater pumping for irrigation.

Based on a preliminary Surface Pond Percolation Study, the unlined ponds are anticipated to have an annual percolation to groundwater rate of up to 29 to 51 million gallons per year after correction for siltation and bio-buildup (Appendix G) (Petralogix, 2016). The construction will take place on City-owned agricultural land within the boundaries of the WPCF, and not within county road ditches or waterways. Construction impacts will be temporary and best management practices will be in place. The Project will include the preparation of a Stormwater Pollution Prevention Plan (SWPPP) to reduce construction impacts to water ways and sources.

a) **Less Than Significant Impact**. The Central Valley Water Board adopted Waste Discharge Requirements Order R5-2007-0113, dated September 14, 2007, prescribing waste discharge requirements for the White Slough WPCF. Order R5-2007-0113 allows year-round discharge of tertiary treated, UV disinfected municipal wastewater to Dredger Cut (Delta waters) and allows for irrigation reuse on the City-owned agricultural properties Generally the facility only discharges to the Delta from October through mid-April. During irrigation season (April – September), undisinfected secondary treated municipal and industrial wastewater are pumped to four existing on-site unlined storage ponds and then used to irrigate 790 acres of surrounding City-owned agricultural fields. During the majority of the year, agricultural and storm water runoff comprise the majority of flow to the industrial collection system; only about ten percent is comprised of industrial process water flow. During the canning season (typically mid-June through the end of September), flows to increase to approximately 1.0 MGD, and are comprised primarily of process water from a fruit processing facility. These flow are blended with treated municipal effluent prior to application to direct application to the agricultural fields. During the remainder of the year, the industrial collection system flows are stored in the four unlined storage ponds, where they are blended with agricultural tailwater, storm water runoff, and treated municipal effluent until land application is possible during the following year.

In February 2012, the City submitted a Report of Waste Discharge (RWD) to renew Order R5-2007-0113 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079243 to regulate discharges to Dredger Cut, discharges to land, and water reclamation. In the RWD, the City requested separate permits to be issued by the Central Valley Water Board for the surface water (Dredger Cut) and land (Agricultural Fields) discharges. The Central Valley Water Board approved the request, and on October 4, 2013, the Central Valley Water Board adopted Waste Discharge Requirements Order R5-2013-0125 (NPDES Permit No. CA0079243), which allows year-round discharges of tertiary treated, UV disinfected municipal wastewater to Dredger Cut, and amended Order R5-2007-0113 with Order R5-2007-0113-001 to remove all NPDES permitting requirements to now only regulate the discharges to land and reclaimed water uses.

Order R5-2007-0113-001 includes several updates to land discharge requirements, one of which is updating the antidegradation findings and submittal of a Best Practicable Treatment or Control study for the land discharges to the Agricultural Fields. In accordance with Order R5-2007-0113, groundwater monitoring has historically been performed at the WPCF, with monitoring results submitted to the Central Valley Regional Water Quality Control Board. The City has a groundwater monitoring well network at the facility, currently consisting of 21 groundwater monitoring wells. Depth to groundwater ranges from just a few feet bgs in the westernmost monitoring wells to greater than 30 feet bgs in the eastern monitoring wells. Based on historical monitoring results, the Central Valley Water Board concluded in amended Order R5-2007-0113-001 that adequate evidence was not available to determine if the land application activities could be a threat to groundwater quality. To determine compliance with Groundwater Limitations contained in the Order and to evaluate whether the City is meeting Best Practicable Treatment or Control (BPTC) in accordance with the Antidegradation Policy, the amended Order R5-2007-0113-001 required that the City continue to fully characterize background groundwater and complete a BPTC Evaluation.

In January 2015, West Yost Associates (West Yost) prepared a BPTC Evaluation report on behalf of the City for the WPCF, in accordance with Special Provision VI.C.5.a of amended Order R5-2007-0113-001. The purpose of the report is to evaluate existing BPTCs and determine whether additional BPTCs are needed for each of the waste constituents of concern (COCs). This is accomplished by first presenting an analysis of COCs for which degradation from the WPCF is possible. COCs are defined as the water quality parameters that have been demonstrated in onsite wells to exceed background groundwater quality. Additional BPTCs are necessary if the COC concentrations in the onsite wells exceed both the background levels and the applicable Water Quality Objectives (WQOs) *and* the existing WPCF practices are expected to be the cause of the background exceedance. However, given the high level of treatment and control at the site, the existing BPTCs are considered adequate for COCs where either the onsite concentrations are at or below WQOs or there are no applicable WQOs.

To identify COCs at the facility that may require additional BPTCs, West Yost analyzed data from the City's groundwater monitoring well network at the facility. Analyzed onsite concentrations, background concentrations, and applicable WQOs are included in Table 5 below. Constituents that were identified as exceeding both background levels and the water quality objectives, thus potentially requiring additional BPTCs are indicated by bold, italicized text.

Table 5. Groundwater Quality Data
Source: West Yost Associates, BPTC (2015)

Constituent of Concern	Units	Background Monitoring Wells(1)	Onsite Monitoring Wells	Water Quality Objective
Boron	mg/l	0.073-0.15	0.084-0.45	0.7
Chloride	***mg/l***	***12-97***	***38-160***	***106***
Iron (dissolved)	mg/l	<0.017-0.33	<0.017	0.3
Lead (dissolved)	µg/l	<1.4	1.4-1.8	15
Mercury	ng/l	NA(2)	NA(2)	2,000
Manganese (dissolved)	***µg/l***	***<0.17-275***	***<0.17-1,150***	***50***
Sodium	mg/l	20-175	65-205	69
Sulfate	mg/l	11-160	22-205	250
Electrical Conductivity	µmhos/cm	665-1,640	765-1,760	700
Total Dissolved Solids	mg/l	405-1,100	492-1,255	450
Ammonia as N	mg/l	0.11-0.31	0.15-0.27	1.2
Nitrate as N	***mg/l***	***1.4-31***	***5.5-48***	***10***
Nitrite as N	mg/l	<0.011-<0.042	<0.027-<0.042	1
Nitrate + Nitrate as N	mg/l	1.4-31	5.5-48	10
Total Coliform Organisms	MPN/100 ml	<2.2	<2.2	2.2[1]
Bromoform	µg/l	<0.085	<0.085	80
Chloroform	µg/l	<0.060	<0.060-<0.18	80
Chlorodibromomethane	µg/l	<0.081	<0.081	0.41
Dichlorobromomethane	µg/l	<0.081	<0.081	0.56
Fixed Dissolved Solids	mg/l	330-940	390-950	450
Fluoride	mg/l	0.13-0.285	0.047-0.27	1
Alkalinity, Total	mg/l	220-620	305-545	N/A
pH	Std Units	7.2-7.4	6.8-7.3	6.5-8.5
Bromide	mg/l	<0.071-1.4	<0.080-2.4	NA
Calcium	mg/l	63-100	80-130	NA
Hardness	mg/l	285-560	350-590	NA
Phosphorous	mg/l	0.084-0.76	0.058-0.88	NA
Potassium	mg/l	0.46-2.7	0.69-13	NA
Magnesium	mg/l	30-50	36-65	NA
Total Kjeldahl Nitrogen	mg/l	<0.035-0.33	<0.035-0.13	NA
Molybdenum	mg/l	NA(2)	NA(2)	NA

(1) Range of individual median values for background wells (WSM-16, WSM-17, WSM-18, and WSM-19), based on quarterly data for 2013 through 2014.

(2) Order R5-2013-0125 (and the preceding permit) does not require groundwater monitoring for mercury and molybdenum.

NA – Data Not Available

Based on a background groundwater study and identified on-site well exceedances, additional BTPCs were considered for Chloride, Manganese, and Nitrate.

A review of on-site and nearby Chloride sources indicated that the WPCF is not the source of on-site Chloride background exceedances. Rather, other regional processes such as regional groundwater pumping and historical intrusion of brackish to saline water are the suspected cause of the exceedances. For Manganese, it was determined that naturally occurring anoxic conditions related to the presence of Guard soils are the cause of current on-site background exceedances. For Nitrate, a nearby dairy farm and other previously impacted activities unrelated to the current WPCF operations are likely the cause of on-site background exceedances. Based on these findings, West Yost concluded that the on-site application of secondary treated water at the WPCF is the not the source of current background exceedances of COCs. Furthermore, the City of Lodi has already implemented and continues to implement numerous BPTCs to manage loading of COCs to groundwater. Therefore, the WPCF is in compliance with the Antidegradation Policy, and additional BPTCs were not recommended.

The proposed unlined expansion pond will store tertiary treated, UV disinfected municipal wastewater that was previously discharged to the Delta during the winter months. This wastewater will be used to irrigate the on-site Agricultural Fields during irrigation season (April – September), thereby reducing groundwater pumping for irrigation. The stored wastewater will be treated, stored, and land applied in accordance with amended Order R5-2007-0113-001. Secondary treated wastewater, treated to lower quality than the tertiary treated wastewater, is already stored in four existing on-site unlined ponds during the winter months, and applied to the surrounding Agricultural Fields during irrigation season.

A comparison of the WPCF tertiary water quality to the water quality in the onsite wells, the background wells, and the WQOs is provided in Table 6. The average tertiary effluent concentrations shown are based on data collected from 2009 through 2011 under Order R5-2007-0113. More recent tertiary effluent data for most of these constituents is not required to be collected under the renewed permit until 2017 or 2018. Nevertheless, the 2009 through 2011 is considered to be representative of the City's current tertiary effluent.

As shown in Table 6, concentrations of COCs in the tertiary effluent are at or below background levels and all applicable WQOs. West Yost's 2015 BPTC study concluded that the current on-site storage and application of secondary treated wastewater at the WPCF is not the source of background exceedance of COCs. Therefore, it is not expected that the tertiary treated wastewater stored in the proposed expansion pond, treated to a higher quality than the already applied secondary treated wastewater, will violate any water quality standards or waste discharge requirements if applied to surrounding land.

Table 6. Comparison of Tertiary-Treated Effluent Water Quality to Groundwater Quality Data
Source: West Yost Associates, BPTC (2015) and West Yost Associates, RWD (2011)

Constituent of Concern	Units	Background Monitoring Wells	Onsite Monitoring Wells	Tertiary Level Treatment (2009-2011)	Water Quality Objective
Boron	mg/l	0.073-0.15	0.084-0.45	0.18	0.7
Chloride	mg/l	12-97	38-160	64	106
Iron (dissolved)	mg/l	<0.017-0.33	<0.017	0.059	0.3
Lead (dissolved)	µg/l	1.4	1.4-1.8	<0.23[3]	15
Mercury	ng/l	NA	NA	1.9	2,000
Manganese (dissolved)	µg/l	<0.17-275	<0.17-1,150	18	50
Sodium	mg/l	20-175	65-205	71	69
Sulfate	mg/l	11-160	22-205	26	250
Electrical Conductivity	µmhos/cm	665-1,640	765-1,760	673	700
Total Dissolved Solids	mg/l	405-1,100	492-1,255	416	450
Ammonia as N	mg/l	0.11-0.31	0.15-0.27	0.4	1.5
Nitrate as N	mg/l	1.4-31	5.5-48	5.9	10
Nitrite as N	mg/l	<0.042	<0.027-<0.042	0.20	1
Nitrate + Nitrate as N	mg/l	1.4-31	5.5-48	6	10
Total Coliform Organisms	MPN/ 100 ml	<2.2	<2.2	<2	2.2[1]
Bromoform	µg/l	<0.085	<0.085	<0.10	80
Chloroform	µg/l	<0.060	<0.060-<0.18	0.28	80
Chlorodibromomethane	µg/l	<0.081	<0.081	<0.16	0.41
Dichlorobromomethane	µg/l	<0.081	<0.081	<0.18	0.56
Fixed Dissolved Solids	mg/l	330-940	390-950	NA	450
Fluoride	mg/l	0.13-0.285	0.047-0.27	0.57	1
Alkalinity, Total	mg/l	220-620	305-545	NA	N/A
pH	Std Units	7.2-7.4	6.8-7.3	6.7	6.5-8.5
Bromide	mg/l	<0.071-1.4	<0.080-2.4	NA	NA
Calcium	mg/l	63-100	80-130	NA	NA
Hardness	mg/l	285-560	350-590	NA	NA
Phosphorous	mg/l	0.084-0.76	0.058-0.88	NA	NA
Potassium	mg/l	0.46-2.7	0.69-13	NA	NA
Magnesium	mg/l	30-50	36-65	NA	NA
Total Kjeldahl Nitrogen	mg/l	0.035-0.33	<0.035-0.13	2.2	NA
Molybdenum	mg/l	NA	NA	NA	NA

(1) Range of individual median values for background wells (WSM-16, WSM-17, WSM-18, and WSM-19), based on

quarterly data for 2013 through 2014.
(2) Average concentration based on 2009-2011 data, except as noted
(3) Dissolved lead data not available for tertiary effluent. Total lead data presented instead.

The existing groundwater monitoring network at the WPCF and surrounding area, and the quarterly groundwater monitoring performed in accordance with the Monitoring and Reporting Program (MRP) established by the Central Valley Water Board in amended Order R5-2007-0113-001 allows for monitoring of COCs at the facility. Quarterly groundwater monitoring will continue in accordance with the MRP.

Waste Discharge Requirements Order R5-2013-0113 allow year-round discharges of tertiary treated, UV disinfected municipal wastewater to Dredger Cut. The Project will reduce the volume discharged to Dredger Cut by approximately 160 to 210 million gallons per year. Flow will be diverted from Dredger Cut at a rate of approximately 1,500 to 1,700 gallons per minute over an approximate 75 to 90-day period between October 1 and May 31 of each year. Table 7 provides a summary of the recent volumes of discharge, along with estimates of potential discharge volumes under varying conditions. Actual discharge volumes will depend on when diversion to the new storage facilities occurs. For the analysis presented in Table 7, it is assumed that the majority of diversions occur in the October-November timeframe.

Table 7. Potential Flows Discharged to Dredger Cut from the White Slough WPCF Existing and Proposed Conditions

Month	Current Volume Discharged (2014 -2015 Average), Million Gallons	Average Anticipated Volume Discharged After the Project is Implemented[1], Million Gallons	Minimum Volume Discharged After the Project is Implemented[2], Million Gallons
January	109	103	95
February	93	91	89
March	56	73	45
April	62	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	8	8
November	129	41	41
December	128	103	85
Total	**576**	**418**	**363**

1. Based on average year rainfall
2. Based on rainfall average from 2014-2015

Source: West Yost, 2016

According to the State Water Board, if a water re-use project will decrease the amount of water in a stream or other waterway, the owner of the wastewater treatment plant needs to file a Wastewater Change Petition. The City will submit the wastewater change petition and only divert water into the new pond when the Change Petition is approved and the waste discharge requirements are modified.

As discussed above, the tertiary treated wastewater stored in the expansion pond is not anticipated to degrade existing groundwater quality. Furthermore, as secondary treated wastewater is already stored in four on-site unlined ponds for land application, the addition of one 70-acre expansion pond within 1,100 feet of the existing ponds to store tertiary treated effluent of higher quality for similar land application that reduces groundwater pumping is not anticipated to have a significant change on location or volume of discharge. This is a less than significant impact.

b) **No Impact**. The proposed Project proposes the construction of an expansion pond to store facility wastewater that would otherwise be discharged to the Delta during the winter months. In addition, the stored water may be used to irrigate City-owned neighboring agricultural fields, preventing groundwater pumping for agricultural use. A preliminary Surface Pond Percolation Study (Petralogix, 2016) (included in Appendix G) anticipates the unlined ponds to have an annual percolation range of 28,905,601 to 50,584,802 gallons of tertiary treated wastewater per year, after correction for siltation and bio-buildup. Therefore, the project does not deplete groundwater supplies or interfere with groundwater recharge, and may actually increase groundwater storage. Therefore, there is no impact.

c-e) **Less Than Significant Impact**. The Project is proposed to occur within an area currently occupied by agricultural fields. The fields are currently surface irrigated by concrete lined irrigation ditches. Storm water runoff and irrigation tailwater flows are collected from the agricultural fields and directed to the four existing on-site storage ponds. In the area of pond construction, the irrigation ditches will be removed, and if necessary, the storm water runoff and tailwater return system will be altered. However, the Project will not significantly alter or change the existing drainage of storm water and irrigation tailwater flows to the four existing storage ponds, and any changes made will still result in the waters being directed to the storage ponds.

No streams or other drainage ways are located within the proposed pond location. Although a canal does run through the WPCF property, it is not located in the proposed pond location. The Project will not alter or change drainage ways, create additional runoff or exceed drainage facilities holding runoff.

Erosion and/or sedimentation will be avoided or reduced below a level of significance through conformance with applicable elements of the County of San Joaquin Stormwater General Construction Permit and City of Lodi Municipal Stormwater General Construction Permit. Other than potential drainage from new paved areas, the only sources of potential runoff from the Project are construction-related (Terracon, December 2016). Construction impacts will be temporary and best management practices will be in place. Pavements will be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. The pavement subgrade will be graded to provide positive drainage within the granular base section (Terracon, December 2016). This is a less than significant impact. The Project will also include the preparation of a Stormwater Pollution Prevention Plan (SWPPP) to reduce construction impacts to waterways and neighboring

sites.

The Project will involve the removal of the upper 6 inches of topsoil within the pond construction area. The Project will be subject to the County's Grading Ordinance and the County of San Joaquin and City's Design Standards to reduce erosion impacts. As a normal and standard requirement, the Project would be required to prepare and have approved individual SWPPPs that mandate construction and post-construction water quality provisions, including but not limited to erosion control plans during construction, installation of biofilters and/or mechanical cleansing of stormwater run-off, and similar elements. Regarding erosion of the pond structures themselves, Terracon recommends the pond embankment slopes be covered with an erosion control measure immediately after construction. As a result of these standard engineering measures, the Project would have a less than significant impact on substantial soil erosion and issues resulting from the removal of topsoil during and after the construction process.

f) **Less Than Significant Impact**. The proposed unlined expansion pond will store tertiary treated, UV disinfected municipal wastewater that was previously discharged to the Delta during the winter months. This wastewater will be used to irrigate the on-site Agricultural Fields during irrigation season (April – September). The stored wastewater will be treated, stored, and land applied in accordance with R5-2007-0113. Secondary treated wastewater, treated to lower quality than the tertiary treated wastewater, is already stored in four existing on-site unlined ponds during the winter months, and applied to the surrounding agricultural fields during irrigation season. As discussed in Part (a), West Yost's 2015 BPTC study concluded that the current on-site storage and application of secondary treated wastewater at the WPCF is not the source of background exceedance of COCs. Therefore, it is not expected that the tertiary treated wastewater stored in the proposed expansion pond and applied to the surrounding agricultural fields will degrade groundwater quality.

In addition, a SWPPP will be prepared for the Project that will provide detailed descriptions of the various structural and nonstructural water quality management measures employed for pond construction. Compliance with the applicable NPDES requirements submittal of a Wastewater Change Petition will ensure that the entirety of the Project will avoid any potential violations of water quality standards or waste discharge requirements and will avoid impacts to downstream water users and/or existing habitat functions.

g-i) **Less Than Significant Impact**. The proposed Project involves the construction of a 70+ acre tertiary treated water storage pond and is not a residential project that would change, alter, or encourage housing within a 100-year floodplain (Figure 14).

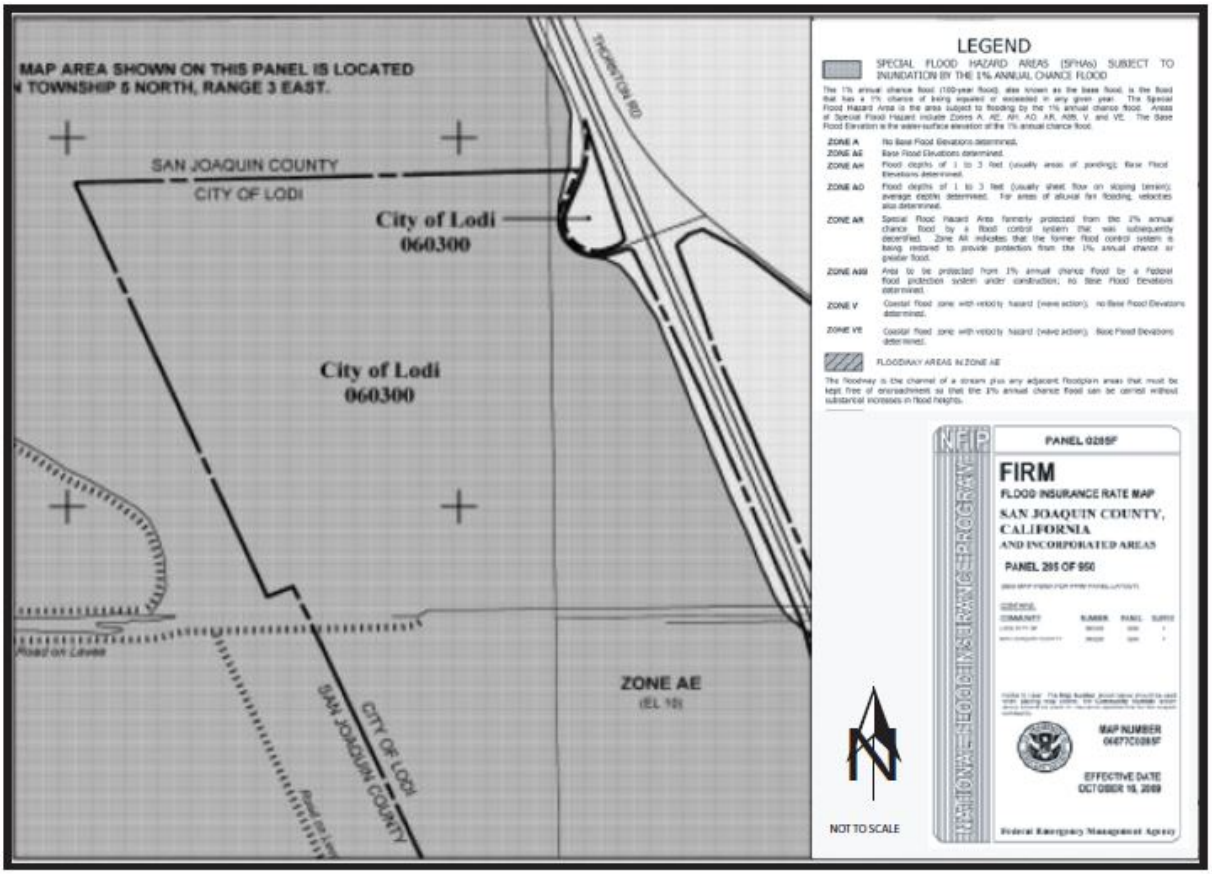


Figure 14 - Flood Zone Map

Dredger Cut and the Peripheral Canal are the closest levee related water bodies to the Project site and are considered to be legal waters of the Delta. The nearest large river or creek capable of causing major flooding during a 100-year flood event is the Calaveras River to the South and the Mokelumne River to the North. Bear Creek is the nearest smaller waterway and would be a potential cause of flooding during a 100-year flood event. Petralogix analyzed the potential for flooding at the Project site and shows in their report how the Project will address potential flooding. The study details the existing conditions at the Project Site, the regulatory setting regarding flooding, flood impacts related to the Project development, and recommended mitigation (Appendix H). The results are hereby incorporated by reference.

The site has historically been used for quasi-public wastewater treatment, and associated agricultural crops and farming. Surrounding areas include large farming tracts and undeveloped riparian corridors. The nearest residential or commercial development is located approximately 1.4 miles to the northeast. Elevations of this development are roughly 4 to 5 feet higher than the site and studied flood plain area. The nearest agricultural development is located approximately 0.60 miles to the east (a dairy farm) and is roughly 8 to 9 feet higher in elevation than the site and studied flood plain area. The onsite existing wastewater treatment facility, associated ponds, mosquito abatement facilities, and energy development plant are all east of the proposed pond. These facilities are roughly 6 to 7 feet higher in elevation than the site and studied flood plain area.

According to the Flood Insurance Rate Map (FIRM) Map #06077C0295F the Base Flood Elevation at the pond site is 10 feet (msl) NAVD 88 (San Joaquin County, 2016). Review of the average ground surface elevation (GSE) indicates that the proposed pond area has an approximate average GSE of 7 above feet msl. Based on the review of this information the projected 100-year flood depth is approximately 3 feet. The height of the levees that would surround the proposed pond are up to 10 feet**.** The freeboard on the inside walls is 2 feet below the levee top. The relative height of the other delta levees around the site is 9 feet above ground surface (West Yost Associates, 2016).

Because the entire Project site is located within the AE Zone (Area subject to 1% annual chance of a 100-yr flood with flood depths generally greater than 3 ft.), development on the site will have to comply with NFP regulations (see Appendix H for more regulatory framework), including:

- Flood Insurance requirements for any structures within the floodplain (unless adjacent grade has been elevated to above the base flood elevation);
- Conditional Letter of Map Revision (CLOMR) applications for any structures within the floodplain that are desired to be removed from the Flood Insurance requirements, and/or for any on-site projects which impact the flood boundary.

To confirm and clarify, the project meets these requirements. All associated mechanical and electrical structures are above the 100-year flood elevation, and all walls and levees are planned to be elevated above the 100-year flood elevation, with a total of more than 3 feet of freeboard above that specific level. The impact evaluation identifies potentially significant flood-related impacts to and from the proposed project. Impacts would be considered significant if the project would cause a flood hazard or exacerbate an existing flood hazard. Four flood hazards are considered:

i) **Impact FLOOD-1**: **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.**

The local drainage pattern will not substantially change as a result of development. Flood flows will continue to move through the site toward the south and west, with flows returning to the Delta via Bear Creek or Dredger Cut. The course of the Mokelumne River or Bear Creek will not be altered. Proposed development does not increase the amount of impervious surface on the site to the point where flows at these drainages would be significantly impacted. Site development would have **less than significant impact** on existing drainage patterns and no mitigation is required.

ii) **Impact FLOOD-2 Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.**

Project development would not place housing within a 100-year special flood hazard area. However, it would place some structures (pumps, SCADA systems, etc.) within estimated flood depths up to 3 feet in depth. Therefore, this would have a **significant impact,** if no additional mitigations were taken. The following mitigation measure would reduce Impact FLOOD-2 to a less-than-significant level:

Mitigation Measure FLOOD-2
The applicant shall place all structural pads so that the lowest adjacent grade to each structure is above the base flood elevation.

iii) **Impact FLOOD-3 Place within a 100-year flood hazard area structures that would impede or redirect flood flows.**

Placing fill or other structures in such a way as to block existing drainage paths could result in increased onsite or offsite flooding, particularly if there is significant offsite drainage that flows through the site. This potential exists for 100-year spills resulting from the regulatory levee failure scenario. Upstream spills from Bear Creek flow through the project site and either return to the Bear Creek channel or to Dredger Cut.

The project would not change the bank configurations of any of the creeks, rivers, or levees that surround the site. Therefore, impact to flooding conditions are considered to be limited. The effective base flood profile within the project site is based on a review of materials discussed in Appendix G.

A detailed analysis of the site was performed to evaluate increased floodwater elevations during the 100-year event. We reviewed three scenarios. They are detailed below:

1. Full pond failure added to existing flood elevation.
2. Reduced available acreage for existing floodwaters due to ponds presence.
3. Pond failure waters combined with reduced acreage.

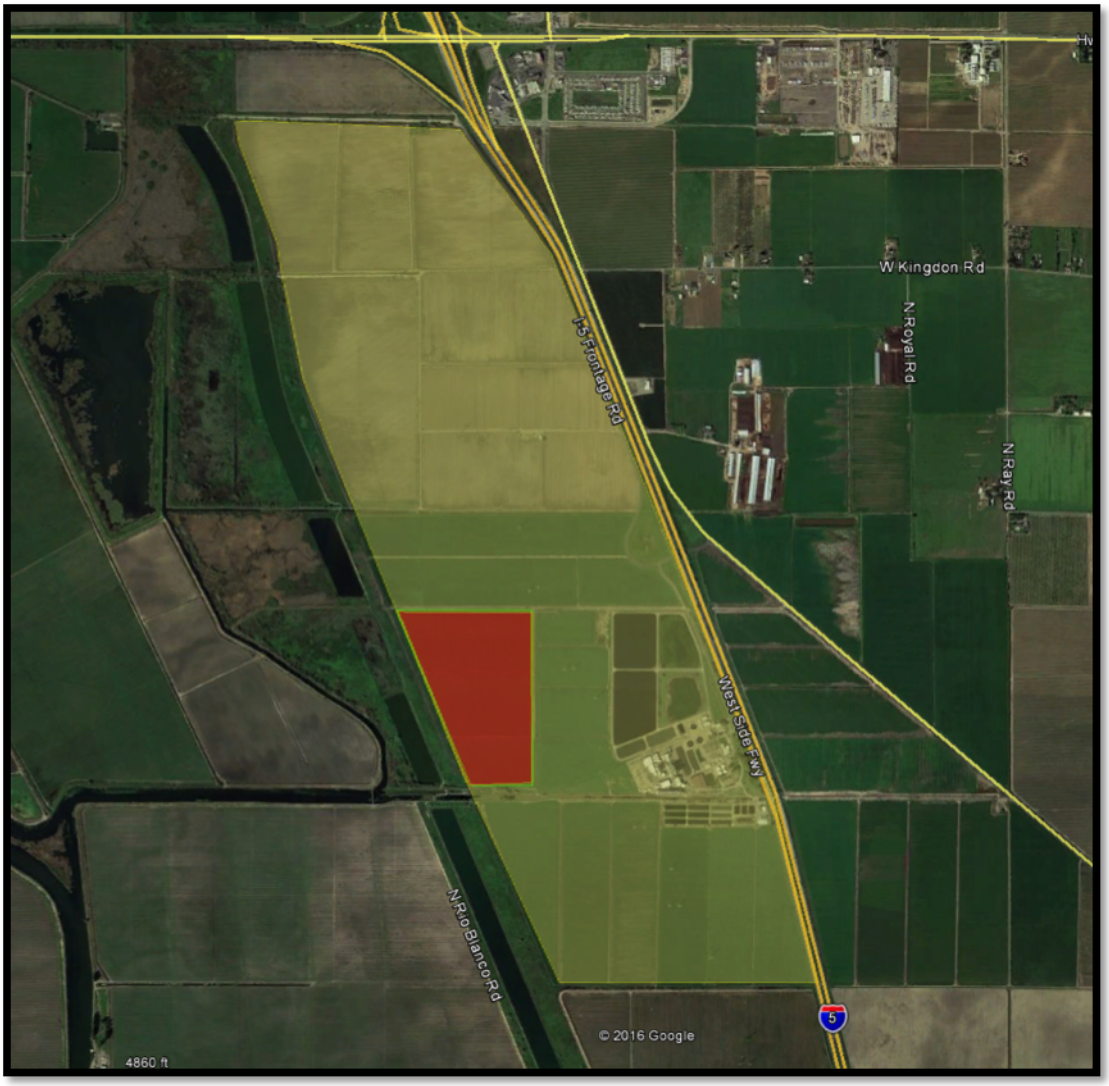
Scenario 1 was reviewed to determine the overall increase in floodwater elevations if the ponds were at capacity and were to fail. The general pond size was evaluated for the estimated holding capacity for the ponds plus a factor of safety. The general volume analyzed was for a full release of 160,000,000 gallons of water. This would assume an overfull pond volume (above freeboard) and a levee failure of the ponds, allowing for a large release of water to the floodplain. Table 8 below shows our evaluation:

Table 8. - Full pond failure added to existing flood elevation.

General Area of Influence - Modified						
Area	General Width (feet)	General Length (feet)	Total Area (ft^2)	Total Acreage	Average Flood Depth (feet)	Acre Feet 100 Year Flood
Overall	4,000	12,750	51,000,000	1,171	3.42	**4,003**
Change (feet)					0.42	
Change (inches)					5.03	

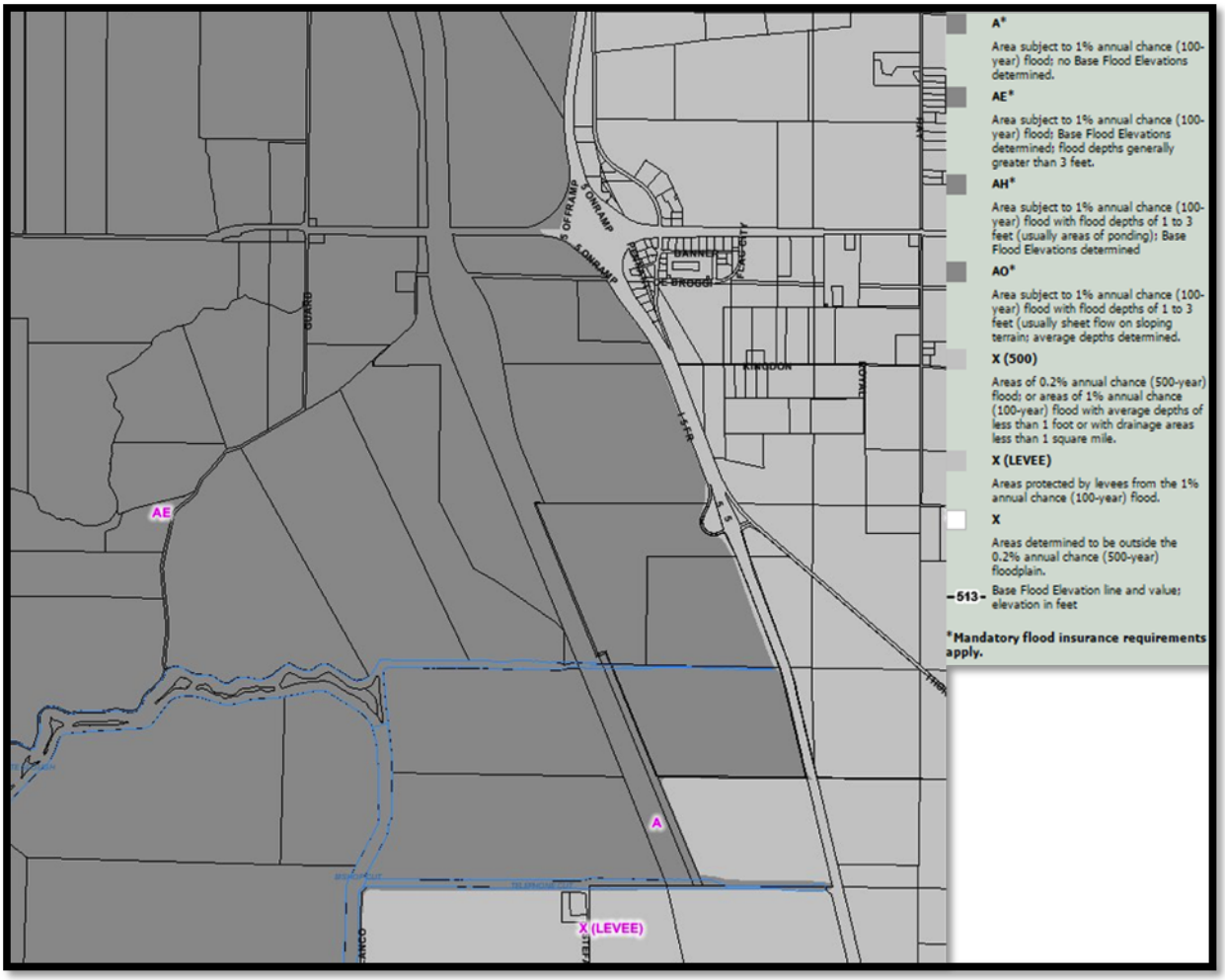
This scenario provides an assessment for the “overall” area, which we set to be an area of roughly 1,171 acres in size. The area is shown below (Figure 15 – Area of Influence) for review and was assessed based on aerial photo-review and topographic review or a likely area of influence.

Figure 15. – Area of influence and proposed pond layout.



This area of influence was picked because it was within the area of 100-year flooding (as mapped by FEMA) and was bordered by control points of flow to the west by the Peripheral Canal, to the south by Dredger Cut, and to the north by an unnamed slough. Each of these control points were considered viable because of their associated levees, which were 5 to 6 feet above the 100-year flood elevation. To the east the area is mapped as a 500-year flood plain and is protected from intrusive flood flows by a quick elevation rise of more than 7 feet just east of Interstate-5. Additional flood zone information is provided below in Figure 16.

Figure 16. – Flood zone designations.



As shown in Table 8, the calculated change in elevation of floodwaters from a catastrophic failure of the pond walls could result in a total increase of about 0.42 feet (or 5.03 inches). This would raise the elevation of the 100-year flood from 3.00 to 3.42 feet. This is considered to be minimal when compared to the control levee points, which are roughly 6.5 to 7.0 feet above this level. In addition, this is a highly unlikely scenario. Not only is pond levee failure unlikely, but the design is that of a 4-chamber pond, so for all flow to be released each chamber would have to fail. Therefore, this is considered to be a **less than significant impact.**

Scenario 2 was reviewed as the reduced available acreage for existing flood waters due to the ponds presence. This analysis was considered to address space that would otherwise be available for flood storage capacity, which would be taken away by the ponds' presence. See Table 9 for more details below:

Table 9. - Reduced available acreage for existing floodwaters due to the ponds presence.

General Area of Influence - Modified						
Area	General Width	General Length	Total Area	Total Acreage	Average Flood Depth (feet)	Acre Feet 100 Year Flood
Overall	3,858	12,250	47,260,500	1,085	3.24	**3,512**
Change (feet)					0.24	
Change (inches)					2.84	

As shown in Table 9, the calculated change in elevation of floodwaters from the ponds' presence could result in a total increase of about 0.24 feet (or 2.84 inches). This would raise the elevation of the 100-year flood from 3.00 to 3.24 feet. This is considered to be minimal when compared to the control levee points, which are roughly 6.5 to 7.0 feet above this level. Therefore, this is considered to be a **less than significant impact.**

Scenario 3 is the combination of Scenarios 1 and 2 (pond failure waters combined with reduced acreage). This analysis was considered to address space that would otherwise be available for flood storage capacity, which would be taken away by the ponds presence, as well as the pond failure event. See Table 10 for more details below:

Table 10. - Pond failure waters combined with reduced acreage.

Scenario 3 - Full ponds failure and reduced acreage analysis combined.	
General Area of Influence - Modified	
Change (feet)	0.66
Change (inches)	7.88

As shown in Table 10, the calculated change in elevation of floodwaters from the ponds' presence could result in a total increase of about 0.66 feet (or 7.88 inches). This would raise the elevation of the 100-year flood from 3.00 to 3.88 feet. This is considered to be minimal when compared to the control levee points, which are roughly 6.5 to 7.0 feet above this level. Therefore, this is considered to be a **less than significant impact.**

Overall, the potential increase of around 2/3 of a foot in flood elevations within this area are considered to be a **less than significant impact.** This is especially true since it would be very improbable for the ponds four distinct and separate chambers to all fail at once. Therefore, the real potential to 100-year floodwater increases is much closer to the Scenario 2 value of 2.84 inches. All structures within the area and around the potential area of impact are well above this level, and all levees and water containment structures are as well.

iv) **Impact FLOOD-4 Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.**

As indicated above, the levees at the site (around the entire region) are well above the level of the projected 100-year flood elevation. No significant hazard increase is projected from our analysis of the ponds that could affect these structures (levees and dams). All of these are built to withstand influence or impact from the 100-year flood event, along with a factor of safety that is well established. Levees typically do not fail from water on the toe side of the levee, but rather from under flow (boiling) or extreme pressures. The pressure exerted on the backside of the respective levees from the ponded 100-year floodwaters would not generally be considered a hazard. Therefore, this is considered to be a **less than significant impact.**

j) **No Impact**. The Project will not be impacted by inundation by seiche, tsunami, or mudflow, because the project is not adjacent to any body of water that has the potential to experience a seiche or tsunami. In addition, the proposed pond is not large enough to result in a seiche or tsunami that would impact adjacent sites. The Project site is not in the path of any potential mudflow.

X. Land Use and Planning

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:					
a.	Physically divide an established community?	☐	☐	☐	■
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating on environmental effect?	☐	☐	☐	■
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

a) **No Impact**. The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying area. The proposed Project will not physically divide an established community. No physical restraints to access are a part of this Project. The proposed expansion pond is located within the City-owned WPCF boundary. The general area consists of agricultural land with some rural residences. Current access to existing, nearby residences would not be impeded by construction and operation of the proposed storage pond.

b) **No Impact**. The City of Lodi General Plan designates the WPCF as “Industrial” and the surrounding City-owned agricultural fields where the expansion pond is proposed as “Public/Quasi-Public”. The Project involves the proposed construction of an expansion pond at the WPCF. This is consistent with the current site land use. The Project also does not propose to change any existing zoning.

Wallace Environmental Consulting, Inc. prepared a report (included as Appendix E) to assess whether construction and operation of the expansion pond is a compatible land use with Kingdon Air Park in accordance with guidelines established in the San Joaquin County Airport Land Use Compatibility Plan, since the proposed project site does lie within the airport’s Area of Influence (AIA (Figure 11). Even though the entirety of the WPCF lies within the Kingdon Air Park AIA, the Airport Land Use Commission (ALUC) has no authority to command changes to land uses that are existing or vested, regardless of whether they are incompatible with airport activities. The City of Lodi General Plan (as of April 2010) has designated the WPCF as a Public/Quasi-public land use since the mid-1960’s. According to the California Airport Land Use Planning Handbook, the WPCF is considered an existing use and has a vested right to construct treatment facility improvements. Moreover, where development that does not conform with the criteria in the ALUCP already exists, additional infill development of similar land uses, such as the proposed Project, may be allowed to occur even if such land uses are prohibited elsewhere in the zone (Wallace Environmental Consultants, Inc.).

The Project proposes the construction of a 70-acre expansion pond within the City of Lodi's WPCF boundary for storage of tertiary treated wastewater; this is in accordance with current land use at the Project site. The proposed expansion pond would be located within one mile of four existing on-site treated effluent storage ponds. Although it lies within the AIA of Kingdon Air Park, the proposed Project site does not lie within the 5,000 ft minimum separation distance for wildlife attractants (Figure 12). The addition of the new treated effluent storage ponds is not anticipated to significantly attract hazardous wildlife in the area nor will if violate any applicable land use plan, policy, or regulation. Thus, there is not impact.

c) **No Impact**. A significant impact may occur if the proposed Project were inconsistent with mapping or policies in any conservation plans of the types cited. In an effort to protect sensitive and threatened species throughout San Joaquin County, SJCOG prepared the San Joaquin Multi Species Conservation Plan. The purpose of the SJMSCP is to provide for the long-term management of plant, fish and wildlife species, especially those that are currently listed or may be listed in the future under the Federal Endangered Species Act or California Endangered Species Act ESA, and to provide and maintain multiple-use open space that contributes to the quality of life of residents of San Joaquin County. The City of Lodi has adopted the SJMSCP and participation by the Project in the plan is required by the City. Therefore, the proposed Project would comply with the SJMSCP, and no impact would occur.

XI. Mineral Resources

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	☐	■
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?	☐	☐	☐	■

According to the San Joaquin County General Plan, the primary extractive resources in San Joaquin County are sand, gravel and natural gas.

a,b) **No Impact**. The current use of the proposed Project site consists of the City of Lodi's main wastewater treatment facilities and surrounding agricultural land. According to the State Aggregate Resource Areas Map, Figure 17, and per the Significant Natural Resources of San Joaquin County, within the Resources element of the San Joaquin County General Plan, the proposed Project site is not located within an area of primary extractive resources. Therefore, there is **no impact.**

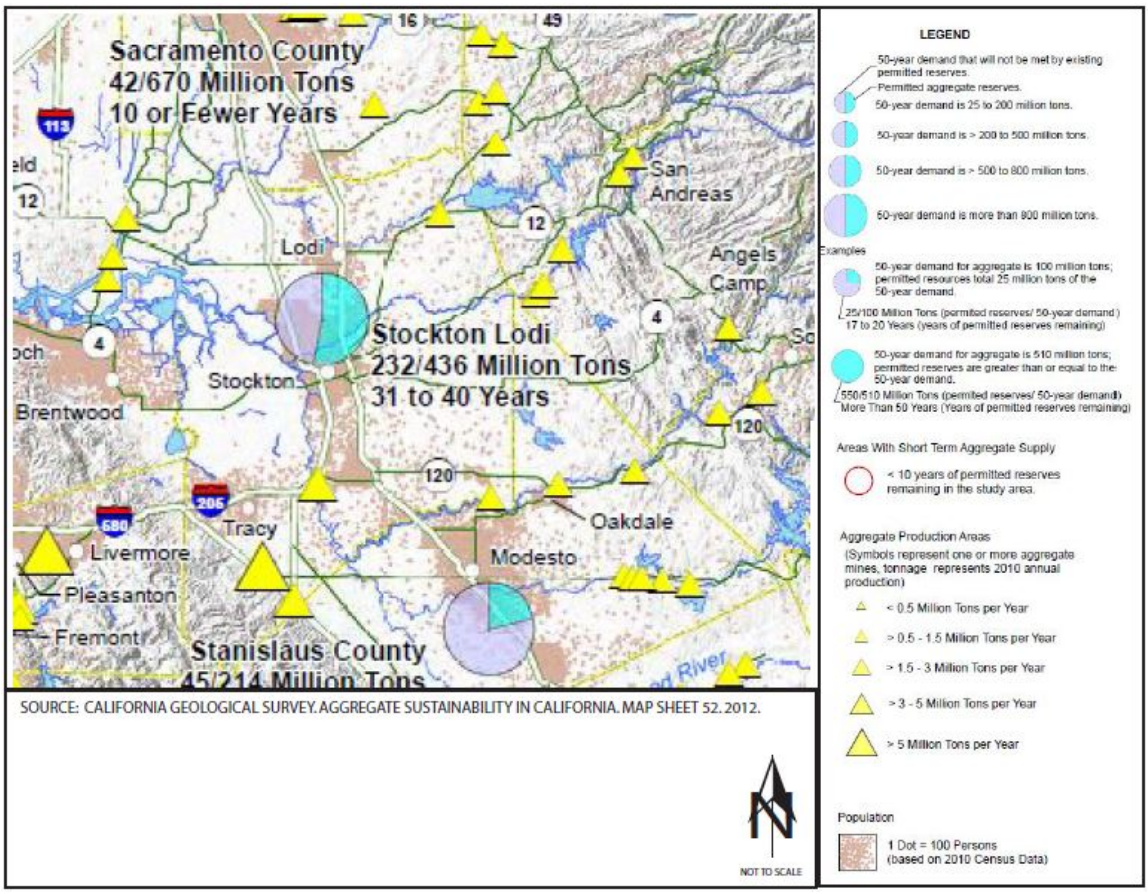


Figure 17 - State Aggregate Resource Map

XII. Noise

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b.	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c.	A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	■	☐
d.	A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	■	☐
e.	For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	■
f.	For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	■

a-d) **Less Than Significant Impact**. The proposed Project is located within the WPCF facility boundary in an agricultural area. Agricultural fields with few rural residences are located in the area. Lima Ranch is located approximately 500 feet northeast of the eastern facility boundary, and the Kingdon Airport is located 0.60 miles east-northeast of the eastern faculty boundary (Figure 1). Few sensitive receptors are located within the immediate vicinity of the Project site.

The noise associated with the Project site will be from construction activities. Operational noise will be non-existent from the effluent storage pond. Construction activities are anticipated to last 7 months. Therefore, any noise associated with the Project will be short-term. Impacts are anticipated to be less than significant and will comply with the San Joaquin County noise ordinance. Construction hours will be limited to 6:00 am to 6:00 pm on weekdays. Construction is estimated to require approximately 40 workers at its peak, and an average of about 11 workers per day, including skilled local professionals and labor resources. During construction, single shifts, 5 days per week are anticipated.

Construction activity will first include vegetation clearing and mass site grading of the 70-acre pond area. The pond will then be excavated, with excavated soil stockpiled for later use. The pond bottom will then be compacted as necessary. The berms and embankments will be constructed using the on-site stockpiled soil, as well as earth fill (i.e. riprap and rock) transported to the site by dump trucks. Any excess on-site soil will be placed within haul trucks and carried off as needed. Roadways will be swept clean as

needed. Water will be applied to any potential dust-generating materials during construction.

During construction, it is anticipated that the following vehicles will be used:

- 3-4 Excavators
- 6 Backhoes
- 4 to 6 Graders/Earth Movers
- 6 Front Loaders
- 6 Boom Trucks
- 6 Concrete Trucks
- 2-3 Dozers
- 4 Passenger Trucks
- 3 Vans
- 2-3 Dump Trucks
- 8 Dumpsters
- 1 Water Truck
- 1 Street Sweeper
- 2 Move on/off Trailers

The relatively small size of the work crew and associated construction activities are not expected to generate noise that will violate the San Joaquin County noise standard for construction activities.

e,f) **Less than Significant Impact.** The proposed Project is located within 1 mile of the Kingdon Airpark, a private airport with public access, and falls within the Area of Influence (Figure 11). The nearest runway is approximately 8,220 feet to the east-northeast of the Project. The proposed Project is expected to have a less than significant impact upon the airport because no new residential population is being generated. No new residences or existing residences will be impacted by noise generated from the airport or overflights.

XIII. Population and Housing

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
c.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

The Project proposes the construction of a 70-acre wastewater expansion pond at the White Slough WPCF. The proposed Project is intended to meet the City's current wastewater storage needs and will not cause any population growth.

a-c) **No Impact**. The Project area is within City-owned agricultural land surrounding the White Slough WPCF. The Project would not include the creation of new housing, nor displace any existing housing or people. It is anticipated that any workers needed for project construction and operation would come from the regional employment base; therefore, the Project would not result in local area population growth or lead to the creation of, or necessity for new housing. Similarly, the Project would not indirectly induce substantial population growth through the extension of major infrastructure; the facility wastewater storage expansion is a result of current increased needs rather than for planned population growth. Consequently, no impacts related to population and housing would occur.

XIV. Public Services

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	☐	■
b. Police protection?	☐	☐	☐	■
c. Schools?	☐	☐	☐	■
d. Parks?	☐	☐	☐	■
e. Other public facilities?	☐	☐	☐	■

a-e) **No Impact**. Construction and long-term operation of the proposed expansion pond would not place any demand on fire protection, police protection, schools, parks, or other public facilities because the Project would not involve the construction of facilities that require such services (e.g., residences). Other public facilities include public libraries, public hospitals and medical centers, and community centers. A considerable workforce is available within the Project region and residents within the region are expected to serve the labor requirements of the proposed Project, negating the need for a significant percentage of outside labor. As a result, the proposed Project is not anticipated to induce substantial population growth in the area either directly or indirectly, and the existing number of other public facilities would continue to adequately serve the regional population. Based on these factors, the proposed project will not result in any long-term impacts to schools, parks, and other public facilities.

XV. Recreation

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b.	Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

a,b) **No Impact**. A considerable workforce is available within the Project region and residents within the region are expected to serve the labor requirements of the proposed Project, negating the need for a significant percentage of outside labor. As a result, the proposed project is not anticipated to induce substantial population growth in the area either directly or indirectly, and the existing number of recreational facilities would continue to adequately serve the regional population. Therefore, the project would have no impact with regard to causing substantial physical deterioration of recreational facilities. In addition, because the project would not result in a substantial increase in population during or after construction, the project would not increase the demand for recreational facilities.

XVI. Transportation/Traffic

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	■	☐
b.	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	■	☐
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	■	☐
d.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	■
e.	Result in inadequate emergency access?	☐	☐	☐	■
f.	Result in inadequate parking capacity?	☐	☐	☐	■
g.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	■

Project construction is expected to begin by June 2017 and take approximately 7 months. Construction of the proposed Project is estimated to require approximately 40 workers at its peak and an average of about 11 workers per day, including skilled local professionals and labor resources. During construction, single shifts, 5 days per week are anticipated (West Yost, 2016).

Construction activity will first include vegetation clearing and mass site grading of the 70-acre pond area. The pond will then be excavated, with excavated soil stockpiled for later use. The pond bottom will then be compacted as necessary. The berms and embankments will be constructed using the on-site stockpiled soil, as well as earth fill (i.e. riprap and rock) transported to the site by dump trucks. Any excess on-site soil will be placed within haul trucks and carried off as needed. Roadways will be swept clean as needed. Water will be applied to any potential dust-generating materials during construction.

During construction, it is anticipated that the following vehicles will be used:

- 3-4 Excavators
- 6 Backhoes
- 4 to 6 Graders/Earth Movers
- 6 Front Loaders
- 6 Boom Trucks

- 6 Concrete Trucks
- 2-3 Dozers
- 4 Passenger Trucks
- 3 Vans
- 2-3 Dump Trucks
- 8 Dumpsters
- 1 Water Truck
- 1 Street Sweeper
- 2 Move on/off Trailers

A Stormwater Pollution Prevention Plan (SWPPP) and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operations. Best management practices (BMPs) for erosion control will be implemented to avoid and minimize impacts on the environment during construction.

a,b) **Less than Significant Impact** Traffic generated by this Project will be short-term as a result of construction. The construction of the Project is not expected to generate excessive traffic for the area, but will temporarily increase traffic at the WPCF. At the peak of Project construction, it is estimated that 40 contractor staff and 15-20 vehicles will be on-site. This will not increase traffic substantially in relation to the existing traffic load and capacity of the street system. The Project will not exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads

c) **Less than Significant Impact.** The proposed Project is located within 1 mile of the Kingdon Airpark, a private airport with public access, and falls within the airport's Area of Influence (AIA) (Figure 11). The nearest runway is approximately 0.6 miles to the east-northeast of the Project. The proposed Project is expected to have a less than significant impact upon the airport because the Project involves the construction of a treated effluent storage pond; no tall buildings, sources of light, steam, smoke or electric hazards are associated with the proposed Project.

- Glare, distracting lights and reflective materials are not part of the Project or Project design.

- Sources of dust, steam or smoke are limited and are not expected to impair pilot visibility. Mitigation measures and standard engineering measures (see Air Quality Mitigation Measure 2 (Section III – Air Quality) and Geology and Soils Section b) will be in place to minimize dust during construction. Regarding steam or smoke, in 2012 the California Energy Commission and Northern California Power Agency constructed a natural gas-fired 255-megawatt power generation facility with an evaporative cooling system on about 4.5-acres of the WPCF. The power plant emits thermal plumes in the form of steam generated by its cooling towers. Although the FAA has found that thermal emission is not likely to pose a threat to aircraft, it is recommended that aircraft maintain a vertical separation of 1,000 feet above such facilities. This is the existing vertical separation distance for aircraft using designated Kingdon Air Park flight tracks, so the power plant will not require aircraft to adjust flight patterns. This is a less than significant impact (Wallace Environmental Consultants, Inc.).

- Sources of electrical interference with aircraft communication or navigation are not part of Project design features, and no transmissions that would interfere with aircraft radio communications or navigational signals will occur at the Project site. An overhead high voltage (230 kV) dual electrical transmission line already traverses the WPCF from north to south and is at the eastern boundary of the proposed expansion pond. The transmission line is approximately 100-feet tall and about 8,100-feet west of Kingdon Air Park; it is at the western limit of flight tracks. High voltage power transmission lines pose peculiar hazards to low flying aircraft, and the FAA specifies that such structures be marked and lighted. Aircraft operating over or near the transmission lines are typically at an altitude of 800 to 1,000 feet, so there is little threat of electrical interference with communication and navigation devices that would require an altered flight path. This is a less than significant impact (Wallace Environmental Consultants, Inc.).

- The proposed Project site is located within Kingdon Air Park's area of influence, but not within the 5000 ft separation distance for wildlife attractants, most notably of birds, recommended by federal guidance Advisory Circular (AC) 150/5200-33B (see Hazards and Hazardous Materials Sections e, f). Wallace Environmental Consulting, Inc. prepared a report to assess whether construction and operation of the expansion pond is a compatible land use with Kingdon Air Park in accordance with guidelines established in the San Joaquin County Airport Land Use Compatibility Plan, and whether the expansion pond will act as a wildlife attractant that increases the number of birds within the airport's Area of Influence.

  The Wallace Environmental Consulting, Inc. analysis revealed that the proposed expansion ponds would increase annual bird visits by about 243,000 birds, approximately 1.35%. Regardless of the time of day or year, most birds move from the Delta into the agricultural fields (west to east) or from the fields back into the Delta. Such bird movements indicate that the Kingdon Air Park AIA is an active and attractive habitat for many species of birds. Typically, birds will fly at altitudes between 300 and 500 ft, but birds crossing the Delta without using the WPCF habitat may travel at altitudes as high as 3000 ft. This is high enough to encounter aircraft from Kingdon Air Park, which are usually at altitudes between 800 and 1000 ft when crossing over the existing WPCF ponds. However, none of the tracks created by aircraft when arriving, departing, or during pilot training, including touch-and-go tracks, cross over the proposed expansion pond Project site (Wallace Environmental Consultants, Inc.).

  Such flight patterns within the AIA, along with the minor 1.35% increase in total birds attracted to the area due to the ponds, suggests that the construction of the proposed expansion ponds will not impact the safety of air travel. The increase in birds is not expected to result in a change to air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

d) **No Impact**. The Project does not include design features that would increase hazards or incompatible uses, because the Project would not include the construction of any new streets or roads. The Project is located within the boundaries of the existing White Slough WPCF on City-owned land. Therefore, the proposed Project would not increase hazards due to a design feature, such as a sharp curve or dangerous intersection, incompatible uses, such as farming equipment, or inadequate emergency access.

e) **No Impact**. The proposed Project will not result in inadequate emergency access to the Project area. During on-site construction, vehicles will not block emergency access routes. Therefore, the project would have no impact to emergency access.

f) **No Impact.** The proposed Project will not generate the need for new parking capacity. The Project is located at the existing White Slough WPCF, and the completion of a new expansion pond will not generate the need for new parking capacity. Any construction parking impacts will be short term.

g) **No Impact**. The Project would require no use of alternative transportation, during both construction and operation. The Project would not conflict with any applicable land use plan, policy, or regulation supporting alternative transportation of an agency with jurisdiction over the project. No impacts would result during the construction or operation phase.

XVII. Utilities and Service Systems

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	■	☐
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
c.	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
d.	Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	■
e.	Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
f.	Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	■	☐
g.	Comply with federal, state, and local statutes, and regulations related to solid waste?	☐	☐	■	☐

The City of Lodi's wastewater treatment facility at White Slough receives and treats municipal and wastewater for the City of Lodi. The White Slough WPCF additionally receives and treats separate industrial process wastewater collection for several industries within the City, as well as storm water from some industrial areas within the City and the agricultural fields surrounding the WPCF. The City of Lodi's WPCF includes primary and secondary treatment and chlorine disinfection. Secondary treated effluent is applied to City-owned agricultural land surrounding the treatment facility during summer months. The irrigation demand generally exceeds the stored effluent in July and August, and supplemental irrigation water is obtained from groundwater pumping. During the non-irrigation season (generally October through mid-April), the wastewater discharge at the facility exceeds the pond storage capacity, and overages of treated municipal effluent are released to Dredger Cut, a tributary to the Delta.

The WPCF facility is projected to treat from 5.5 million gallons a day (MGD) to 8.5 MGD of wastewater discharge. The Facility underwent an expansion to handle 5.8 million gallons of wastewater discharge per day in 1976 and again in 1990 to handle the projected 8.5 million gallons per day. The White Slough WPCF proposed expansion basin Project would allow for the tertiary treated municipal wastewater to be stored and utilized for surface water irrigation in-lieu of discharging the treated effluent into the Delta surface waters.

a,b,e) **Less Than Significant Impact**. The proposed Project does not result in an increased demand that would exceed wastewater treatment requirements; the proposed WPCF expansion pond would not generate wastewater. The proposed Project itself is a response to the projected need for additional wastewater storage at White Slough WPCF, as indicated above. The impact is considered less than significant.

c) **Less Than Significant Impact**. The proposed Project is for the construction of a 70-acre expansion pond located within the boundary of the City's WPCF. Otherwise, the proposed Project does not include the construction of new storm water drainage facilities or expansion of existing facilities. A Stormwater Pollution Prevention Plan (SWPPP) and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operations. Best management practices (BMPs) for erosion control will be implemented to avoid and minimize impacts on the environment during construction.

d) **No Impact.** The proposed Project development will not require a new water supply and/or need the expansion of water sources. During Project development water will be used to control dust from the short term construction activities, otherwise, water usage will not be required for operations. No impact is anticipated.

f,g) **Less Than Significant Impact.** Construction or long-term operation of the proposed expansion pond Project would not require the development of a new landfill facility. Waste from construction of the Project, anticipated to be minimal, would be disposed of at the North County Recycling Center & Sanitary Landfill located on Harney Lane. Disturbed soil will be stockpiled on-site and utilized for the construction of berms/embankments per the basin design requirements. There is no conflict with federal, state or local regulations.

XVIII. Mandatory Findings of Significance

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
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)?	☐	☐	■	☐
c.	Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

a) **Less than Significant with Mitigation Incorporated.** As discussed in Section 4, *Biological Resources* and Section 5, *Cultural Resources*, the Project does not have the potential to substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. The project will participate in the San Joaquin County Multi-species Habitat Conservation Plan, this will involve payment of fees and implementation of standard Take Avoidance measures outlined in the Habitat Conservation Plan. The project will not directly impact the built environment cultural resources identified near the proposed project and no archaeological resources were identified within the Project Area. In the event that archaeological resources are observed during Project construction-related activities, Mitigation Measure CR-1 is in place to reduce impacts to a less than significant level.

The project site consists of agricultural fields. The Project does not contain any design feature that would directly reduce habitat, reduce wildlife populations, threaten animal or plant community restrict the range of species, or eliminate examples of history or prehistory.

b) **Less than Significant Impact.** Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period.

By combining the need to increase on-site wastewater storage with the need to reduce surface water discharge and groundwater pumping, the proposed Project is anticipated to have a multitude of benefits that are both local and regional in scope. Some of the major benefits include increased irrigation water supply, improved surface water quality in the Delta, and the potential to increase groundwater storage. The short-term construction impacts will be mitigated, and are less than significant. The future operations will consist of four 7½ HP pumps needed to fill the storage ponds and deliver the treated wastewater to the various agricultural fields located within City-owned property. An older less efficient 10 HP pump will be essentially out of service as need for groundwater pumping decreases. The project operational emissions are considered to be zero for District permitting purposes. This is a less than significant impact.

c) **Less than Significant Impact with Mitigation Incorporated.** As discussed in Section 3, Air Quality; Section 4, Greenhouse Gas Emissions; Section 7, Geology and Soils; Section 8, Hazards and Hazardous Materials; Section 9, Hydrology and Water Quality; Section 12, Noise; and Section 16, Transportation and Traffic, the proposed project would not create environmental effects that would adversely affect human beings, and would be less than significant with mitigation incorporated.

The Project consists of the construction of a 70-acre pond and associated conveyance infrastructure. The expansion pond will be used to store disinfected, tertiary-treated effluent produced by the WPCF for use as irrigation water.

The project has no significant GHG emissions related to the operation of the four 7½ HP pumps needed to lift wastewater into the storage ponds and transport wastewater through the irrigation conveyance infrastructure.

Considering the historic land use of the site, the relatively minimal increase of 1.35% increase in total birds attracted to the area due to the ponds, and also considering the height of bird flights in the pond area (being relatively low – less than 1,000 feet in general), it is concluded that the construction of the proposed expansion ponds will not likely impact that safety of air travel. In addition, the additional hazards associated with existing site use, power plant, and power lines should void any flight patterns from areas where loafer birds would be considered to have this minimal increase, and be present. However, the City will consult with ALUC before construction activities begin on the project. If the ALUC respond with a hazard determination, the City will work with the ALUC to remedy the hazard prior to construction.

The proposed storage pond(s) will be unlined and store up to 388 acre-feet of tertiary treated wastewater. As discussed in Section 9, Hydrology and Water Quality, the unlined ponds in the northwest portion of the site would allow for the higher quality tertiary treated water to percolate.

Thus, with the mitigations measures incorporated, the project would not be expected to result in any new environmental effects, such as significant increases in GHG emissions, risks related to geological hazards, exposure to hazards or hazardous materials, or exposure to excessive noise levels, which would cause adverse effects on human beings. Because adverse effects on human beings, either directly or indirectly, would not occur as a result of implementation of the proposed project, less-than-significant impacts with mitigations incorporated would result.

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