

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

INITIAL STUDY CHECKLIST

1. **Project title:** Modoc Ditch Headgate Structure Replacement
2. **Lead agency:** St. Johns Water District
15370 Avenue 256
Visalia, CA 93292
3. **Contact person:** Dennis R. Keller
Dennis R. Keller Consulting Civil Engineer, Inc.
(559) 732-7938
4. **Project location:** City of Visalia

St. Johns River, between N. St. Johns Parkway and N. Ben Maddox Avenue

Section 20, T18S, R25E, Mount Diablo Base and Meridian
5. **Latitude, Longitude:** 36°21'15.75" N, 119°17'1.5" W
6. **General plan designation:** Conservation
7. **Zoning:** Open Space (OS)
8. **Description of project:** The St. Johns Water District (District) provides water, in conjunction with the Modoc Ditch Company, for agricultural irrigation purposes. The Proposed Project consists of replacing the existing Modoc Ditch Headgate Structure with a new structure and gate. The existing structure is aged and has insufficient capacity diversion capabilities from the St. Johns River. The Proposed Project consists of the removal and replacement of the existing concrete structure and gate. The Proposed Project consists of concrete headwalls to support a new water control gate and a new concrete culvert through the South Bank of the St. Johns River. Proposed Project features will be located above-grade thus maintaining the current channel invert elevation. Construction activities will include demolition and removal of the existing structure, levee excavation to allow for culvert installation, concrete placement, control gate installation and backfill, compaction and surface restoration efforts to complete the new structure.

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- 9. Surrounding land uses and setting:** Surrounding land uses include residential areas mixed with undeveloped land and agricultural areas. The Project is located along the south bank of the St. Johns River. The River experiences seasonal flows dependent on water releases originating from Terminus Reservoir/Kaweah Lake.
- 10. Other public agencies whose approval is required** Tulare County Flood Control District; United States Army Corps of Engineers; California Department of Fish and Wildlife; California Regional Water Quality Control Board; and San Joaquin Valley Air Pollution Control District.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

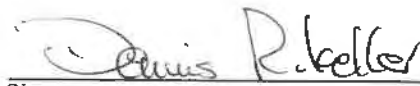
The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and subsequent discussion on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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


Signature

May 21, 2024
Date

Dennis R. Keller, Consulting Civil Engineer
Printed name

St. Johns Water District
For

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Issues:

I. AESTHETICS

Would the project:

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

Discussion

- a. **No Impact.** The Proposed Project does not result in a permanent change in the scenic characteristics of the area and its surroundings. Construction activities will temporarily change the scenic characteristics. Restoration activities will restore the area to pre-construction conditions.
- b. **No Impact.** Construction will not affect scenic resources (i.e., trees) on or near the Proposed Project. The Project is not located adjacent to or near a state scenic highway.
- c. **No Impact.** The Proposed Project consists of the installation of new diversion structure that replaces an existing structure. Public views and existing visual character will not be affected.
- d. **No Impact.** The Proposed Project would not create a new source of substantial light or glare. New facilities will be replacing existing facilities resulting in no net change in lighting at the site of the Proposed Project. No lighting at the site exists or is proposed.

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**II. AGRICULTURE & FORESTRY
RESOURCES**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

- a. **No Impact.** The Proposed Project will be constructed within the limits of the St. Johns River channel and the Modoc Ditch channel and will not remove any land from agricultural production.
- b. **No Impact.** The Proposed Project area is currently zoned.
- c. **No Impact.** There are no forest lands within the limits of the Proposed Project.
- d. **No Impact.** There are no forest lands within the limits of the Proposed Project.
- e. **No Impact.** See previous responses to Items (a) through (d).

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III. AIR QUALITY

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

The air quality impacts from the construction activities and the annual operation and maintenance activities from the operation of the Proposed Project have been evaluated using the California Emissions Estimator Model (CalEEMod). The results have been compared against thresholds established by the San Joaquin Valley Air Pollution Control District and are estimated to be below any threshold. A summary of the emissions estimates is attached for reference.

- a. **No Impact.** The Proposed Project would not conflict with any applicable air quality plan. During construction, however, the District and the selected contractors would be required to comply with the San Joaquin Valley Air Pollution Control District's Regulation VIII.
- b. **No Impact.** Air emissions estimates for construction and operations do not indicate a significant increase for any non-attainment pollutant.
- c. **No Impact.** See response to Items (a) and (b).
- d. **No Impact.** The Proposed Project consists of the installation of a concrete structure for water diversion. The Proposed Project will not result in other continuous emissions, such as objectionable odors. See responses to Items (a) and (b).

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IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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IV. BIOLOGICAL RESOURCES (continued)

Discussion

A Biological Evaluation Report was completed in December, 2023, that included a field survey completed in November, 2023. Identification of special status species included a search of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California. The Report has been attached for reference.

- a. **Less Than Significant with Mitigation Incorporation.** The Report established that the potential exists for construction-related mortality and/or disturbances to nesting raptors and/or migratory birds, including the loggerhead shrike. The Report determined that the magnitude of the potential impacts could be reduced to a less than significant level through the incorporation of the following mitigation practices: scheduling of construction during low risk times of year (i.e., construction timing), preconstruction surveys and avoidance of active nests. The Report also recommended the establishment of construction and monitoring of active nests if necessary for the Swainson's Hawk. Preventive measures shall be incorporated into construction documents to avoid potential impacts.

Based upon the biological field survey the Report concluded that less than significant impacts would occur to special status plants and special status animal species within the Project vicinity and subsequent mitigation measures are not required.

- b. **No Impact.** The biological field survey did not establish the presence of sensitive natural communities or designated critical habitat on the Proposed Project site.
- c. **No Impact.** The biological field survey conducted in November, 2023, did not identify any wetlands on the Proposed Project site.
- d. **No Impact.** The biological field survey established that the St. Johns River and Modoc Ditch could provide movement corridors for wildlife. The Proposed Project, however, will not result in features that impedes movement of common native wildlife.
- e. **No Impact.** The Proposed Project does not conflict with the General Plan of Visalia (2023). The Proposed Project Site does not present a change in the designated land uses for the Project area or the Mitigation Policy (2007), since removal of Valley Oaks is not required by the Project.
- f. **No Impact.** No habitat conservation plan has been identified for or that includes the Project area. Since the Proposed Project does not result in any change to existing land use and associated conditions, it not expected to conflict with any local, regional or state conservation plans.

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V. CULTURAL RESOURCES

Would the project:

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

Discussion

A Class III Inventory/Phase I Survey (Survey) was completed for the Proposed Project site in April 22, 2024, that included field surveys, record surveys and tribal contacts. A field survey was conducted on March 21, 2024. The survey established that Modoc Ditch warranted consideration as a cultural resource due to its age and agricultural purpose. The detailed assessment completed by the Survey determined that Modoc Ditch did not need to be considered for the National Register of Historic Places (NRHP), or the California Register of Historical Resources (CRHR). The Report is attached for reference.

- a. **No Impact.** The Survey report determined that the Proposed Project would not cause a change in significance of the Modoc Ditch. Continuous modification and improvement has occurred since its original construction. The Proposed Project area consists of an actively maintained trail/walkway, riparian land areas and waterways. The elements of the Proposed Project will be constructed within the specific location of riparian lands and seasonal waterways (St. Johns River and Modoc Ditch).
- b. **No Impact.** The Proposed Project area consists of actively maintained pathways, riparian land areas and waterways. The elements of the Proposed Project will be constructed within the actively maintained lands. The Survey report did not identify presence of any archaeological resources within or adjacent to the Proposed Project site.
- c. **No Impact.** The Proposed Project area consists of actively maintained pathways, riparian land areas and waterways. No formal cemetery is located within the Proposed Project area. Measures shall be implemented during construction to address discovery of human remains or other archaeological resources. Excavation and backfill activities occurred with the construction of existing facilities.

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VI. ENERGY

Would the project:

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

Discussion

- a. **No Impact.** The Proposed Project consists of replacing an existing water diversion structure with a new structure. The diversion structure will be manually operated and does not change the consumption of energy resources to improve water delivery.
- b. **No Impact.** The Proposed Project does not include elements that would be associated with state or local energy efficiency plans.

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VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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VII. GEOLOGY AND SOILS (continued)

Discussion

- a. **No Impact.** The Proposed Project location is not shown in an area designated to be affected by active earthquake fault zones, or landslide and liquefaction zones, as reviewed through the California Geological Survey Information Warehouse web-based regulatory mapping tool.
- b. **No Impact.** The Proposed Project location consists of riverwash and sandy loam soils. The Proposed Project area will be restored to existing conditions following construction. Construction specifications for the Proposed Project will require compaction of all disturbed areas and restoration of vegetation which will minimize the potential for erosion.
- c. **No Impact.** According to the National Resource Conservation Service (Soil Conservation Service), the Proposed Project area includes Riverwash and Grangville Sandy Loam. The soil summary does not list any geologic hazards such as soil instability or subsidence. See response to Item (a).
- d. **No Impact.** The Proposed Project does not include the construction of permanent dwelling buildings.
- e. **No Impact.** Criteria does not apply. The Proposed Project does not include installation of septic tanks or alternative wastewater disposal systems.

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VII. GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **Less than Significant Impact.** Estimates of greenhouse gases resulting from the construction activities and the annual operation and maintenance activities from the operation of the Proposed Project have been determined using the California Emissions Estimator Model (CalEEMod). The San Joaquin Valley Air Pollution Control District does not have an annual greenhouse emissions standard. The results are estimated to be below the interim threshold of 10,000 metric tons (MT) established by the California Air Resources Board. A summary of the emissions estimates is attached for reference.

- b. **No Impact.** The Proposed Project would not conflict with any applicable plan, policy or regulation adopted for reducing the emissions of greenhouse gases.

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VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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VIII. HAZARDS AND HAZARDOUS MATERIALS (continued)

Discussion

- a. **Less than Significant Impact.** The operation of the Proposed Project may require the use of chemicals for associated equipment operation (lubricants). The quantities of such chemicals will not represent a significant hazard. The transport, use and storage of chemicals will be in accordance with regulatory requirements.
- b. **Less than Significant Impact.** The operation of the Proposed Project will not require the regular use of significant quantities of chemicals. Equipment operation associated with construction will require lubricants. The quantities of such chemicals will not represent a significant hazard.
- c. **No Impact.** The Proposed Project is not located within one-quarter mile of an existing or proposed school.
- d. **No Impact.** The Proposed Project will not be constructed on a hazardous materials site. The Proposed Project site is not on the Cortese List.
- e. **No Impact.** The Proposed Project site is not located within an airport land use plan. The nearest public airstrip is approximately six (6.5) miles away (Sequoia Field). The City of Visalia Airport also lies approximately 6.5 miles away.
- f. **No Impact.** There are no emergency response plans which involve the Proposed Project site.
- g. **No Impact.** Wildlands are not considered present within the Project area. The Proposed Project site consists of a river embankment with adjacent leveled residential and agricultural lands or roadways. No changes in adjacent land uses are proposed.

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IX. HYDROLOGY AND WATER QUALITY

Would the project:

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

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IX. HYDROLOGY AND WATER QUALITY (continued)

Discussion

- a. **No Impact.** The Proposed Project, whether during construction or following completion, would not degrade water quality. Construction requirements such as a Storm Water Pollution Prevention Plan (SWPPP) will be utilized to prevent water quality impacts. Operation of the diversion structure will not affect water quality.
- b. **No Impact.** The Proposed Project does not include any groundwater extraction facilities. The Proposed Project replaces existing an water diversion structure and will not result in community growth that would increase groundwater use.
- c(i) **No Impact.** Elements of the Proposed Project will be constructed at existing grades. No changes to existing grades are proposed. The Proposed Project will not substantially alter the existing drainage pattern of the area. Construction specifications for the Proposed Project will require compact of all disturbed areas which will minimize the potential for erosion.
- c(ii) **No Impact.** The Proposed Project site is located within the levees of the St. Johns River and Modoc Ditch. The Proposed Project would not alter the existing drainage pattern of the area. Runoff occurring behind the levees is and will remain away from the Project site.
- c(iii) **No Impact.** The Proposed Project area is not served by a stormwater drainage system. See response to Item c(ii).
- c(iv) **Less than significant Impact.** The Proposed Project is located within the levees of the St. Johns River. The Project site is considered within a "Special Flood Hazard Area". The Proposed Project elements replace existing features within a levee. The Proposed Project will not impede or redirect or otherwise change flood flows within the levees. National Flood Hazard Layer Firmette maps are attached for reference.
- d. **No Impact.** The operation of the Proposed Project does not require the use of any chemicals that pose a risk of pollution during a flood event. The Proposed Project site is located approximately 100 miles from the Pacific Ocean and separated by the coastal mountain ranges (elevation of approximately 3,000 ft). Consequently the Proposed Project site is not subject to inundation by tsunamis. The Proposed Project site is not located adjacent to an enclosed body of water that could be subject to a seiche.
- e. **No Impact.** The Proposed Project does not include any water quality considerations. The Proposed Project does not conflict with sustainable groundwater management criteria.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

X. LAND USE AND PLANNING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The Proposed Project area is located outside (north) of residential developments in Visalia. The Proposed Project is with a levee of the St. Johns River.
- b. **No Impact.** There are no conflicts between the Proposed Project and the City of Visalia General Plan. The Proposed Project will occur within a levee of the St. Johns River.

XII. MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The Proposed Project is located within levees of the St. Johns River and Modoc Ditch and will not result in a loss of mineral resources.
- b. **No Impact.** The Proposed Project is located within levees of the St. Johns River and Modoc Ditch and will not impact any resource recovery site.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XII. NOISE

Would the project in:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundbome vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **Less than Significant Impact.** During construction, the potential exists for noise to occur in excess of the City of Visalia or Tulare County's General Plan standards. The Project's construction specifications will require construction activities to follow all applicable laws and limit noise generation. The Proposed Project will be located on existing levees and approximately 270 feet away from the nearest residence. The Proposed Project location is in close proximity to St. Johns Parkway, a 4-lane collector street and agricultural land. Any noise created by construction would be consistent with vehicular traffic and agricultural equipment and would not adversely impact adjacent residents. Upon completion, the Proposed Project does not represent an increase in existing noise levels.
- b. **Less than Significant Impact.** The potential for construction-related vibrations exists. Due to the location and nature of the Proposed Project area, vibration resulting from construction would be consistent with agricultural equipment and would not adversely impact adjacent residents. Upon completion, the Proposed Project does not represent an increase in existing vibration levels.
- c. **No Impact.** The Proposed Project site is not located within an airport land use plan. The nearest public airstrip is approximately 6.5 miles northwest of the Proposed Project.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XIII. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The purpose of the Proposed Project is to replace an existing water diversion structure to improve water delivery capabilities.
- b. **No Impact.** The Proposed Project is primarily located within levees of the St. Johns River and Modoc Ditch.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XV. PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

No Impact. The Proposed Project will not require nor facilitate the need for additional governmental services. No changes to service ratios, service times or other public service performance objectives will occur. Construction sequencing of the improvements will be used to minimize any potential impacts of roadways during construction.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XV. RECREATION

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** See response to Item XIII(a) – Population and Housing.
- b. **No Impact.** The Proposed Project does not include or require expansion of any recreational facilities.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XVI. TRANSPORTATION/TRAFFIC

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) (Criteria for Analyzing Transportation Impacts).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The Proposed Project elements are located within the levees of the St. Johns River and Modoc Ditch and will be installed at existing finish grade elevations.
- b. **No Impact.** The Proposed Project does not conflict with § 15064.3 (b). The Proposed Project does not represent a Land Use or Transportation Project. The construction of the Proposed Project can be accomplished by local contractors which will minimize the vehicle miles traveled.
- c. **No Impact.** The Proposed Project elements replace existing features and do not change design features at the Project site.
- d. **No Impact.** The Proposed Project would not result in the alteration of the present access at the Proposed Project site. Therefore, adequate emergency access would be unchanged.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- i) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a(i) **No Impact.** The cultural resources survey completed for the Proposed Project (Item V) did not identify a listed or eligible for listing tribal cultural resource within the Project area.
- a(ii) **No Impact.** The cultural resources survey completed for the Proposed Project (Item V) did not identify any tribal cultural resource having significance with the Project area.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The Proposed Project consists of replacing an existing water diversion structure. The Proposed Project will not change the conditions of the Project area.
- b. **No Impact.** The elements of the Proposed Project replace existing surface water diversion features for agricultural purposes. The Proposed Project does not require new water supplies.
- c. **No Impact.** The Proposed Project addresses irrigation/agricultural water delivery capabilities. The Proposed Project does not result in any, let alone additional wastewater flows (demands).
- d. **No Impact.** The Proposed Project does not result in a change in the solid waste generation or disposal of the existing facilities. The construction phase of the Proposed Project will generate additional solid waste on a temporary basis. Specifications will require proper handling and disposal of construction-related materials. In general, the construction-related materials (i.e., concrete, soil, etc.) can be recycled by the Kaweah Delta Water Conservation District.
- e. **No Impact.** Specifications will require proper handling and disposal of construction-related materials.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XX. WILDFIRE

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

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

Discussion

The Proposed Project is not located within a State Responsibility Area or high fire hazard severity zone.

- a. **No Impact.** The Proposed Project will not impair any emergency or evacuation plans.
- b. **No Impact.** The Proposed Project is located within the south levee of the St. Johns River and will not exacerbate wildfire risks.
- c. **No Impact.** The Proposed Project does not result in additional infrastructure.
- d. **No Impact.** The Proposed Project is located within the channels of the St. Johns River and Modoc Ditch. See responses to Item IX.

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST. JOHNS WATER DISTRICT

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?

	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **Less Than Significant Impact.** As described in the previous sections, the Proposed Project will not result in any significant adverse impacts. Short-term related impacts that might occur during construction will be mitigated to a less than significant level based on Proposed Project design and/or construction specification requirements.

- b. **No Impact.** The Proposed Project is not part of a past or future project. No projects or associated elements have been identified that rely on the completion of the Proposed Project. Therefore, the individual considerations of the Proposed Project and their described potential impacts do not have related impacts that need to be collectively analyzed as part of other projects.

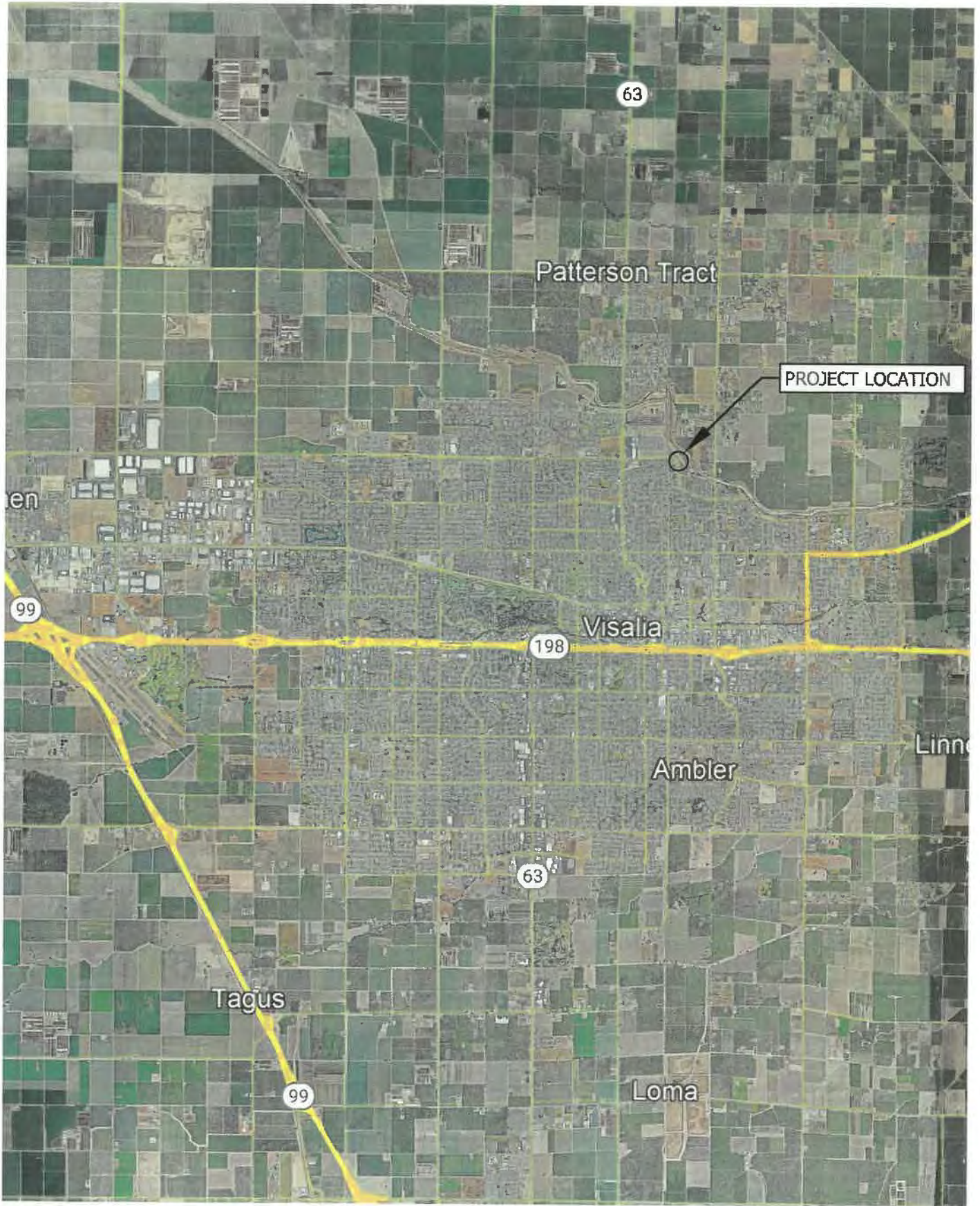
- c. **No Impact.** No direct or indirect adverse effects on the human population have been identified through the completion of this Initial Study.

APPENDIX A

PROPOSED PROJECT LOCATION MAPS

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT

ST. JOHNS WATER DISTRICT



L:\St. Johns Water District\Fig 1. PROJECT VICINITY.dwg



PROJECT VICINITY
MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST JOHNS WATER DISTRICT

DENNIS R. KELLER CCE, INC.



L:\St. Johns Water District\Fig 2 PROJECT LOCATION.dwg

SCALE: 1"=500'



PROJECT LOCATION
MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST JOHNS WATER DISTRICT

DENNIS R. KELLER CCE, INC.



SCALE: 1"=20'



PROPOSED PROJECT
MODOC DITCH HEADGATE STRUCTURE REPLACEMENT
ST JOHNS WATER DISTRICT

DENNIS R. KELLER CCE, INC.

APPENDIX B

AIR EMISSIONS GREENHOUSE GASES ESTIMATES

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT

ST. JOHNS WATER DISTRICT

ESTIMATED EMISSIONS
MODOC DITCH DIVERSION IMPROVEMENTS PROJECT
ST. JOHNS WATER DISTRICT

The estimated Project construction and operational air emissions are summarized below. The emission estimates were generated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 based upon the demolition of a concrete water diversion structure and construction of a new concrete diversion structure over a 120 day construction schedule. Construction activities include excavation, concrete placement, gate installation, backfill and surface restoration. The full CalEEMod emissions estimate report is available for review at the District office.

Pollutant	Federal Status (Attainment, Nonattainment or Unclassified)	Nonattainment Rates (Marginal, Moderate, Serious, Severe or Extreme)	Threshold of Significance for the Area (if applicable (Tons/Year) (1)	Construction Emissions (Tons/Year)	Operations Emissions (Tons/Year) (2)
Carbon Monoxide (CO)	Attainment	NA	100	0.39	0.003
Ozone (O ₃)	Nonattainment	Extreme	10 (EPA De Minimis)	Unknown (Note 3)	Unknown (Note 3)
Oxides of Nitrogen (NO _x)	Unknown	-	10	0.33	0.002
Particulate Matter (PM ₁₀)	Attainment	NA	15	0.02	0.001
Reactive Organic Gases (ROG)	Unknown	-	10	0.034	0.0003
Sulfur Dioxide (SO ₂)	Attainment	NA	100 (EPA De Minimis)	0.0007	0.00002
Volatile Organic Compounds (VOC)	Unknown	-	50 (EPA De Minimis)	Unknown (Note 3)	Unknown (Note 3)
Particulate Matter (PM _{2.5})	Nonattainment	Serious	15	0.02	0.0003
CO ₂ e (Greenhouse Effect)	Does not apply	-	10,000 Metric Tons (California Air Resources Board)	58	1.4
Lead (Pb)	Attainment	NA	25 (EPA De Minimis)	Unknown (Note 3)	Unknown (Note 3)

Notes:

1. San Joaquin Valley Air Pollution Control District adopted thresholds, unless otherwise noted.
2. Results reflect CalEEMod city park land use. The Project consists of construction and annual use of a concrete water diversion that will use manually operated water diversion gates. The Project is located along the St. John's River adjacent to riparian areas and a pedestrian trail/walkway.
3. Not calculated by CalEEMod.

APPENDIX C

BIOLOGICAL RESOURCES REPORT

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT

ST. JOHNS WATER DISTRICT



LIVE OAK

ASSOCIATES, INC.

**BIOLOGICAL EVALUATION
MODOC DITCH HEADGATE STRUCTURE
ST. JOHNS WATER DISTRICT
VISALIA, CALIFORNIA**

Prepared by:

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Natalie E. Neff, Staff Ecologist

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December 14, 2023

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EXECUTIVE SUMMARY

Live Oak Associates, Inc (LOA) investigated the biological resources of an approximately 0.73-acre site proposed for construction and evaluated potential project-related impacts to such resources pursuant to the California Environmental Quality Act (CEQA). St. John's Water District proposes the replacement of an old concrete diversion structure in an anabranch of the St. John's River that diverts water to Modoc Ditch. The project site is located at the north edge of Visalia, California.

Live Oak Associates, Inc. surveyed the site on November 9, 2023, for its biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law. Two biotic habitats/land uses were found on the project site: riparian and ruderal/developed. The habitat value of the site has been degraded by human development and use. Riparian habitat included an anabranch of the St. John's River and associated trees and shrubs. Ruderal/developed areas consisted of a ruderal field, walking pathway, a regularly disturbed eyot, and an irrigation ditch known as Modoc Ditch.

Suitable habitat is available on the project site for a few special status species. Some migratory birds and raptors could nest on the site and the project has the potential to result in construction-related mortality of nesting migratory birds and raptors, including the Swainson's hawk and loggerhead shrike. These birds are protected under the federal Migratory Bird Treaty Act and related state laws. Mortality of protected avian species would be considered a significant impact of the project under CEQA. By either implementing the project outside of the nesting seasons or by avoiding active nests identified during preconstruction surveys, the project applicant can reduce the magnitude of this potential impact to a less than significant level.

The project will have a less than significant effect on regionally occurring special status plant species and 15 regionally occurring special status animal species due to the absence of suitable habitat and/or the site situated outside the known range of these species. The project site could be used in varying degrees by the pallid bat and western mastiff bat for foraging, and the pallid bat for roosting; however, the project is not expected to significantly impact these species, directly or indirectly. The project site contained aquatic features in the form of the anabranch of the St. John's River and the Modoc Ditch. These features may require state and/or federal agency permits prior to project implementation; however, impacts to these features would be very small and are not considered significant under CEQA. Additionally, the project will either have no impact or a less than significant impact on wildlife movement corridors and sensitive natural communities. The project appears to have no conflict with any habitat conservation plans or local policies.



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1.0 INTRODUCTION

This report, prepared by Live Oak Associates, Inc. (LOA), describes the biological resources of an approximately 100-foot radius (0.73-acre) work area (“project site” or “site”) around the existing Modoc Ditch diversion structure proposed for replacement (“project”), and assesses potential project-related impacts to those resources. Specifically, this report describes the biotic habitats of the project site, evaluates the suitability of each habitat for special status plant and animal species, identifies potentially significant impacts to sensitive or protected biological resources from the project and proposes measures that, if implemented, would mitigate those impacts to a less than significant level as defined by the California Environmental Quality Act (CEQA).

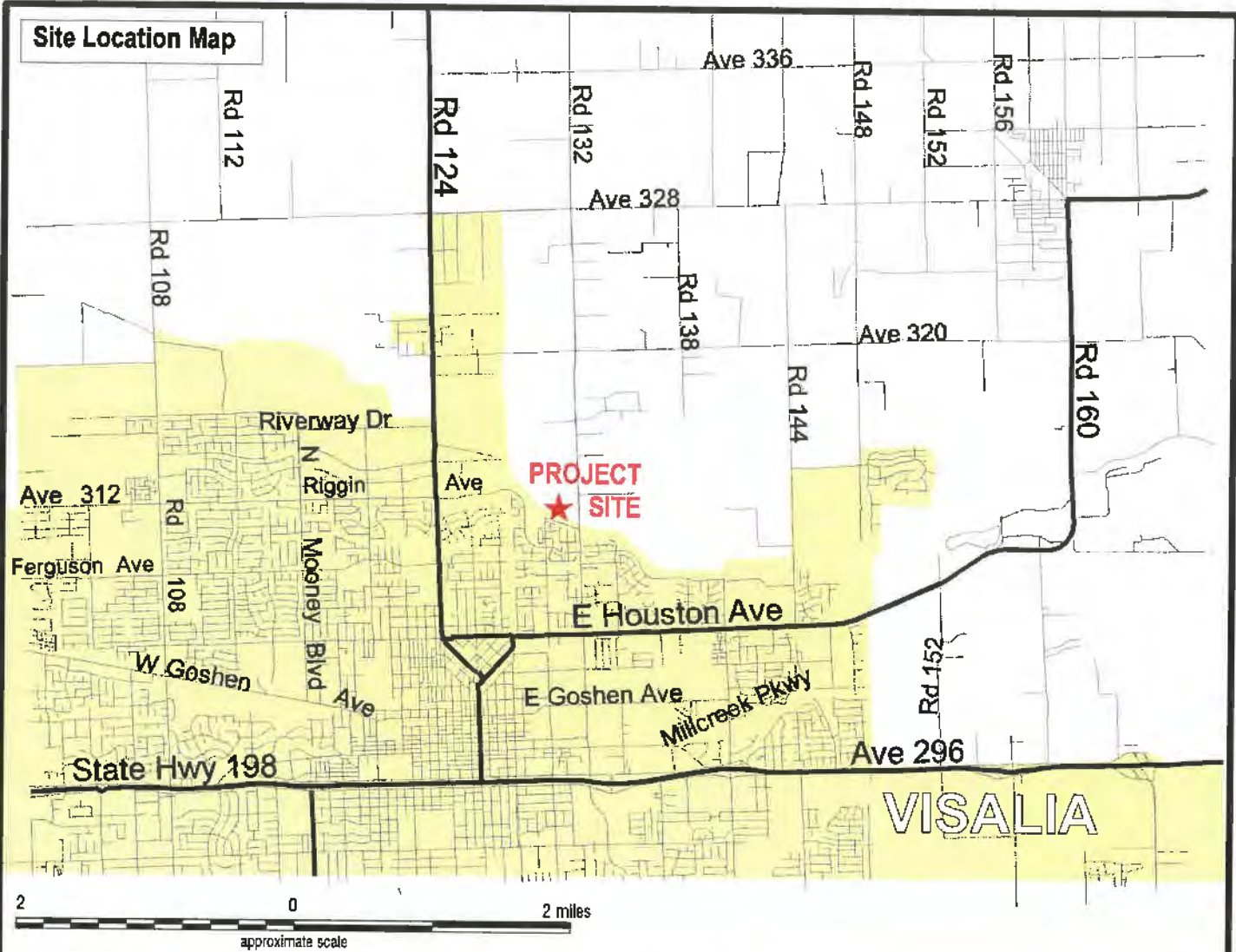
1.1 PROJECT LOCATION

The project site is located at the intersection of Modoc Ditch and a paved recreational walkway named Levee Drive, approximately 0.25-mile west of Road 132 and 0.08-mile east of North Street John’s Parkway in the City of Visalia, California. (Figure 1). The site can be found on the *Visalia* U.S. Geological Survey (USGS) 7.5-minute quadrangle, Section 20, Township 18 South, Range 25 East; Mount Diablo Base and Meridian (Figure 2).

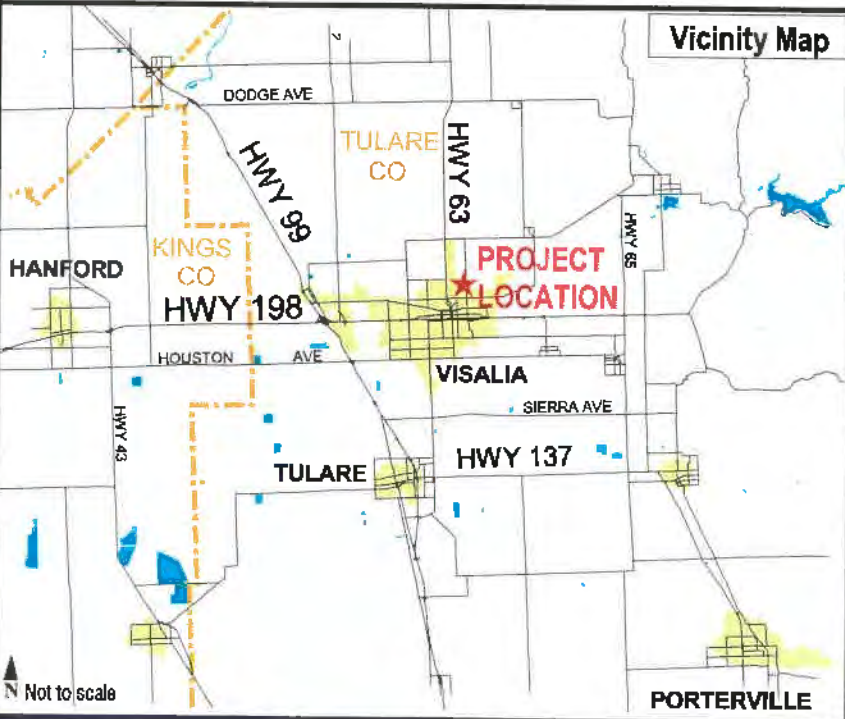
1.2 PROJECT DESCRIPTION

The St. John’s Water District (District) proposes to replace an existing concrete diversion structure that diverts water from an anabranch of the St. John’s River to the Modoc Ditch. The area of potential effect (APE) encompasses a 100-foot radius around the structure and will be subject to possible temporary impacts from equipment use and material storage. Permanent impacts will be limited to the footprint of the existing diversion structure and potentially areas immediately adjacent to the existing structure.

Site Location Map



Vicinity Map



Regional Map

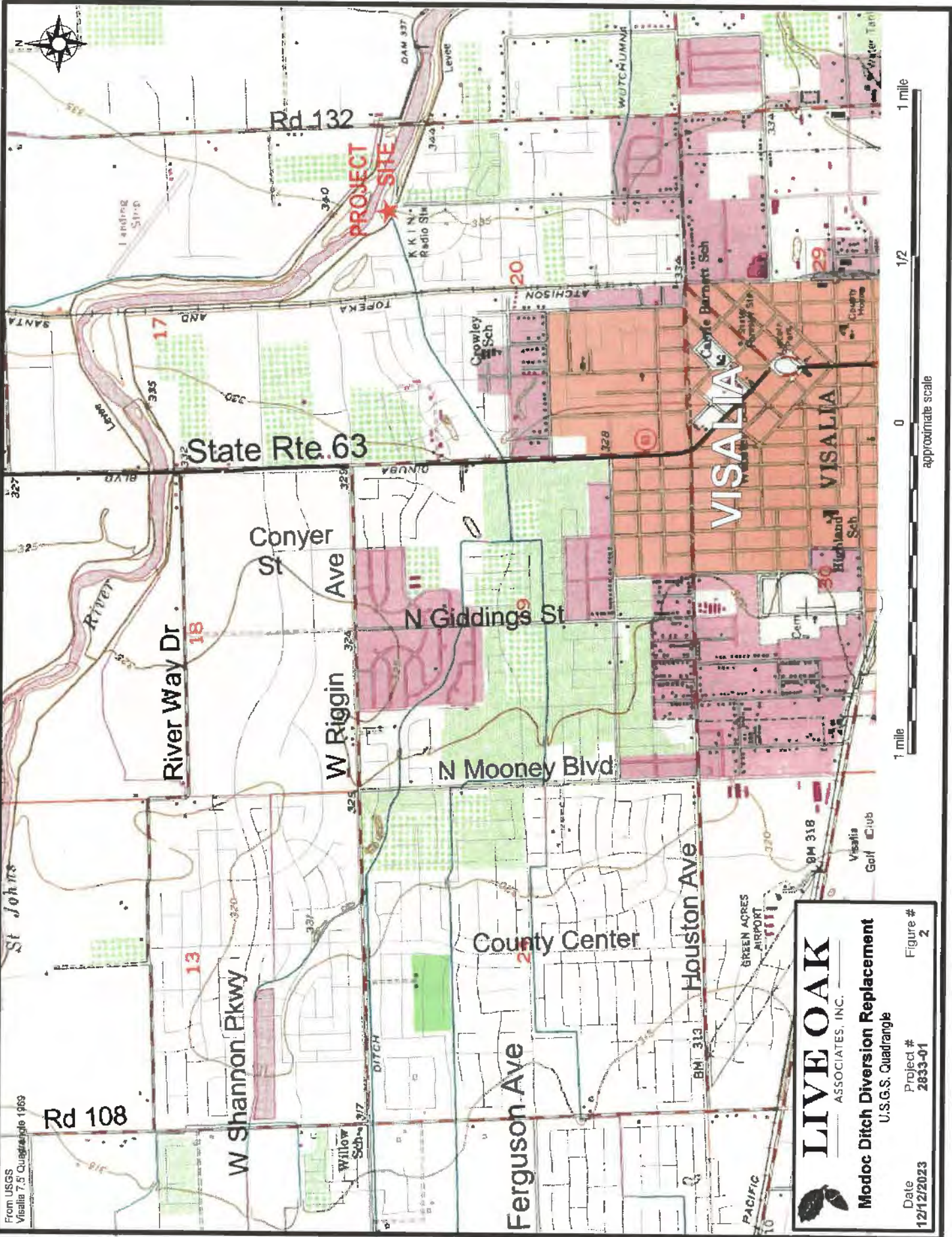


LIVE OAK
ASSOCIATES, INC.

Modoc Ditch Diversion Replacement
Vicinity Map

Date: 12/12/2023 Project #: 2833-01 Figure #: 1

From USGS
Visalia 7.5' Quadrangle 1969



LIVE OAK
ASSOCIATES, INC.

Modoc Ditch Diversion Replacement
U.S.G.S. Quadrangle

Date 12/12/2023
Project # 2833-01

Figure # 2





1.3 REPORT OBJECTIVES

This report summarizes a biological study conducted by LOA to facilitate environmental review pursuant to CEQA. As such, the report's objectives are to:

- Characterize the project site's existing biological resources, including biotic habitats, flora and fauna, soils, and aquatic resources.
- Evaluate the project site's potential to support sensitive resources such as special status species, sensitive natural communities, and jurisdictional waters and wetlands.
- Summarize all state and federal natural resource protection laws that may be relevant to project implementation.
- Identify and discuss potential project-related impacts to biological resources within the context of CEQA and other state and federal laws.
- Identify avoidance and mitigation measures that would reduce the magnitude of project-related impacts in a manner consistent with CEQA and species-specific guidelines.

1.4 STUDY METHODOLOGY

The analysis of impacts, as discussed in Section 3.0 of this report, is based on the known and potential biotic resources of the project site (discussed in Section 2.0). Sources of information used in the preparation of this analysis include: (1) the *California Natural Diversity Data Base* (CDFW 2023); (2) the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2023); (3) manuals, reports, and references related to plants and animals of the Southern San Joaquin Valley region; and (4) other available planning documents and biological studies from the general project vicinity. A field survey of the project site was conducted on November 9, 2023, by LOA biologist Natalie Neff. The survey entailed a systematic walk across the project site to ensure full visual coverage, while noting principal land uses and associated plant and animal species, and mapping habitat suitable for special status species and other sensitive or protected biological resources.



2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in the eastern Tulare basin which lies in the southeast portion of the San Joaquin Valley and west of the southern end of the Sierra Nevada Mountains. The project site is at the northern edge of the City of Visalia, situated approximately 19-miles east of Hanford and 35-miles southeast of Fresno. The City of Visalia is comprised of dense urban areas with rural agricultural lands bordering its city limits. Immediately surrounding areas of the project site consist of residential, agricultural, and ruderal lands. The St. John's River is the principal water feature of the region and runs east to west. The main channel of the St. John's River is approximately .06-mile north of the project site.

Like most of California, the central San Joaquin Valley has a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures commonly exceed 90 to 100 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely rise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the project site is about 11 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain. Stormwater readily infiltrates the soils of and surrounding the project site.

2.2 PROJECT SITE

The project site consists of a paved walking trail (Levee Drive), an eyot of the St. John's River, an anabranch of the St. John's River, a canal stemming from the St. John's River's anabranch called Modoc Ditch, and a portion of a field. The site is surrounded by a high level of human activity in the form of residential housing, agriculture, homeless encampments, and has had a paved recreational trail (Levee Drive) running through it since at least 1994.

The site is relatively flat with an elevation of approximately 340 feet National Geodetic Vertical Datum (NGVD) (Figure 2). Soils of the site comprise Riverwash (467206) and Grangeville sandy loam, drained, 0-2 percent slopes (467194). Grangeville sandy loam, drained, 0-2 percent slopes within the southern portion of the site is considered hydric and accounts for approximately 0.33-



acre of the 0.73-acre of the site. A hydric soil is defined as saturated, flooded, or ponded for long enough periods during the growing season to develop anaerobic conditions such that under sufficiently wet conditions they support hydrophytic (water-loving) vegetation, such conditions are typically found in depressions within hydric soils forming vernal pools and wetland swales. However, the soils of the project site have been substantially altered by development at the site. As a result, soils of the site no longer maintain their native soil characteristics and would have no particular significance to biological resources of the site.

2.3 BIOTIC HABITATS

The project site contained two biotic habitats characterized as ruderal/developed and riparian. The locations of these habitats are presented in Figure 3. A list of vascular plants identified on the site is presented in Appendix A. A list of terrestrial vertebrates using or potentially using the project site is presented in Appendix B. Representative photos of the site are presented in Appendix C.

2.3.1 Ruderal/Developed

Most of the project site consists of ruderal/developed areas that include the paved walking trail, the eyot, Modoc Ditch, and a portion of a weedy field. The ruderal/developed areas were vegetated with mostly non-native plants that are often found in areas that experience high human disturbance. Wild oat (*Avena fatua*), redroot amaranth (*Amaranthus retroflexus*), mat amaranth (*Amaranthus blitoides*), flatspine bur ragweed (*Ambrosia acanthicarpa*), asthma weed (*Erigeron bonariensis*), and Canada horseweed (*Erigeron canadensis*) were common plants found along the edges of the walking path, Modoc Ditch, and in the field. The eyot was primarily covered in non-native Russian thistle (*Salsola tragus*).

The habitat quality of the ruderal/developed areas was low and unlikely to support much native wildlife, however, a few disturbance-tolerant species could utilize these areas. Common amphibian species such as the Sierran treefrogs (*Pseudacris sierra*) and western toads (*Anaxyrus boreas*) may occasionally disperse onto ruderal areas of the site from the adjacent riparian area. Common reptile species such as western fence lizards (*Sceloporus occidentalis*) and pacific gophersnakes (*Pituophis catenifer*) may be found in ruderal areas of the site. Ground nesting birds like the killdeer (*Charadrius vociferus*), which is highly tolerant of human disturbance could nest



LEGEND

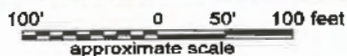
Study Area Boundary

Diversion Structure

Habitats / Land Cover

Ruderal / Developed

Riparian



LIVE OAK
ASSOCIATES, INC.

Modoc Ditch Diversion Replacement
Habitats / Land Cover

Date: 12/12/2023 Project #: 2833-01 Figure #: 3



in barren areas of the site. Small mammals expected to occur in ruderal areas of the site include Botta's pocket gopher (*Thomomys bottae*) (observed), deer mice (*Peromyscus maniculatus*), California ground squirrels (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), raccoons (*Procyon lotor*), coyotes (*Canis latrans*), and striped skunks (*Mephitis mephitis*).

2.3.2 Riparian

A narrow band of riparian habitat was identified within the anabranch of St. John's River on the project site. The plant diversity within the anabranch included many types of herbaceous and woody vegetation that harbored a number of bird species at the time of the survey. Woody vegetation included mature valley oak (*Quercus lobata*) trees, a single blue elderberry (*Sambucus mexicana*) shrub, tree tobacco (*Nicotiana glauca*) shrubs, and wild California grape (*Vitis californica*) vines. Common herbaceous vegetation in this area included tall flatsedge (*Cyperus eragrostis*) and seep monkeyflower (*Erythranthe gutta*).

Moderately high animal species diversity is expected to occur in the riparian habitat of the project area as it provides value for a number of animal species that rely on the dense vegetation for food and cover. However, wildlife use of this area would be tempered by human disturbance. Amphibians likely to occur in this habitat include Sierran treefrogs (*Pseudacris sierra*) and western toads (*Anaxyrus boreas*). Reptiles expected in this habitat include western fence lizards (*Sceloporus occidentalis*), common gartersnake (*Thamnophis sirtalis*), and striped racer (*Coluber lateralis*).

Riparian areas can also attract a large number of avian species that utilize the various canopy layers for nesting, foraging, and cover. Resident species expected in this habitat included the Nuttall's woodpecker (*Picoides nuttallii*), song sparrow (*Melospiza melodia*), lesser goldfinch (*Spinus psaltria*), tree swallow (*Tachycineta bicolor*), northern mockingbird (*Mimus polyglottos*) (observed), mourning dove (*Zenaida macroura*) (observed), California scrub jay (*Aphelocoma californica*) (observed), and yellow-rumped warbler (*Setophaga coronata*) (observed). Resident raptors expected in this habitat include red-shouldered hawks (*Buteo lineatus*), red-tailed hawks (*Buteo jamaicensis*) (observed), and Cooper's hawks (*Accipiter cooperii*).



Riparian habitat of the project area is likely to be used by small mammals such as deer mouse, broad footed mole (*Scapanus latimanus*), and California ground squirrel. Larger omnivores and carnivores expected to forage in this habitat include striped skunk, raccoon, grey fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and coyote. Various species of bats are also expected to utilize the site for foraging.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and residential uses. As described more fully in Section 3.2, state and federal laws have provided the CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as “candidates” for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered (CNPS 2023). Collectively, these plants and animals are referred to as “special status species.”

The California Natural Diversity Data Base (CNDDDB) was queried for special status plant and animal occurrences in the nine USGS 7.5-minute quadrangles containing and surrounding the project site: *Traver, Monson, Ivanhoe, Goshen, Visalia, Exeter, Paige, Tulare* and *Cairns Corner*. A number of special status plants and animals were returned in the query and are summarized below in Table 1. Sources of information for this table included *California’s Wildlife, Volumes I, II, and III* (Zeiner et. al 1988-1990), *California Natural Diversity Data Base* (CDFW 2023), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al 2012), the *California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2023), *Calflora.org*, and *eBird.org*.



TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS (Adapted from CDFW 2023 and CNPS 2023)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat/Range	*Occurrence within the Project Site
California Jewel-flower (<i>Caulanthus californicus</i>)	FE, CE, CRPR 1B.1	Occurs in chenopod scrub, pinyon and juniper woodland, and sandy valley and foothill grassland; blooms February-May; elevation 250-3,300 ft.	Absent. Suitable habitat is absent. The closest occurrence is from 1986 approximately 9.8 miles southwest of the project site and presumed extirpated (CDFW 2023).
Hoover's Spurge (<i>Euphorbia hooveri</i>)	FT, CRPR 1B.2	Occurs in vernal pools of California's Central Valley; blooms July-September; elevation 80-820 ft.	Absent. Suitable habitat in the form of vernal pools is absent from the project site. Furthermore, the closest known occurrence is from 1941, approximately 5.2 miles north, and presumed extirpated (CDFW 2023).
San Joaquin Valley Orcutt Grass (<i>Orcuttia inaequalis</i>)	FT, CE, CRPR 1B.1	Occurs in vernal pools of the Central Valley; requires deep pools with prolonged periods of inundation; blooms April-September; elevation 100-2,480 ft.	Absent. Suitable habitat in the form of vernal pools is absent from the project site. The closest known occurrence is 6 miles northwest from the project site from 2017 (CDFW 2023).
San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>)	FT, CE, CRPR 1B.1	Occurs in foothill grasslands in heavy clay soils of the Porterville and Centerville series, between 300 and 2,625 ft. in elevation. Blooms March-April.	Absent. Clay soils needed for this species are absent from the project site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS (Adapted from CDFW 2023 and CNPS 2023)

CNPS-listed Species (cont.)

Species	Status	Habitat	*Occurrence within the Project Site
Heartscale (<i>Atriplex cordulata</i> var. <i>cordulata</i>)	CRPR 1B.2	Occurs on saline or alkaline soils in chenopod scrub, meadows, seeps, and grasslands; blooms April-October; elevations below 1,230 ft.	Absent. Suitable habitat is absent from the project site. Furthermore, the only known occurrence in the project vicinity is from 1938 and lies 6.75 miles west of the project site (CDFW 2023).
Earlimart Orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	CRPR 1B.2	Occurs in valley and foothill grasslands between 130 and 330 ft. in elevation; blooms August-September.	Absent. Suitable habitat is absent from the project site.
Brittlescale (<i>Atriplex depressa</i>)	CRPR 1B.2	Occurs in chenopod scrub, valley and foothill grassland, meadows and seeps, playas, and vernal pools. It is rarely found in riparian or marsh habitats. Blooms April-October; elevations below 1,050 ft.	Absent. Suitable habitat is absent from the project site.
Lesser Saltscale (<i>Atriplex minuscula</i>)	CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grasslands of the San Joaquin Valley; alkaline/sandy soils; blooms May-October; elevation 50-660 ft.	Absent. Suitable habitat is absent from the project site. The closest known occurrence is 7-miles west of the project site from 2002 (CDFW 2023).



Vernal Pool Smallscale (<i>Atriplex persistens</i>)	CRPR 1B.2	Occurs in alkaline vernal pools; blooms July-Oct.; elevations below 400 ft.	Absent. Suitable habitat in the form of vernal pools is absent from the project site.
Subtle Orache (<i>Atriplex subtilis</i>)	CRPR 1B.2	Occurs in alkaline vernal pools; blooms July-Oct.; elevations below 400 ft.	Absent. Suitable habitat in the form of vernal pools is absent from the project site.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	CRPR 1B.2	Occurs in alkaline soils of cismontane woodland and valley and foothill grasslands in elevations 100 – 2,000 feet. Blooms March-June.	Absent. Suitable habitat in the form alkaline soils and cismontane woodland and valley foothill grasslands is absent from the project site. The closest documented occurrence is 6.25 miles north of the project site from 1998 (CDFW 2023).
Spiny-sepaled Button Celery (<i>Eryngium spinosepalum</i>)	CRPR 1B.2	Found in vernal pools, swales and valley and foothill grasslands at the eastern edge of the San Joaquin Valley and in the Tulare basin; elevation between 330 and 840 ft. Blooms April to May.	Absent. Suitable habitat is absent from the project site. Furthermore, the project site lies outside its current known range (California 2023).
Winter's Sunflower (<i>Helianthus winteri</i>)	CRPR 1B.2	Occurs in steep, south-facing grassy slopes, rocky outcrops, or road cuts at elevations from 591 ft- 1509 ft.	Absent. Suitable habitat is absent and the project site is below the elevational range of this species.
California Satintail (<i>Imperata brevifolia</i>)	CRPR 2B.1	Occurs in coastal scrub, chaparral, riparian areas, Mojavean desert scrub, and alkali meadows and seeps at elevations below 1640 feet. Blooms September- may.	Unlikely. The only occurrence of this species in the region is a 1895 occurrence mapped to the general vicinity of Visalia (CDFW 2023). Riparian habitat on the site provides marginal habitat for this species due to the small band of habitat available within an otherwise disturbed environment. Because of the small area of marginal habitat on the site and the lack of recent, known populations in the area, this species is unlikely to occur on site.
Alkali-Sink Goldfields (<i>Lasthenia chrysantha</i>)	CRPR 1B.1	Occurs in valley grassland, alkali sink, wetland riparian areas less than 328 ft. in elevation in the southern Sacramento Valley and San Joaquin Valley. Blooms February – June.	Absent. Suitable habitat is absent from the project area due to the disturbed nature of the site and dense weedy vegetation.
Coulter's Goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	CRPR 1B.1	Found in coastal salt marshes and swamps, playas, and vernal pools at elevations below 3,281 feet. Blooms February - June.	Absent. Suitable habitat is absent from the project site and the closest known occurrence is approximately 8-miles north of the project site from 2015 (CDFW 2023).
California Alkali Grass (<i>Puccinellia simplex</i>)	CRPR 1B.2	Occurs in alkali sinks and flats within grassland and chenopod scrub habitats of the Central Valley, San Francisco Bay area and western Mojave Desert; elevations below 3,000 feet. Blooms March-May.	Absent. Suitable habitat and soils for this species are absent from the project site.
Sanford's Arrowhead (<i>Sagittaria sanfordii</i>)	CRPR 1B.2	Occurs in freshwater emergent marsh habitat in drainage ditches and canals of California's Central Valley. Blooms May to October.	Absent. The inundation duration within onsite ditches is insufficient to support emergent marsh vegetation.



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ANIMALS (adapted from CDFW 2023)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence within the Project Site
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Primarily found in vernal pools of California's Central Valley.	Absent. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Primarily found in vernal pools but may use other seasonal wetlands in mesic valley and foothill grasslands.	Absent. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Crotch Bumble Bee (<i>Bombus crotchii</i>)	CCE	This bee is found in Coastal California east to the Sierra-Cascade crest and south into Mexico, where it occupies open grassland and scrub habitats. Constructs nests underground in animal burrows. Overwintering sites are likely in soft soils or in debris or leaf litter. Its food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Unlikely. Though a 1966 occurrence was documented in the general vicinity of Visalia, this species is unlikely to occur on the site due to its disturbed nature, lack of nectar resources, and incompatible land use in the vicinity. In fact, it is generally thought to be absent from the valley floor.
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills.	Absent. Although a blue elderberry shrub was found on the project site, the USFWS has revised its understanding of VELB distribution to exclude the San Joaquin Valley south of Merced County.
California Tiger Salamander (<i>Ambystoma californiense</i> pop. I)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. Although most CTS aestivate within 0.4 mile of their breeding pond, outliers may aestivate up to 1.3 miles away (Orloff 2011).	Absent. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CT, CSC	Breeds colonially near fresh water in dense bulrush, cattails, or thickets of willows or shrubs. Occasionally nests in wheat fields. Forages in a wide variety of habitats.	Absent. Suitable nesting and foraging habitat is absent from the project site. The closest known occurrence is approximately 18.5-miles southwest of the project site from 2014 (CDFW 2023).
Western Yellow-billed Cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT, CE	Occurs in valley foothill and desert riparian habitats in scattered locations in California. Requires extensive gallery riparian forests for nesting.	Absent. Although riparian habitat is present on the project site and there is a 1919 occurrence recorded in the general vicinity of Visalia, the site is outside the current range of the species.
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	Summer migrant in the Central Valley. Forages in grasslands and fields close to riparian areas.	Possible. There are 12 nesting occurrences within 10-miles of the project site (CDFW 2023). The site supports large trees that could potentially be used for nesting by Swainson's hawk. However, nesting Swainson's hawks are sensitive to human foot traffic and would be unlikely to nest in trees on or near the site due to the high level of foot traffic. Foraging habitat is marginal on the site. This species may nest in the vicinity and occasionally fly over the site.



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ANIMALS (adapted from CDFW 2023)

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Species	Status	Habitat	*Occurrence within the Project Site
Tipton Kangaroo Rat (<i>Dipodomys nitratoides nitratoides</i>)	FE, CE	Inhabits valley saltbrush scrub, valley sink scrub, and grassland habitats located from the Valley floor to 300 ft. in elevation.	Absent. Suitable habitat is absent from the project site. Furthermore, the most recent and closest occurrence is from 1943 approximately 14.8 miles southeast from the project site (CDFW 2023).
San Joaquin Kit Fox (<i>Vulpes macratis mutica</i>)	FE, CT	Desert alkali scrub, annual grasslands of California's San Joaquin Valley and Tulare Basin, extending west into San Luis Obispo County. This species may forage in adjacent agricultural habitats.	Unlikely. Fourteen occurrences of San Joaquin Kit fox have been recorded within 10- miles of the project site, the closest occurring approximately 3.5 miles south of the project site. Although there are multiple occurrences, the most recent is from 2003 and the remaining 13 occurrences are 31 years old or older (CDFW 2023). The site provides marginal habitat for this species, especially considering the amount of continual human disturbance experienced here.

State Species of Special Concern

Northern Leopard Frog (<i>Lithobates pipiens</i>)	CSC	Breeds in a variety of aquatic habitats with vegetation such as marshes or side channels in streams or rivers but prefer permanent pools. Needs a mosaic of aquatic and upland habitats with linkages between them.	Absent. Suitable habitat is absent from the project site due to prolonged dry periods in the onsite channels. Furthermore, the closest known occurrence is from 1961 and located approximately 7.2-miles northwest of the project site (CDFW 2023).
Western Spadefoot (<i>Spea hammondi</i>)	CSC	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary pools for breeding.	Absent. Suitable habitat is absent from the project site. The closest known occurrence is from 2012 and located approximately 5.7-miles northwest of the project site (CDFW 2023).
Western Pond Turtle (<i>Emys marmorata</i>)	CSC	Associated with permanent bodies of water for breeding. Requires partially submerged rocks or logs for basking sites. Eggs are deposited in a variety of soil types near water's edge. Seasonal hibernation/estivation includes use of upland habitat from water sources including ground squirrel burrows and loose substrate for burying themselves.	Absent. Suitable habitat is absent on the site for this species due to the high amount of human disturbance and lack of permanent bodies of water on or near the site.
Northern California Legless Lizard (<i>Anniella pulchra</i>)	CSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Requires moist soils.	Unlikely. Suitable habitat is marginal or absent from the project site due to the high amount of human disturbance and lack of suitable moisture available during dry months.
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Unlikely. Although there are nine burrowing owl occurrences within 10-miles of the project site. Suitable foraging and nesting habitat are extremely marginal or absent on the project site and surrounding areas due to the high level of human disturbance and lack of good foraging habitat.



TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS (adapted from CDFW 2023)

Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	Possible. Onsite trees provide potential nesting habitat, portions of the project site and areas immediately around the project site provide potential foraging habitat. There is only one documented occurrence of this species within the vicinity of the project site from 1992 and is approximately 8-miles northwest of the project site (CDFW 2023).
Pallid Bat (<i>Antrozous pallidus</i>)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	Possible. The site provides suitable foraging habitat and potential roosting habitat in mature valley oak trees on the site. There is one documented occurrence of a pallid bat maternity colony roosting under a bridge from 2007 approximately 4-miles east of the project site (CDFW 2023).
Western Mastiff Bat (<i>Eumops perotis californicus</i>)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	Possible. Suitable roosting habitat is absent from the site, but the site provides potential foraging habitat. The one documented colony occurrence within the vicinity of the project site is from 2002 and lies approximately 4.75-miles southwest from the project site (CDFW 2023).
American Badger (<i>Taxidea taxus</i>)	CSC	This species inhabits open and dry sections of grasslands, shrub, and forest habitats with friable soil.	Absent. The project site provides marginal habitat, at best, for this species. The developed and disturbed nature of the project vicinity are incompatible with badger use and occupation.

* Explanation of Occurrence, Designations, and Status Codes

Present: Species observed on the site at time of field surveys or during recent past.

Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the site, but it could occur there from time to time.

Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient

Absent: Species not observed on the Site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE Federally Endangered

FT Federally Threatened

FPT Federally Proposed Threatened

FC Federal Candidate

FPD Federally (Proposed) Delisted

CE California Endangered

CT California Threatened

CSC California Species of Special Concern

CRPR California Rare Plant Ranking

CFP California Fully Protected

CCE California Candidate Endangered

2.5 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the USACE,



the CDFW, and the Regional Water Quality Control Board (RWQCB). See Section 3.2.8 of this report for additional information.

The project site contains two aquatic features, the anabranch of the St. John's River and Modoc Ditch. The anabranch of the St. John's River is likely to be considered a jurisdictional water by the RWQCB and CDFW, and possibly the USACE. The Modoc Ditch is also likely considered jurisdictional by the RWQCB.

2.6 CALIFORNIA SENSITIVE NATURAL COMMUNITIES

California Sensitive Natural Communities are natural communities designated by CDFW as those that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, of importance in maintaining water quality or sustaining flows, etc.

Valley oak riparian habitat is present on the project site and is considered a sensitive natural community by the Department of Fish and Wildlife (CDFW).

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines.

Certain features of the project site have the potential to function as movement corridors for resident and migratory fish and wildlife species. The anabranch of the St. John's River and the Modoc Ditch could serve as travel routes for common terrestrial wildlife when dry and aid passage by aquatic species when inundated. The tops of the banks along both features could also facilitate home and/or dispersal movements of some locally occurring terrestrial wildlife.



3.0 RELEVANT GOALS, POLICIES, AND LAWS

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated and methods for avoiding or reducing these impacts are considered before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest.” Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- 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 CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.



Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make “mandatory findings of significance” if there is substantial evidence that a project may:

- Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 OTHER RELEVANT LAWS AND POLICIES

3.2.1 General Plan Policies of the City of Visalia

In compliance with CEQA, the lead agency must consider conformance with applicable goals and policies of the City of Visalia General Plan. The City of Visalia General Plan was released in October 2014 and is valid through 2030. Implementation of goals in the general plan is accomplished via a set of policies specific to each goal.

Relevant biological resource goals of the City of Visalia General Plan include:

- Preserving natural resources, specifically valley oak riparian woodland or valley oak woodland habitat, wetlands, and vernal pools;
- Protect water resources important to ecological stability;
- Preserve and enhance waterways and adjacent corridors that serve as plant and wildlife habitats;
- Protect, restore, and enhance a continuous corridor of native riparian vegetation along waterways, including the St. John’s Rive; Mill, Packwood, and Cameron Creeks; and segments of other creeks and ditches;
- Preserve and/or enhance natural features along waterways in new neighborhoods;
- Establish easements or require dedication of land along waterways to protect natural habitat areas;



- Protect and enhance the St. Johns River Corridor by establishing extensive open space land along both sides;
- Where no urban development exists, maintain a minimum riparian habitat development setback from the discernible top of the bank- 50 feet for both sides of the Mill, Packwood, and Cameron Creek corridors and 25 feet for both sides of Modoc, Persian, and Mill Creek Ditches;
- Any new development must ensure minimal disruption/loss of habitat that couple support special status animal species;
- Protect and enhance natural vegetation, especially sensitive natural communities;
- Establish Best Management Practices (BMP) for control of invasive plant species that could adversely affect wildlife;
- Establish a “no net loss” standard for sensitive habitat acreage, including wetlands and vernal pools potentially affected by development;
- Protect significant stands of valley oak woodlands from further development;
- Require assessments of biological resources prior to approval of any discretionary development projects involving riparian habitat, wetlands, or special status species habitat;
- Protect and enhance habitat for special status species designated under state and federal law;
- Develop riparian planting and maintenance standards;
- Develop a list of recommended native plants and landscaping guidelines for the public to use;
- Use native trees in street and public landscaping;
- Design stormwater ponds and retention basins to serve a dual role as wildlife habitat by planting species appropriate for food and cover needs;

3.2.2 Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as “threatened” or “endangered” under one or both Acts, and/or as “rare” under CESA. Under both Acts, “endangered” means a species is in danger of extinction throughout all or a significant portion of its range, and “threatened” means a species is likely to become endangered within the foreseeable future. Under CESA, “rare” means a species may become endangered if their present environment worsens. Both Acts prohibit “take” of listed species, defined under CESA as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86), and more broadly defined



under FESA to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). The USFWS commonly interprets “take” to include the loss of habitat utilized by a listed species.

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the “take” of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.2.3 California Fully Protected Species

The classification of certain animal species as “fully protected” was the State of California’s initial effort in the 1960s, prior to the passage of the California Endangered Species Act (CESA), to identify and provide additional protection to those species that were rare or faced possible extinction. Following CESA enactment in 1970, many fully protected species were also listed as California threatened or endangered. The list of fully protected species are identified, and their protections stipulated, in California Fish and Game Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and fish (5515). Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except in conjunction with necessary scientific research and protection of livestock.

3.2.4 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.



Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.

3.2.5 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

3.2.6 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of “take” by the CDFW.

3.2.7 Habitat Conservation Plans and Natural Community Conservation Plans

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP), developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.



3.2.8 Wetlands and Other Jurisdictional Waters

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into “navigable waters” (33 U.S.C. §1344), defined in the CWA as “the waters of the United States, including the territorial seas” (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA’s passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Waters of the U.S. are presently defined by the EPA and USACE’s joint 2023 Revised Definition of ‘Waters of the U.S.’ Rule (2023 WOTUS Rule), issued in January 2023 and amended in August 2023. Generally speaking, waters of the U.S. include:

- Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide
- The territorial seas
- Interstate waters
- Impoundments of waters otherwise defined as waters of the United States under the definition
- Tributaries to other waters of the U.S. that are relatively permanent, standing or continuously flowing bodies of water
- Wetlands adjacent to other waters of the U.S. that have a continuous surface connection to those waters

The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems
- Prior converted cropland



-
- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water
 - Certain artificial features, e.g. irrigation basins, swimming pools, borrow pits, and artificially irrigated areas
 - Swales and erosional features characterized by low volume, infrequent, or short duration flow

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board (SWRCB) has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining a Section 404 Clean Water Act permit. Discharges into waters of the State that are not also waters of the U.S. require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The SWRCB and RWQCBs also administer the federal National Pollution Discharge Elimination System (NPDES) program, which is concerned with the discharge of stormwater and other pollutants into water bodies. Projects that disturb one or more acres of soil must obtain coverage under the SWRCB’s current NPDES Construction Stormwater General Permit. A prerequisite for permit coverage is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Other types of pollutant discharges into waters of the U.S., such as wastewater, may require coverage under a different NPDES general permit, and in some cases an individual permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of



Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.



4.0 IMPACTS AND MITIGATIONS

This analysis assumes that most of the 0.73-acre project site will only experience temporary disturbance and permanent disturbance will be limited to areas currently occupied by the existing diversion structure and possibly areas immediately adjacent to the diversion structure, should the new structure have a larger footprint. This analysis also assumes that impacts to mature valley oak trees on the site will be avoided.

4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS

4.1.1 Potential Project Impacts to Nesting Raptors and Migratory Birds Including Loggerhead Shrike

Potential Impacts. The project site has the potential to be used for nesting by a variety of migratory birds and raptors (i.e., birds of prey), including the loggerhead shrike, a California species of special concern. Nearly all birds are protected by state and federal law. If project construction takes place during the nesting season, birds nesting on or near the site could be injured or killed by construction activities or disturbed such that they would abandon their nests. Construction-related mortality of nesting birds and disturbance leading to nest abandonment would violate state and federal laws and constitute a significant impact of the project.

Mitigation. To avoid and minimize the potential for construction-related mortality/disturbance of nesting birds and raptors, the following measures will be implemented:

Measure 4.1.1a (Construction Timing). If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31.

Measure 4.1.1b (Preconstruction Surveys). If construction must occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of construction. The survey area will encompass the site and accessible surrounding lands within 250 feet for nesting migratory birds and 500 feet for raptors.

Measure 4.1.1c (Avoidance of Active Nests). Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.



Implementation of the above measures will ensure that the project does not significantly impact nesting birds and raptors, including the loggerhead shrike, and that the project is in compliance with state and federal laws.

4.1.2 Potential Project Impacts to the Swainson's Hawk

Potential Impacts: Swainson's hawk, a state-listed species, is known to nest within 10 miles of the project site. Suitable nesting trees are present on and immediately adjacent to the project site. The project site experiences a high amount of human foot traffic and vehicular activity, making it unlikely for Swainson's hawks to choose to nest on or immediately adjacent to the project site, however, it is theoretically possible for Swainson's hawks to nest in one of the large trees near the project site. If Swainson's hawks are nesting on or near the project site at the time of construction, individual hawks could be injured, killed, or disturbed such that they would abandon their nest. Project activities that adversely affect the nesting success or result in mortality of Swainson's hawks would violate state and federal laws (see Sections 3.2.3 to 3.2.5) and would be considered a significant impact under CEQA.

The project site provides marginal foraging habitat within a 0.15-acre ruderal field, which will only be temporarily disturbed. The temporary disturbance of approximately 0.15 acre of extremely marginal foraging habitat within a region with many square miles of similar to higher quality foraging habitat would not constitute significant loss of Swainson's hawk foraging habitat. Therefore, the loss of foraging habitat for the Swainson's hawk is not considered a significant impact of the project under CEQA.

The following mitigation measures would reduce impacts to nesting Swainson's hawks to a less than significant level.

Measure 4.1.2a (Construction Timing). To avoid impacts to nesting Swainson's hawks, construction activities will occur, where possible, outside the nesting season, typically defined as March 1-September 15.

Mitigation 4.1.2b (Pre-construction Surveys). If the project must be constructed between March 1 and September 15, a qualified biologist will conduct pre-construction surveys for Swainson's hawk nests on and within ¼ mile of the project site within 30 days of the onset of these activities.



Mitigation 4.1.2c (Establish Buffers). Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged.

Mitigation 4.1.2d (Monitor Nest). Should construction activity be necessary within the designated buffer around an active Swainson's hawk nest, a qualified biologist will monitor the nest daily for one week, and thereafter once a week, for the duration of the activity or until the nest is no longer active, whichever comes first. Should construction activity within the buffer change such that a higher level of disturbance will be generated, monitoring will occur daily for one week and then resume the once-a-week regime. If, at any time, the biologist determines that construction activity may be compromising nesting success, construction activity within the designated buffer will be altered or suspended until the biologist determines that the nest is no longer at risk of failing.

Implementation of the above measures will ensure that the project does not significantly impact Swainson's hawks and is in compliance with state and federal laws.

4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS

4.2.1 Potential Project Impacts to Special Status Plants

Potential Impacts. Eighteen (18) special status plant species have been documented in the project vicinity (see Table 2). While some of these plants have been documented in very close proximity to the project site, decades of continued development and human disturbance has created unsuitable habitat for these species. Due to habitat loss or degradation associated with the high level of human disturbance at the project site, the absence of any historical suitable habitat, and/or the sites' being situated outside a particular species' range, none of these species are expected to occur on within the project area. Therefore, impacts to special status plants are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.2 Potential Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur Within the Project Site

Potential Impacts. Of the 19 special status animal species that potentially occur in the general vicinity of the site, 15 are considered absent from or unlikely to occur within the project site due to the absence of suitable habitat and/or the project site's being situated outside of the species'



known distribution (see Table 2). These include the vernal pool fairy shrimp, vernal pool tadpole shrimp, crotch bumble bee, valley elderberry longhorn beetle, California tiger salamander, northern leopard frog, western spadefoot, western pond turtle, northern California legless lizard, tricolored blackbird, western yellow-billed cuckoo, burrowing owl, Tipton kangaroo rat, San Joaquin kit fox, and American badger. (see Table 1). The project is expected to have an insignificant effect or no effect on these species through construction mortality/disturbance or loss of habitat because there is little or no likelihood that they are present.

Mitigation. Mitigation is not warranted.

4.2.3 Project Impacts to Special Status Animal Species that Would Use the Site for Foraging Only

Potential Impacts. Two special status animal species, the pallid bat, and western mastiff bat, have the potential to forage on the site from time to time and the pallid bat could potentially roost in onsite trees. Individuals of these species are not expected to be injured or killed by construction activities because potential roosting habitat in the form of mature valley oaks will be avoided and these species are highly mobile while foraging and would be expected to simply avoid active work areas.

The project would result in only possible temporary loss of foraging habitat. In fact, it is quite likely that bats would still forage over the site during project construction, if they forage there at all, because work activities will not occur during the evening and night hours. Moreover, both bats would have the same continued potential to forage over the site following project development. For these reasons, impacts to pallid bat and western mastiff bat are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

4.2.4 Potential Project Impacts to Waters of the United States and California

Potential Impacts. Aquatic features on the site include the anabranch of the St. John's River and the Modoc Ditch. The anabranch of the St. John's River would likely fall under the jurisdiction of CDFW and the RWQCB, and possibly the USACE. The Modoc Ditch may be claimed as



jurisdictional by the RWQCB but is not expected to fall within the jurisdiction of CDFW and USACE. The area of impact will be very small. Likely less than 0.01 acres. Such a small area of impact to a water of the U.S. or State is considered less than significant under CEQA. However, it should be noted that appropriate agency permits will likely be needed for activities within the jurisdictional boundaries of onsite aquatic resources.

Mitigation. Mitigation is not warranted.

4.2.5 Potential Project Impacts to Wildlife Movement Corridors

Potential Impacts. The project site contains an anabranch of the St. John's River and Modoc Ditch. These could provide movement corridors for locally occurring terrestrial wildlife species when the channels are dry and for some locally occurring aquatic species when wet. However, the replacement of the concrete diversion would not result in any significant temporary or permanent impediment to the movements of these locally occurring species and these species are expected to use the channels in the same manner as before the replacement of the concrete diversion. Therefore, the project will result in less than significant effect on wildlife movement corridors.

Mitigation. Mitigation is not warranted.

4.2.6 Project Impacts to Riparian and Other Sensitive Habitats

Potential Impact. Valley oak riparian habitats are considered sensitive natural communities by CDFW. Project development would occur within an area labeled Valley Oak Riparian Woodland in Chapter 6 in the General Plan of the City of Visalia (Visalia General Plan, 2014). Riparian habitat is also considered sensitive by CEQA. Although this habitat is considered riparian with valley oaks present at the time of the survey, it is highly unlikely that construction activities will have any adverse effect on the riparian habitat and removal of large oak trees is not expected. Due to the small footprint of the project, the high level of existing disturbance in and around the project site, and presumed avoidance of valley oaks, the project will result in a less than significant impact on riparian habitat.

Mitigation. No mitigation is warranted.



4.2.7 Consistency with Local Policies and Habitat Conservation Plans

Impact: Valley oaks were identified on the northern half of the project site and are protected by the City of Visalia's Oak Tree Mitigation Policy (2007), which was developed pursuant to Visalia Municipal Code. In addition, the City of Visalia's General Plan classifies open spaces for preservation as those "including, but not limited to, habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; and rivers, streams, and creeks and their banks. In Visalia, this category includes lands with Valley Oak riparian woodland or Valley Oak woodland habitat, wetlands, and vernal pools".

Project removal of valley oaks is not expected to occur. As a result, the project appears to be in compliance with City policies pertaining to oaks. Additionally, the project appears to be in compliance with other City policies pertaining to biological resources. No known Habitat Conservation Plans are in effect for the area.

Mitigation. Mitigation is not warranted.



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**APPENDIX A:
VASCULAR PLANTS OF THE PROJECT SITE**



APPENDIX A
VASCULAR PLANTS OF THE PROJECT SITE

The plant species listed below have been observed within or adjacent to the project site during site surveys conducted by Live Oak Associates, Inc., on November 9, 2023. The Arid West U.S. Fish and Wildlife Service wetland indicator status for each plant has been shown following the common name of the plant species.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
+/- - Higher/lower end of category
NR - No review
NA - No agreement
NI - No investigation

ADOXACEAE- Moschatel Family		
<i>Sambucus nigra</i>	Blue Elderberry	FACU
AMARANTHACEAE – Amaranth Family		
<i>Amaranthus blitoides</i>	Mat Amaranth	FACU
<i>Amaranthus retroflexus</i>	Redroot Amaranth	FACU
ASTERACEAE - Sunflower Family		
<i>Ambrosia acanthicarpa</i>	Flatspine Bur Ragweed	UPL
<i>Erigeron bonariensis</i>	Asthmaweed	FACU
<i>Erigeron canadensis</i>	Canada Horseweed	FACU
<i>Helianthus annuus</i>	Annual Sunflower	FACU
<i>Xanthium strumarium</i>	Large Cocklebur	FAC
CHENOPODIACEAE- Goosefoot Family		
<i>Salsola tragus</i>	Russian Thistle	FACU
CYPERACEAE- Sedge Family		
<i>Cyperus eragrostis</i>	Tall Flatsedge	FACW
EUPHORBIACEAE – Spurge Family		
<i>Ricinus communis</i>	Castor Bean	FACU
FAGACEAE- Oak Family		
<i>Quercus lobata</i>	Valley Oak	FACU
GERANIACEAE - Geranium Family		
<i>Erodium cicutarium</i>	Red-stemmed Filaree	UPL
POACEAE - Grass Family		
<i>Avena fatua</i>	Wild Oat	UPL
<i>Sorghum halepense</i>	Johnsongrass	FACU
<i>Zea mays</i>	Domesticated Corn	UPL
PHRYMACEAE - Lopseed Family		
<i>Erythranthe gutta</i>	Seep Monkey Flower	OBL
ROSACEAE—Rose Family		
<i>Rubus americanus</i>	Himalayan Blackberry	UPL
SOLANACEAE – Nightshade Family		
<i>Datura wrightii</i>	Sacred Datura	UPL



<i>Nicotiana glauca</i>	Tree Tobacco	FAC
<i>Solanum americanum</i>	American Black Nightshade	FACU
SIMAROUBACEAE- Quassia Family		
<i>Alseodaphne altissima</i>	Tree of Heaven	UPL
VITACEAE- Grapevine Family		
<i>Vitis californica</i>	California Wild Grape	FACU



**APPENDIX B:
TERRESTRIAL VERTEBRATE SPECIES POTENTIALLY OCCURRING ON THE
PROJECT SITE**



APPENDIX B
TERRESTRIAL VERTEBRATE SPECIES POTENTIALLY OCCURRING
ON THE PROJECT SITE

The species listed below are those that may reasonably be expected to use the habitats of the project site. The list was not intended to include birds that are vagrants or occasional transients. Its purpose was rather to include those species that may be expected to routinely and predictably use the project site during some or all of the year. An asterisk denotes a species observed within or adjacent to the site during surveys conducted on November 9, 2023.

CLASS: AMPHIBIA (Amphibians)

ORDER: SALIENTIA (Frogs and Toads)

FAMILY: BUFONIDAE (True Toads)

Western Toad (*Bufo boreas*)

FAMILY: HYLIDAE (Treefrogs and relatives)

Sierran Treefrog (*Pseudacris sierra*)

FAMILY: RANIDAE (True Frogs)

Bullfrog (*Rana catesbeiana*)

CLASS: REPTILIA (Reptiles)

ORDER: SQUAMATA (Lizards and Snakes)

SUBORDER: SAURIA (Lizards)

FAMILY: PHRYNOSOMATIDAE

Western Fence Lizard (*Sceloporus occidentalis*)

Side-blotched Lizard (*Uta stansburiana*)

SUBORDER: SERPENTES (Snakes)

FAMILY: COLUBRIDAE (Colubrids)

Gopher Snake (*Pituophis melanoleucus*)

Common Kingsnake (*Lampropeltis getulus*)

Common Garter Snake (*Thamnophis sirtalis*)

FAMILY: VIPERIDAE (Vipers)

Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES (Birds)

ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)

FAMILY: ARDEIDAE (Herons and Bitterns)

*Great Blue Heron (*Ardea herodias*)

Great Egret (*Ardea alba*)

Snowy Egret (*Egretta thula*)

Cattle Egret (*Bubulcus ibis*)

Green Heron (*Butorides virescens*)

ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)

FAMILY: CATHARTIDAE (American Vultures)

Turkey Vulture (*Cathartes aura*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)



- *Red-tailed Hawk (*Buteo jamaicensis*)
- Cooper's Hawk (*Accipiter cooperii*)
- Red-Shouldered Hawk (*Buteo lineatus*)
- Swainson's Hawk (*Buteo swainsoni*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

- American Kestrel (*Falco sparverius*)
- Merlin (*Falco columbarius*)
- Prairie Falcon (*Falco mexicanus*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)

FAMILY: CHARADRIIDAE (Plovers and relatives)

- Killdeer (*Charadrius vociferus*)

FAMILY: COLOPACIDAE (Sandpipers and Relatives)

- Greater Yellowlegs (*Tringa melanoleuca*)
- Least Sandpiper (*Calidris minutilla*)

FAMILY: LARIDAE (Skuas, Gulls, Terns and Skimmers)

- Ring-billed Gull (*Larus delawarensis*)
- California Gull (*Larus californicus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

- *Rock Dove (*Columba livia*)
- *Eurasian Collared Dove (*Streptopelia decaocto*)
- *Mourning Dove (*Zenaida macroura*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

- Common Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

- Great Horned Owl (*Bubo virginianus*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: TROCHILIDAE (Hummingbirds)

- Anna's Hummingbird (*Calypte anna*)
- Rufous Hummingbird (*Selasphorus rufus*)
- Black-chinned Hummingbird (*Archilochus alexandri*)

ORDER: PICIFORMES (Woodpeckers and relatives)

FAMILY: PICIDAE (Woodpecker and Wrynecks)

- Northern Flicker (*Colaptes chrysoides*)
- Downy Woodpecker (*Picoides pubescens*)
- Nuttall's Woodpecker (*Picoides nuttallii*)
- Acorn Woodpecker (*Melanerpes formicivorus*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

- Black Phoebe (*Sayornis nigricans*)
- Say's Phoebe (*Sayornis saya*)
- Western Kingbird (*Tyrannus verticalis*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)

- *California Scrub Jay (*Aphelocoma californica*)
- American Crow (*Corvus brachyrhynchos*)



-
- Common Raven (*Corvus corax*)
FAMILY: ALAUDIDAE (Larks)
Horned Lark (*Eremophila alpestris*)
FAMILY: HIRUNDINIDAE (Swallows)
Tree Swallow (*Tachycineta bicolor*)
Cliff Swallow (*Hirundo pyrrhonota*)
Barn Swallow (*Hirundo rustica*)
FAMILY: PARIDAE (Titmice and Relatives)
Oak Titmouse (*Baeolophus inornatus*)
FAMILY: AEGITHALIDAE (Bushtit)
Bushtit (*Psaltriparus minimus*)
FAMILY: TROGLODYTIDAE (Wrens)
House Wren (*Troglodytes aedon*)
Bewick's Wren (*Thryomanes bewickii*)
FAMILY: REGULIDAE (Kinglets)
Ruby-Crowned Kinglet (*Regulus calendula*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)
American Robin (*Turdus migratorius*)
FAMILY: MIMIDAE (Mockingbirds and Thrashers)
*Northern Mockingbird (*Mimus polyglottos*)
FAMILY: STURNIDAE (Starlings)
European Starling (*Sturnus vulgaris*)
FAMILY: MOTACILLIDAE (Wagtails and Pipits)
American Pipit (*Anthus rubescens*)
FAMILY: PTILOGONATIDAE (Silky Flycatchers)
Phainopepla (*Phainopepla nitens*)
FAMILY: PARULIDAE (Wood Warblers and Relatives)
Orange-Crowned Warbler (*Vermivora celata*)
Yellow Warbler (*Dendroica petechia*)
*Yellow-Rumped Warbler (*Dendroica coronata*)
Common Yellowthroat (*Geothlypis trichas*)
Wilson's Warbler (*Wilsonia pusilla*)
FAMILY: THRAUPIDAE (Tanagers)
Western Tanager (*Piranga ludoviciana*)
FAMILY: EMBERIZIDAE (Emberizines)
Spotted Towhee (*Pipilo maculatus*)
California Towhee (*Pipilo crissalis*)
Lark Sparrow (*Chondestes grammacus*)
Savannah Sparrow (*Passerculus sandwichensis*)
Fox Sparrow (*Passerella iliaca*)
Song Sparrow (*Melospiza melodia*)
*Lincoln's Sparrow (*Melospiza lincolni*)
White-Crowned Sparrow (*Zonotrichia leucophrys*)
Golden-Crowned Sparrow (*Zonotrichia atricapilla*)
Dark-Eyed Junco (*Junco hyemalis*)



FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

- Red-winged Blackbird (*Agelaius phoeniceus*)
- Western Meadowlark (*Sturnella neglecta*)
- Great-Tailed Grackle (*Quiscalus mexicanus*)
- Brewer's Blackbird (*Euphagus cyanocephalus*)
- Brown-headed Cowbird (*Molothrus ater*)
- Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)

- House Finch (*Carpodacus mexicanus*)
- Lesser Goldfinch (*Carduelis psaltria*)
- American Goldfinch (*Spinus tristis*)

FAMILY: PASSERIDAE (Old World Sparrows)

- *House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA (Mammals)

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

- Virginia Opossum (*Didelphis virginiana*)

FAMILY: TALPIDAE (Moles)

- Broad-Footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: PHYLLOSTOMIDAE (Leaf-nosed Bats)

- Southern Long-nosed Bat (*Leptonycteris curasoae*)

FAMILY: VESPERTILIONIDAE (Evening Bats)

- Yuma Myotis (*Myotis yumanensis*)
- California Myotis (*Myotis californicus*)
- Western Pipistrelle (*Pipistrellus hesperus*)
- Big Brown Bat (*Eptesicus fuscus*)
- Hoary Bat (*Lasiurus cinereus*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

- Brazilian Free-tailed Bat (*Tadarida brasiliensis*)
- Western Mastiff Bat (*Eumops perotis californicus*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

- Desert Cottontail Rabbit (*Sylvilagus audubonii*)

ORDER: RODENTIA (Rodents)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

- *California Ground Squirrel (*Otospermophilus beecheyi*)

FAMILY: GEOMYIDAE (Pocket Gophers)

- *Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: HETEROMYIDAE (Pocket Mice and Kangaroo Rats)

- San Joaquin Pocket Mouse (*Perognathus inornatus*)

FAMILY: MURIDAE (Old World Rats and Mice)

- Western Harvest Mouse (*Reithrodontomys megalotis*)
- Deer Mouse (*Peromyscus maniculatus*)
- Roof Rat (*Rattus rattus*)



House Mouse (*Mus musculus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and relatives)

Coyote (*Canis latrans*)

*Domestic Dog (*Canis lupus familiaris*)

Red Fox (*Vulpes vulpes*)

Gray fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and relatives)

Raccoon (*Procyon lotor*)

FAMILY: MEPHITIDAE (Skunks)

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE (Cats)

*Feral Cat (*Felis domesticus*)

Bobcat (*Lynx rufus*)



**APPENDIX C:
SELECT PHOTOGRAPHS OF THE PROJECT SITE**



Photo 1: Facing east on Levee Drive looking at the concrete diversion structure in the anabranch of St. John's River. Litter in the form of yellow shopping carts can be seen on the bottom left of the photograph. Modoc Ditch is on the right side of the photograph. Field in background.



Photo 2: Facing northeast on Levee Drive.



Photo 3: Looking east at debris in the St. John's anabranch.



Photo 4: Looking northwest from Levee Drive.



Photo 5: Looking northeast from Levee Drive at eyot with unofficial walking paths.



Photo 6: Standing on the eyot looking northeast.



Photo 7: Looking southwest at Modoc Ditch and adjacent field with large valley oaks outside the project vicinity in background.



Photo 8: Debris in Modoc Ditch. Looking north.

APPENDIX D

CULTURAL RESOURCES REPORT

MODOC DITCH HEADGATE STRUCTURE REPLACEMENT

ST. JOHNS WATER DISTRICT

**CLASS III INVENTORY/PHASE I SURVEY,
ST. JOHN'S WATER DISTRICT – MODOC DITCH
HEADGATE STRUCTURE,
TULARE COUNTY, CALIFORNIA**

Prepared for:

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MANAGEMENT SUMMARY

This report documents the results of an intensive Class III inventory/Phase I survey for the St. Johns Water District – Modoc Ditch Diversion Improvements Project (Project), Tulare County, California. The Project is within Tulare County, Tulare County, approximately 2 miles (mi.) northeast of the city of Visalia. This places the Project on the open flats of the San Joaquin Valley. Specifically, the Project is within Section 20, Township 18 South, Range 25 East (T18S/R25E), Mount Diablo Base and Meridian (MDBM), as illustrated on the Visalia USGS 7.5-minute topographic quadrangle. The proposed Project site consists of paved roads and road shoulders, as well as the St. John’s River. Elevations within the Project area, which is mostly flat, is approximately 330 feet (ft.) above mean sea level (amsl). The horizontal APE for the Project totals approximately 0.72 acres (ac.) and contains all construction areas, staging and laydown areas, and access roads. The vertical APE, defined as the maximum depth of excavation for the Project, is not expected to exceed 10 ft. below ground surface.

ASM Affiliates (ASM) conducted this study, Director Peter A. Carey, M.A., RPA, served as Principal Investigator and ASM Assistant Archaeologist Margarita Medina Lemus, B.A., conducted the fieldwork. Dustin Merrick, M.A., RPA was a contributing author of this report. Madeline Gonzales, M.A. prepared the site-specific history and with Sarah Stringer-Bowsher, M.A., RPH evaluated the Modoc Ditch and assessed effects/impacts. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA).

In order to determine whether the Project APE had been previously surveyed for cultural resources, and/or whether any such resources were known to exist within or near to it, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (SSJVIC) on January 22, 2024. According to the SSJVIC, no previous studies had been conducted within the Project APE, and three previous studies (TU-00535, TU-00624, and TU-01941) were identified within the 0.5 mi. buffer. The SSJVIC results identified one previously recorded historic-era built environment resources (P-54-003602) within the APE. An additional historic-era built environment resources (P-54-004632) were identified within the 0.5 mi. buffer, with the nearest located less than 0.1 mi. from the Project APE

Geoarchaeological review of the project APE indicates that the APE is unlikely to contain buried deposits. Historic aerial and topographic map review indicates the project APE has been disturbed as far back as 1956.

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed on January 8, 2024. Based on the NAHC records, the APE is negative for sacred sites or traditional cultural places. Outreach letters were sent on February 8, 2024, to tribal organizations on the NAHC contact list. Follow-up emails were sent on March 20, 2024. The Santa Rosa Rancheria Tachi Yokut Tribe requested to be retained for a cultural presentation. No other responses were received as a result of this outreach.

The Class III inventory/Phase I survey of the Project APE Associate Archaeologist Robert Azpitarte, B.A., with assistance from Assistant Archaeologist Margarita Medina Lemus, B.A., on March 21, 2024. Parallel survey transects spaced at maximum intervals of 15 meters (m.) apart were employed for pedestrian survey of the 0.72 ac. Project APE. The Project APE consists of paved roads and unpaved road shoulders, as well as the St. John's River. The Project APE consists of paved roads and unpaved road shoulders, as well as the St. John's River. Modern refuse in the form of plastics and concrete was observed within and directly surrounding the APE. Visibility for the Project APE ranged from poor (approximately 30 percent) to excellent (greater than 95 percent). Visibility was obscured by non-native vegetation and a modern bike path (road) that was hardscaped over. Visibility west of Road 216 was excellent (greater than 95 percent) due to previous disturbance. No archaeological resources were observed within the Project APE.

The current study resulted in the documentation of one historic-era resource within the Project footprint: one segment the Modoc ditch (P-54-003602). The segment of the Modoc Ditch within the APE is recommended not eligible for listing in the NRHP or CRHR and therefore is not considered a historic property under Section 106 or a historical resource under CEQA. No other cultural resources of any kind were identified during a Phase I study of the Project study area. Therefore, the proposed Project does not have the potential to result in adverse effects to known historic properties or significant impacts to historical resources.

Based on these findings, the proposed Project does not have the potential to result in adverse impacts or effects to historical resources or historic properties, and a finding of *no adverse effects* under Section 106 of the NHPA and *no significant impacts* under CEQA is recommended for the Project. It is further recommended that, in the unlikely event that cultural resources are identified during Project construction, work be halted within a 100 ft. radius of the find and a qualified archaeologist be contacted to evaluate the newly discovered resource.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates (ASM) was retained by the St. Johns Water District to conduct an intensive Class III inventory/Phase I survey for the St. John's Water District – Modoc Ditch Diversion Improvements Project (Project), located roughly 11 miles (mi.) northwest of the City of Tulare, Tulare County, California (Figure 1). The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA). The investigation was conducted, specifically, to ensure that significant impacts or adverse effects to historic properties or historical resources do not occur as a result of Project construction.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the Project site to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the subject property.

Director Peter A. Carey, M.A., RPA, served as Principal Investigator and ASM Assistant Archaeologist Margarita Medina Lemus, B.A., conducted the fieldwork. Dustin Merrick, M.A., RPA was a contributing author of this report. Madeline Gonzales, M.A. prepared the site-specific history and with Sarah Stringer-Bowsher, M.A., RPH evaluated the Modoc Ditch and assessed effects/impacts.

This document constitutes a report on the Class III inventory/Phase I survey. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with management recommendations for the Project.

1.1 PROJECT LOCATION

The Project is within Tulare County, approximately 2 miles (mi.) northeast of the city of Visalia. This places the Project on the open flats of the San Joaquin Valley. Specifically, the Project is within Section 20, Township 18 South, Range 25 East (T18S/R25E), Mount Diablo Base and Meridian (MDBM), as illustrated on the Visalia USGS 7.5-minute topographic quadrangle. The proposed Project site consists of paved roads and road shoulders, as well as the St. Johns River. Elevations within the Project area, which is mostly flat, is approximately 330 feet (ft.) above mean sea level (amsl).



Figure 1. Location of the St. Johns Water District – Modoc Ditch Diversion Improvements Project, Tulare County, California.

1.2 PROJECT DESCRIPTION AND AREA OF POTENTIAL EFFECTS

The St. Johns Water District provides water, in conjunction with the Modoc Ditch Company, for agricultural irrigation purposes. The Project consists of replacing the existing Modoc Ditch Headgate Structure with a new structure to replace an aged structure and to increase diversion capabilities from the St. Johns River. The Project consists of the removal and replacement of the existing concrete control structure. The Project consists of concrete headwalls to support a new water control gate and a new concrete culvert through the South Bank of the St. Johns River. The Project features will be located above-grade thus maintaining the current channel invert elevation. Construction activities will include demolition and removal of the existing structure, levee excavation to allow for culvert installation, concrete placement, control gate installation and backfill, compaction, and surface restoration efforts to complete the new structure.

The horizontal APE for the Project was defined as the area of potential ground surface disturbance with an added 100 ft. buffer. The horizontal APE for the Project totals approximately 0.72 acres (ac.) and contains all construction areas, staging and laydown areas, and access roads. The vertical APE, defined as the maximum depth of excavation for the Project, is 10 ft.

1.3 REGULATORY CONTEXT

1.3.1 National Historic Preservation Act Section 106

NHPA Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies regardless of whether the activities occur on federally managed or privately-owned land. Its purpose is to determine whether adverse effects will occur to significant cultural resources, defined as “historical properties” that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for NRHP eligibility are defined at 36 CFR § 60.4 as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

- (A) are associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) are associated with the lives of persons significant in our past; or
- (C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions on the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- (b) A building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- (c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.
- (d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- (e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
- (f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- (g) A property achieving significance within the past 50 years if it is of exceptional importance. (ACHP n.d.)

1.3.2 National Register Criteria for Evaluation

The criteria for evaluation of NRHP eligibility are outlined at 36 CFR Part 60.4. A district, site, building, structure, or object must generally be at least 50 years old to be eligible for consideration as a historic property. That district, site, building, structure, or object must retain integrity of location, design, setting, materials, workmanship, feelings, and association as well as meet one of the following criteria to demonstrate its significance in American history, architecture, archeology, engineering, and culture. A district, site, building, structure, or object must:

- (A) be associated with events that have made a significant contribution to the broad patterns of history; or,
- (B) be associated with the lives of people significant in our past; or,
- (C) embody the distinct characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values,

or represent a significant and distinguishable entity whose components may lack individual distinction; or,

(D) have yielded, or may be likely to yield, information important in prehistory or history.

A site must have integrity and meet one of the four criteria of eligibility to demonstrate its historic associations in order to convey its significance. A property must be associated with one or more events important in the history or prehistory in order to be considered for listing under Criterion A. Additionally, the specific association of the property, itself, must also be considered significant. Criterion B applies to properties associated with individuals whose specific contributions to the history can be identified and documented. Properties significant for their physical design or construction under Criterion C must have features with characteristics that exemplify such elements as architecture, landscape architecture, engineering, and artwork. Criterion D most commonly applies to properties that have the potential to answer, in whole or in part, important research questions about human history that can only be answered by the actual physical materials of cultural resources. A property eligible under Criterion D must demonstrate the potential to contain information relevant to the prehistory and history (*National Register Bulletin 15*).

A district, site, building, structure, or object may also be eligible for consideration as a historic property if that property meets the criteria considerations for properties generally less than 50 years old, in addition to possessing integrity and meeting the criteria for evaluation.

1.3.3 California Environmental Quality Act

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when “historically significant” or “unique” cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria (below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

- (A) Are associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- (B) Are associated with the lives of persons important in our past;
- (C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
- (D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

1. Introduction and Regulatory Context

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

As noted above, the Project is at an average elevation of approximately 300 ft. amsl, 2 mi. northeast of the city of Visalia on the open flats of the San Joaquin Valley. Before the appearance of agriculture, this location would have been prairie grasslands, grading into tree savannas in the foothills to the east (Preston 1981). The APE and immediate surroundings have been farmed and grazed for many years and no native vegetation is present, with the APE now consisting largely of paved bicycle access roads. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the region prior to cultivation.

The Project APE is within the southern extent of the San Joaquin Valley. A Caltrans geoarchaeological study (Meyer et al. 2010) that included the APE was consulted in order to identify the potential for buried archaeological sites in the vicinity of the Project area. This study involved first determining the location and ages of late Pleistocene (>25,000 years old) landforms in the southern San Joaquin Valley. These were identified by combining a synthesis of 2,400 published paleontological, soils and archaeological chronometric dates with geoarchaeological field testing. The ages of surface landforms were then mapped to provide an assessment for the potential for buried archaeological deposits. These ages were derived primarily from the Soil Survey Geographic Database (SSURGO) and the State Soils Geographic (STATSGO) database. A series of maps were created from this information that ranked locations in seven ordinal classes for sensitivity for buried soils, from Very Low to Very High.

According to the geoarchaeological model developed by Meyer et al. (2010), the general vicinity of the Project APE has a Very Low potential for buried archaeological deposits. Based on the observable data, buried sites and cultural resources are considered unlikely within the Project APE.

2.2 ETHNOGRAPHIC BACKGROUND

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes which occupied both the valley and particularly the foothills of the Sierra Nevada. The northernmost tribes suffered from the influx of Euro Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is a scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native

speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous lifeways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Following Kroeber (1925: Plate 47), the City of Tulare region lies in a contact zone between a series of Yokuts tribal groups. Kroeber places the Chunut to the south of the Project APE, along Tulare Lake, the Choinok to the southeast, Wolasi to the northeast along Cameron Creek, and the Telamni further north, near Visalia. No historic villages are recorded in the immediate Project area by Kroeber (1925).

The Yokuts settlement pattern was largely consistent, regardless of the specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa 150 YBP), with dispersal phase family camps at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, again regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 people (Kroeber 1925).

Each tribelet was headed by a chief who was aided by a variety of assistants, the most important of whom was the winatum, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to many Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually through the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same way each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites, and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary

component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of European American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts people continue to reside in the southern San Joaquin Valley today.

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The southern San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has been concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenck 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the Paleoindian Period, or prior to about 10,000 years before present (YBP). Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper.

Both fluted and stemmed points are particularly common around lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. More than 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake, west of the Project APE, demonstrating the importance of this early occupation in the San Joaquin Valley (see Fenenga 1993). Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very mobile populations that left a minimal archaeological signature. The evidence from the ancient Tulare Lake shore, in contrast, suggests much more substantial population and settlements which, instead of relying on big game hunting, were tied to

the lacustrine lake edge. Variability in subsistence and settlement patterns is thus apparent in California, in contrast to the Great Plains.

Substantial evidence for human occupation across California, however, first occurs during the middle Holocene, roughly 7500 to 4000 YBP. This period is known as the Early Horizon, or alternatively as the Early Millingstone, along the Santa Barbara Channel. In the south, populations were concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with toolkits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the state, partly due to a severe cold and dry paleoclimatic period occurring at this time. Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4000 YBP during the Middle Horizon (or Intermediate Period). This period is known climatically as the Holocene Maximum (circa 3800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. It was marked archaeologically by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmill culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps to have brought this technology with them (cf. Moratto 1984). Likewise, it appears the so-called “Shoshonean Wedge” in southern California, the Takic speaking groups that include the Gabrielino/Fernandefio, Tataviam, and Kitanemuk, may have moved into the region at that time (Sutton 2009), rather than at about 1500 YBP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al. n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W&S Consultants 1994). To the west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W&S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W&S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W&S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes, and an increase in the range of environments

exploited appear to have occurred sometime roughly around 4000 YBP. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent this was a major southern California-wide occurrence, and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests the origins of the tribelet level of political organization developed during this period (W&S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the current Project APE, is yet to be determined.

The beginning of the Late Horizon is set variously at 1500 and 800 YBP, with a growing archaeological consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (1150 to 500 YBP) in the understanding of south-central California prehistory. This corresponds to the so-called Medieval Climatic Anomaly, followed by the Little Ice Age, and this general period of climatic instability extended to about 90 YBP. It included major droughts matched by intermittent “mega-floods,” and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90 percent of the interior populations in some regions, including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages in more favorable locations. Population along the Santa Barbara coast appears to have spiked at about the same time that it collapsed on the Carrizo Plain (Whitley et al. 2007). Along Buena Vista Lake, in Kern County, population appears to have been increasingly concentrated toward the later end of the Medieval Climatic Anomaly (Culleton 2006), and population intensification also appears to have occurred in the well-watered Tehachapi Mountains during this same period (W&S Consultants 2006).

What is clear is that Middle Period villages and settlements were widely dispersed across the south-central California landscape, including in the Sierra Nevada and the Mojave Desert. Many of these sites are found at locations that lack existing or historically known fresh water sources. Late Horizon sites, in contrast, are typically concentrated in areas where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1500-500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located west of the current Project APE, near the north shore of ancient Tulare Lake. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The Late Horizon can then be understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California; suggesting that ethnographic lifeways recorded by anthropologists extend roughly 800 years into the past.

The position of southern San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms appears to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007) environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.4 HISTORICAL BACKGROUND

2.4.1 San Joaquin Valley

Spanish explorers first visited the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2009). The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009).

After the American annexation of California, the southern San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep, and pig (Boyd 1997).

With the increase of ranching in the southern San Joaquin Valley came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

The Santa Fe and Southern Pacific Railroads extended into Tulare County in the 1870s. Deliberations among the major owners of the rail companies resulted in a decision that one large town would be developed in the approximate middle of each county in the San Joaquin Valley, to serve as county seat and railroad hub. The location of the City of Tulare was one such selected spot, established at the intersection of the Santa Fe and Southern Pacific railroads (Preston 1981).

Prior to that time, this area had relatively few settlers due to the lack of surface water, with most Euro Americans settling either farther north and east, closer to the main branches of the Kaweah and Kings Rivers, or to the south and east, along the Tule River (Menefee and Dodge 1913).

The City of Tulare was then established by the Southern Pacific Railroad in 1872, with plats aligned parallel to the tracks. As a rail diversion point, a series of rail company workshops, including a roundhouse, were constructed. The work force for these facilities attracted additional development and settlement. In addition to the rail yards, by 1876 the town had a general store, drugstore, hardware shop, two blacksmiths, two carpentry shops, a wheelwright, lumberyard, and a flour mill (Preston 1981).

Following the passage of statewide “No-Fence” laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. During the period of reclaiming unproductive land in the southern San Joaquin Valley, grants were given to individuals who had both the resources and the finances to undertake the operation alone.

Three competing partnerships developed during this period which had a great impact on control of water, land reclamation and ultimately agricultural development in the San Joaquin Valley: Livermore and Chester, Haggin and Carr, and Miller and Lux, perhaps the most famous of the enterprises. Livermore and Chester were responsible, among other things, for developing the large Hollister plow (3 ft. wide by 2 ft. deep), pulled by a 40-mule team, which was used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes, and for creating the Calloway Canal, which drained through the Rosedale area in Bakersfield to Goose Lake (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square mi. Miller and Lux’s impact extended far beyond Kern County, however. They recognized early on that control of water would have important economic implications, and they played a major role in the water development of the state. They controlled, for example, over 100 mi. of the San Joaquin River with the San Joaquin and Kings River Canal and Irrigation System. They were also embroiled for many years in litigation against Haggin and Carr over control of the water rights to the Kern River. Descendants of Henry Miller continue to play a major role in California water rights, with his great grandson, George Nickel, Jr., the first to develop the concept of water banking, thus creating a system to buy and sell water (Levine 2011). The controversies associated with these endeavors culminated in the Wright Irrigation Act of 1887, which provided for the ownership of land and water as a unit rather than as separate rights. It further allowed the creation of irrigation districts comprised of local landowners.

2.4.2 Visalia

First settled by Anglo-Americans in 1852 at the Mill Creek area, the landscape was largely swampland with a “magnificent” oak forest. Nathaniel Vise, for whom the city would eventually be named, identified 60-82 inhabitants of the area, and petitioned the area to be the county seat of the newly formed Tulare County. He had owned much of the land that is now the downtown Visalia area, and it was through his influence that both Tulare County and the city of Visalia had been founded (Ommen 2016). Nathaniel Vise would also establish the first store in the town, attracting other businesses that prompted growth on either side of Mill Creek. Eventually, the need to connect

two parts of town led to construction of the bridge, which symbolized interconnected development within and around the town of Visalia (Ommen 2016).

Many miners on their way to the goldfields of the Kern River passed through Visalia during the California Gold Rush potentially as many as 6,000 miners (Menefee and Dodge 1913). As the majority of miners realized that the tales of gold in the Kern Riverbanks had been greatly exaggerated and there was little money to make, many miners settled in Visalia to pursue wealth through California agriculture instead (Ommen 2016). During this era, the production of wool and wheat farming was most lucrative and sustained many settlers in the area. However, it was clear that a railroad would be needed in order to transport agricultural production (Menefee and Dodge 1913).

When the Southern Pacific Railroad bypassed Visalia by constructing its train tracks seven miles to the west of the heart of Visalia, public outcry led Visalia citizen R. F. Hyde to finance, along with the help of other Visalia entrepreneurs, a railroad spur to connect Visalia to the railroad and therefore the rest of the United States (Menefee and Dodge 1913). In 1874, the Visalia and Goshen Railroad spur was constructed, and the town of Visalia was officially incorporated (Menefee and Dodge 1913; Ommen 2016).

As with many other locations in the California Central Valley, the growth of Visalia as an agricultural landscape occurred in tandem with the construction of waterways that brought water from local rivers and streams to surrounding farms and agricultural fields. The first water diversion was constructed in Visalia in 1853 and ran along what is now Acequia Street (*Visalia Times-Delta* 1939a). By 1880, thousands of acres of orchard crops comprised the agricultural landscape. The majority of the orchard crops were peaches, grapes, apricots, and varietal plums, which could be dried and shipped; a benefit that solidified the prominence of prune and freestone peach orchards (*Visalia Times-Delta* 1939a). The first filled agricultural car shipped from the Visalia and Goshen Railroad spur in 1888.

Eventually, the citrus industry took over the Visalia agricultural landscape, and lemons and oranges were planted in the Visalia farmlands beginning in the late nineteenth century. By 1939, Visalia was “one of the finest milling” sites in the Central Valley, where “fruit and nut packing and storage houses, foundries and other busy centers of industry” were located (*Visalia Times-Delta* 1939b). In addition, the areas of Visalia and the surrounding Visalia agricultural fields featured oak trees, vineyards, dairy ranches, and of course additional fruit orchards. At this time, benefitting from the advances of the agricultural industry, the town of Visalia boasted “beautiful homes, broad streets, modern businesses sections and attractive suburban areas” (*Visalia Times-Delta*, 1939b).

The population and the reputation of Visalia shifted throughout the later decades of the twenty-first century due to general national economic shifts as well as the environmental problems that Visalia faced in the 1970s as a result of smog and air pollution. Presently, Visalia retains its agriculturally driven economy, and continues to primarily produce grapes, olives, cotton, citrus, and nursery products as it did historically. In the early decades of the twenty-first century, manufacturing facilities founded plants in the Visalia area and now electronics and paper products

are significant manufacturing sectors, which now represent the fastest growing portion of Visalia's economy (visaliaedc.com n.d.).

2.4.3 St. Johns Water District

The St. Johns Water District is one of several water districts in Tulare County, including the Lewis Creek, Vandalia, Ducor, Kern-Tulare, Atwell Island, Angiola, and others (Figure 2 and 3). While an irrigation district may do any act necessary to furnish sufficient water in the district for any beneficial use, a water district maintains, improves, and operates the production, storage, transmission, and distribution of water for irrigation, domestic, industrial, and municipal purposes (watereducation.org n.d.)

The St. Johns Water district is the only water district located in the vicinity of Visalia, California. It does not overlap with any irrigation districts in Tulare County, within which the Ivanhoe Irrigation District is found to the east, the Alta Irrigation District is found to the north, and the Tulare Irrigation District is found to the South.

The Modoc Ditch is one of the main arteries through which water travels through the water district. It appears to be the main artery from which water flows from the St Johns River through the area of which the water district covers. Other ditches and creeks are identified throughout the district, all of which origin from the St. Johns River.

The headquarters of the St Johns Water District is presently located at the same location as the Consolidated Peoples Ditch Company, the result of a long history of various water associations and companies that have been historically under the umbrella of the St Johns River Association that have consolidated or have been purchased over time.

In 1924, the St Johns River Association was reformed for a period of 15 years, which included the many various water companies and irrigation districts in the broader Kaweah delta area. The two associations founded, the St Johns River Association and the Kaweah River Association, worked together and held offices in the same building at this time (*Visalia Times-Delta*, 1926). Additionally, these two associations had a working agreement with the Wutchumna Water Company as the Wutchumna Canal share delta waters and needed to work with the St Johns River and Kaweah River Associations to solve mutual problems.

By 1949, the area was referred to as the St Johns River District, where it is defined as the terminus of the Friant-Kern Canal, and later in the 1950s was regularly referred to as the St Johns Levee District. (*San Francisco Examiner*, 1949).

The St Johns Water District is first mentioned in the newspapers in 1981, where it was announced that the 10th annual assessment of the district is taking place (*Tulare-Advance Register* 1981). At this time, the Consolidates Peoples Ditch Company and the Kaweah-St Johns River Association had combined efforts and were managed under the same umbrella. The St Johns Water District manages these water companies to ensure the distribution of water throughout the Visalia area.

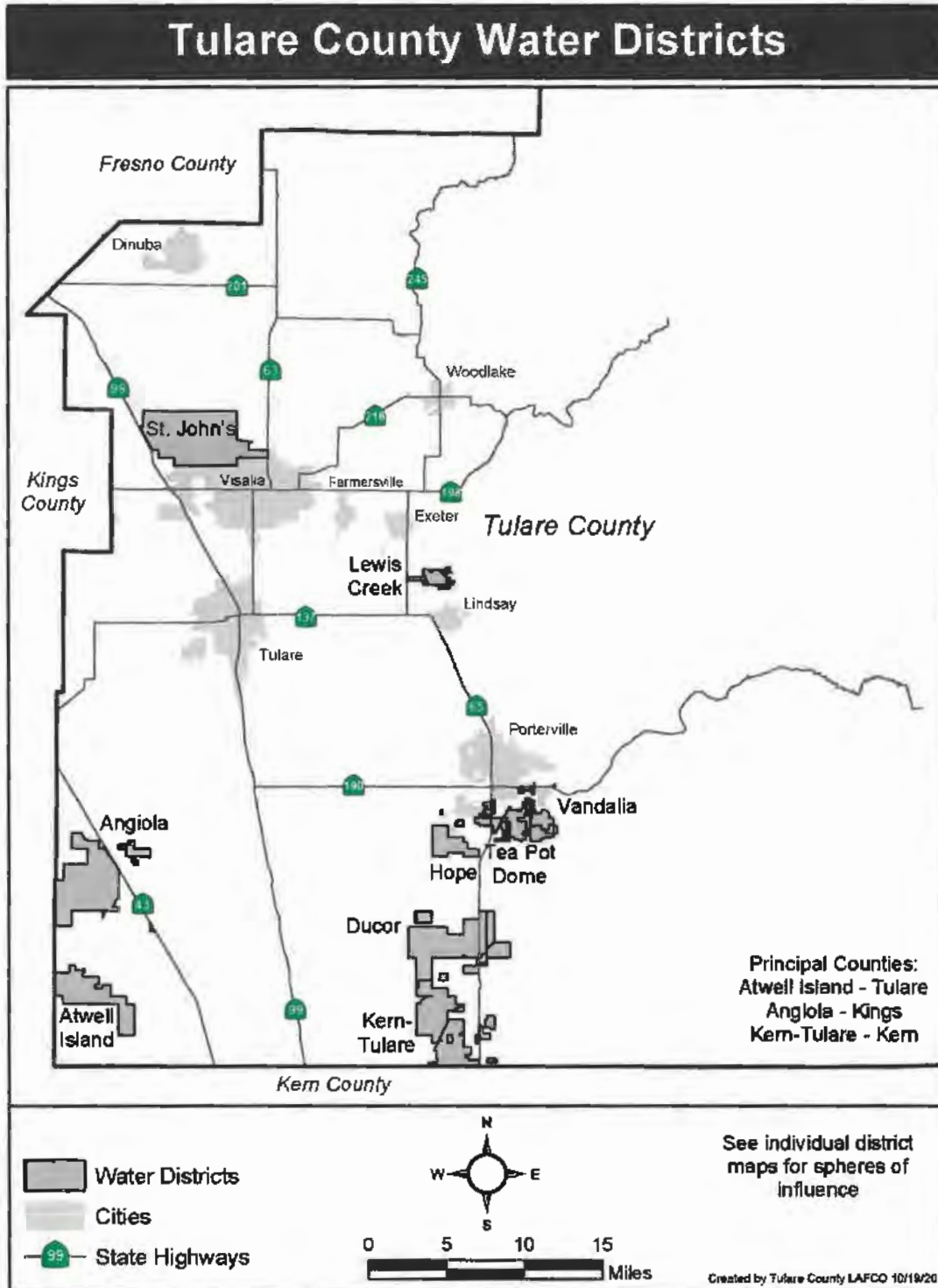


Figure 2. Map of the Tulare County Water Districts. Source: Tulare County LAFCO.

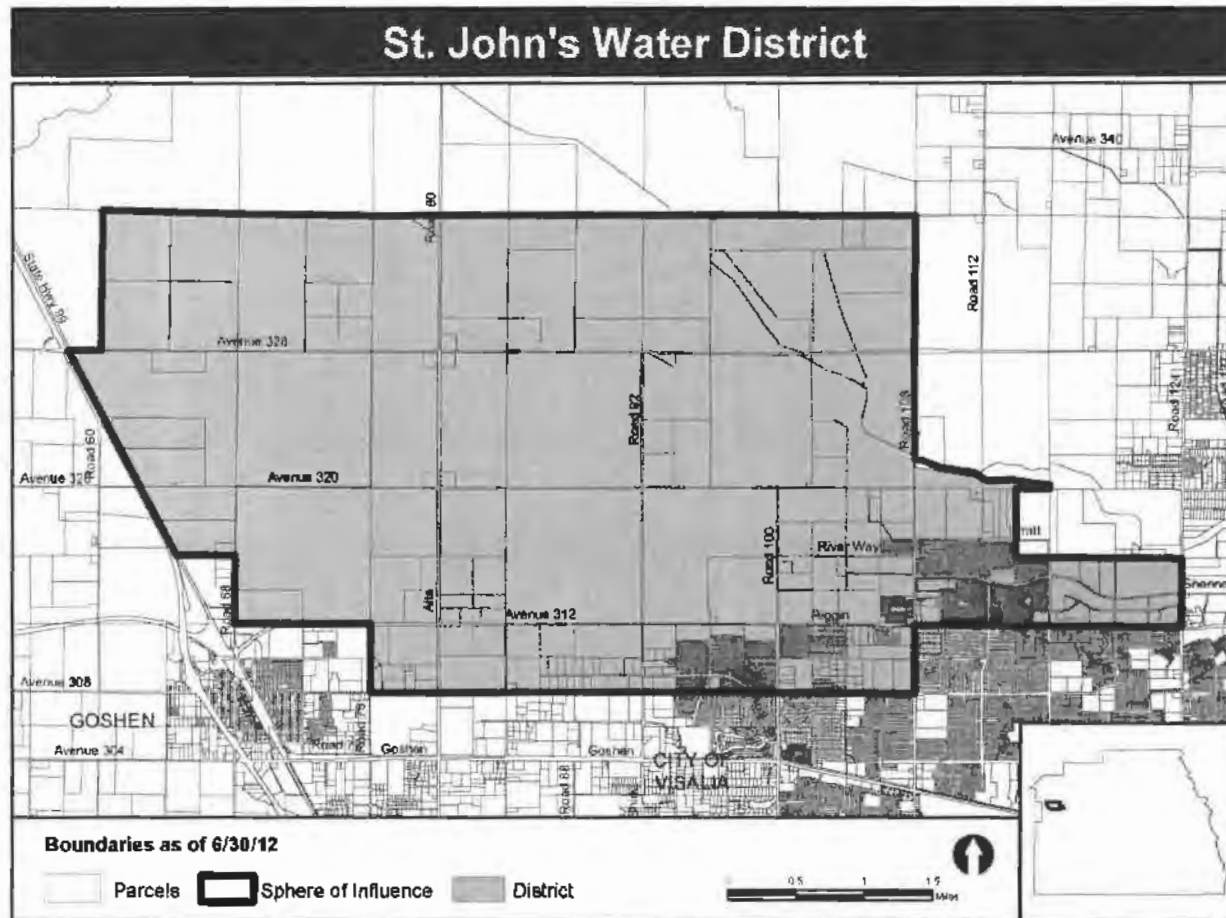


Figure 3. Map of the St Johns Water District in Tulare County, California. Source: Tulare County LAFCD.

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The Modoc Ditch was constructed before the formation of the St Johns Water District which it is presently associated with. Initially, it was constructed with the intention that it would act as a primary distributor of the Wutchumna Canal. The Wutchumna Canal head is located at Dillons Point and extends across to the west of Visalia. In 1898, it was owned by an incorporated company and all expenses of the canal were met by the assessment of stockholders (Grunsky 1898). However, ultimately the Modoc Ditch was constructed outside of the Wutchumna Canal company, and the Modoc Ditch and its distributaries formed their own company, called the Modoc Ditch company. The Modoc Ditch company was eventually taken under the umbrella of the St Johns River Association, which would eventually be under the umbrella of the St Johns Water District.

2.4.4 Modoc Ditch

Presently and historically, the Modoc Ditch headgate is located on the southern side of the St. Johns River and traverses west in the northern and northwestern areas of Visalia, California. By the turn of the twentieth century, the Modoc Ditch extended approximately four miles (Grunsky 1898; Thompson 1892). At the head of the Modoc Ditch at the southern bank of the St. Johns River, the canal is depicted as traversing in a straight lateral to the west, before adopting a more naturally occurring flow with naturally occurring bends. In 1892, the Modoc Ditch appears to be adjacent to the Burrell Ditch and then terminates as it intertwines with the Burrell Ditch (Thompson 1892). By 1898, it is also referred to as the Modoc Canal. It intersects with the Wutchumna Canal and extends to the southwest (Grunsky 1898). In 1924, the Modoc Ditch appears to maintain the original alignment until the point where it intersects with another unnamed canal that no longer exists, and then appears to extend to the northwest where it ends (Figure 4). (USGS 1927). In 1929, a concrete headgate had been designed and it appears to be the same headgate that exists today (Figure 5). By the mid-1940s, the Modoc Canal maintained the same alignment near the head of the canal, and at the point of intersection with another canal, branches off to the northwest in a new alignment and flows generally west with what appears to be both natural bends and engineered alignments, until it terminates at an overflow reservoir adjacent to the Southern Pacific Railroad tracks and the CA-99 Highway (Figure 6). As the Visalia area became more developed, particularly the areas along West Riggins Avenue, Modoc Ditch was realigned to be more linear and parallel to the streets and developments in the area. The Modoc Ditch appears to have reached its present alignment sometime between 1960 and 1990.

Presently, the majority of the Modoc Ditch has been realigned, likely including the segment of the Modoc Ditch within the APE as an 1898 map identifies the canal traversing directly west while the 1927 USGS topographic map depicts the canal traversing in a southwestern direction. While the late nineteenth century alignment emptied onto land in Section 28, T18S, R24E, the present mid-twentieth century alignment terminates at an overflow reservoir in Section 18, T18S, R24E.

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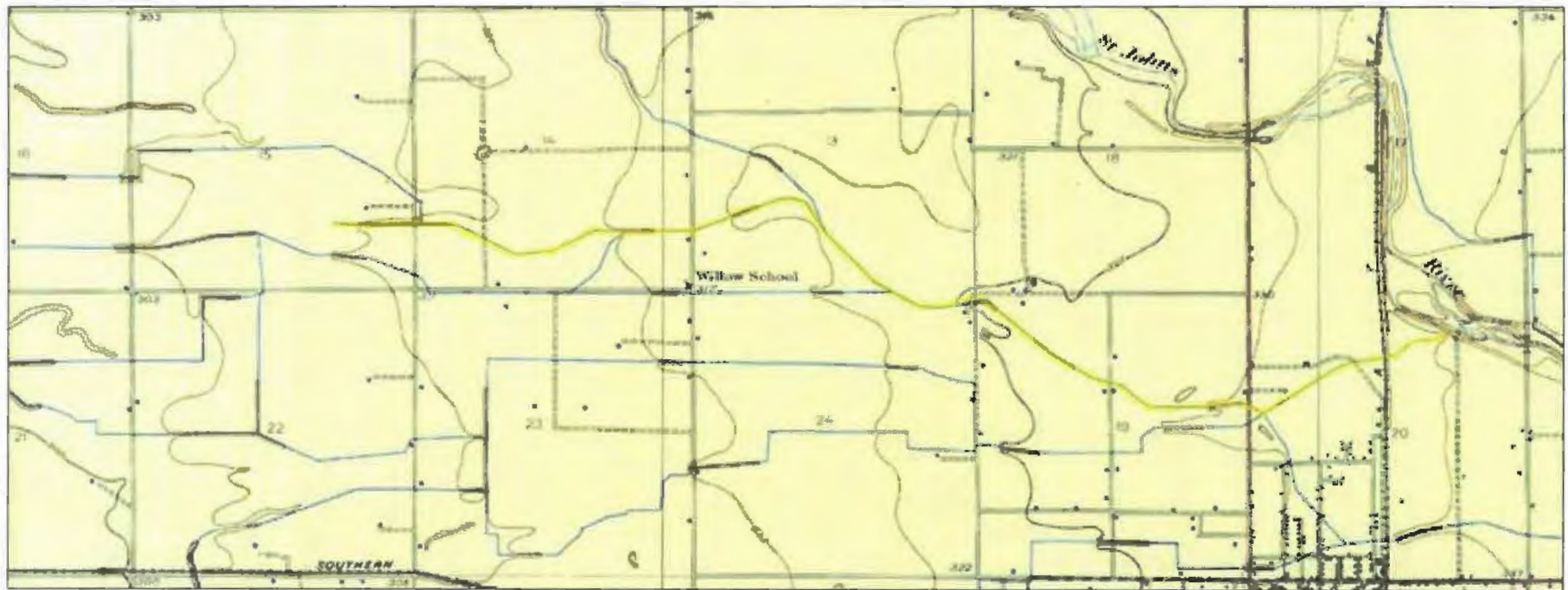


Figure 4. Length of Modoc Ditch in 1927 USGS Topographic Map, highlighted in yellow. Source: USGS Topographic Map, 1927 Visalia, CA.

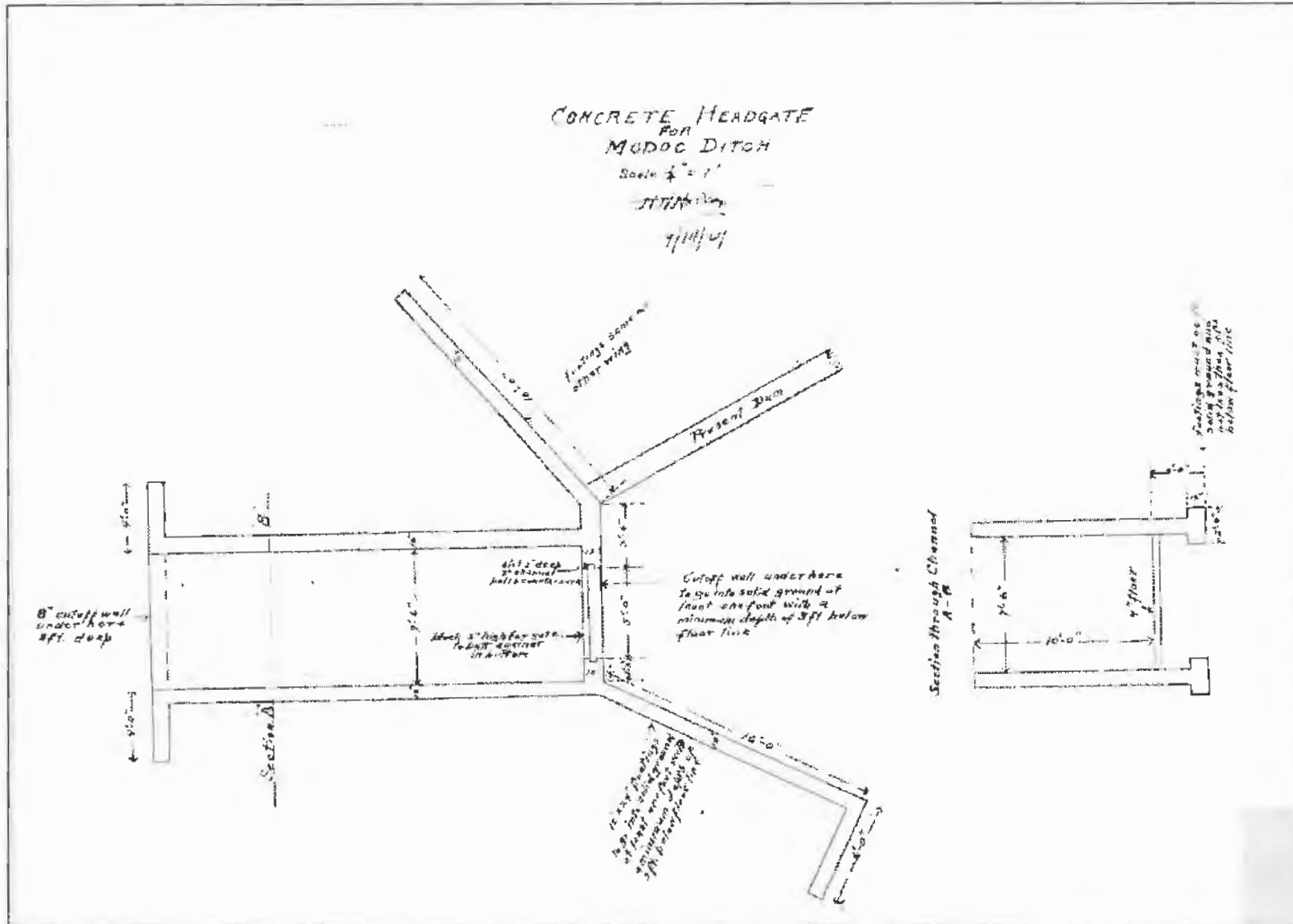


Figure 5. Original 1929 Plans for construction of the Modoc Ditch headgate structure. The “Present Dam” is the checkgate structure. Source: St. Johns Water District/Kaweah St. Johns Rivers Association.

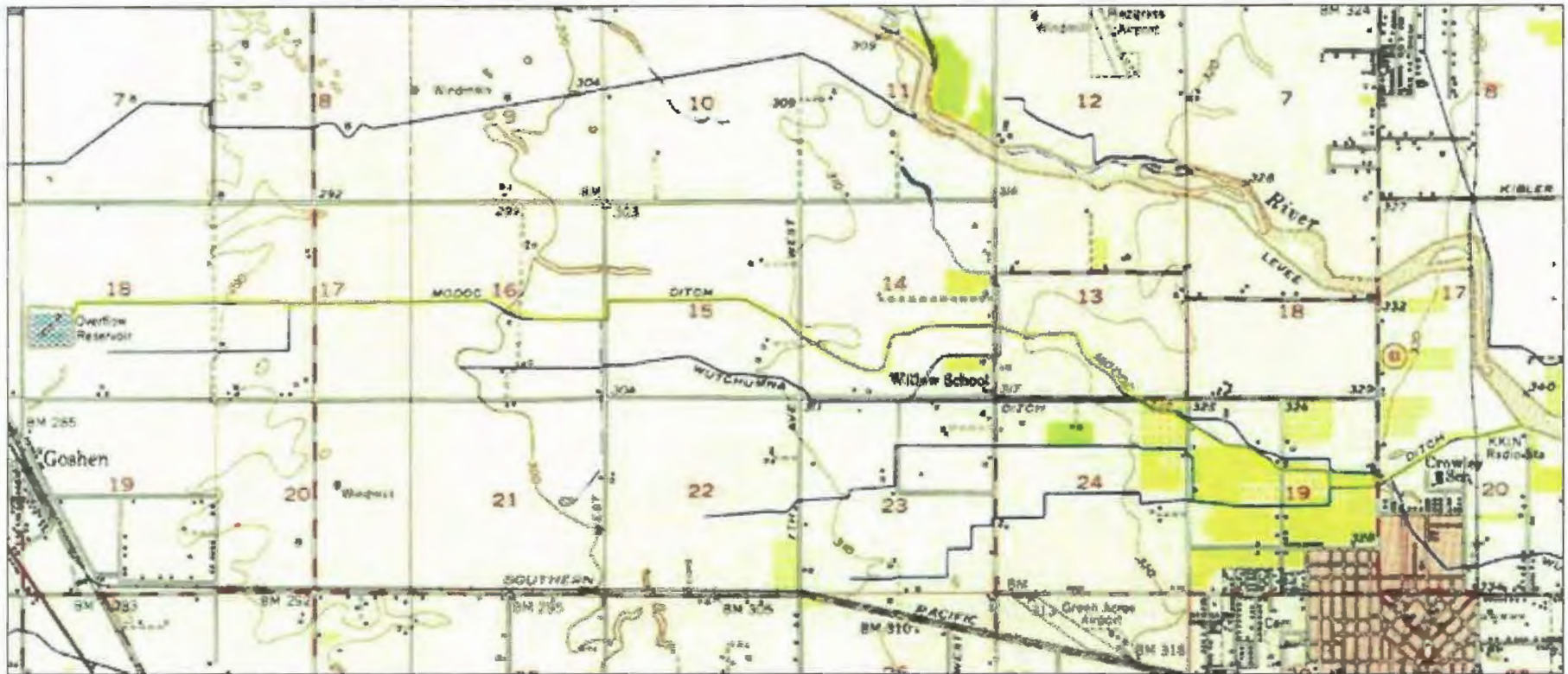


Figure 6. Length of Modoc Ditch in 1949 USGS Topographic Map, highlighted in yellow. Source: USGS Topographic Map, 1949, Visalia CA.

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2.5 NRHP CRITERIA FOR WATER CONVEYANCE SYSTEMS

The period of significance for historic water conveyance systems begins with the initial date of construction and considers any alignment changes that have been made over time. The period of significance must also consider the construction history of the linear systems, which may have been constructed and/or reconstructed or realigned by individuals, collectives, and/or irrigation districts and water companies over time.

Main Canals, Laterals, and Ditches

Main canals, laterals, or ditches can be individually eligible for the NRHP (Criteria A-D) and CRHR (Criteria 1-4). While the following criteria was developed for the Friant-Kern Canal, it is still applicable to smaller irrigation systems:¹

Criterion A/1: They have had a significant impact on the settlement, agricultural economy, or development patterns of the project area; they have been defining elements in the evolution of the cultural landscape; they are directly associated with important events.

Criterion B/2: They are the result of the direct efforts of a prominent individual associated with the development of the local area or region and are the most prominent feature associated with that individual.

Criterion C/3: They represent the distinctive characteristics of canal design and/or methods of construction used during the period of construction, which may include solving engineering design problems due to topography, grade, length, natural obstacles, and resulted in complex or innovative solutions; they are among the best or a rare surviving example of a distinctive type of water conveyance structure; they represent the evolving technology in the engineering, design, and construction of water conveyance structures; they were identified during the construction period as an individually significant feature; or they embody the work of a significant engineer or builder.

Criterion D/4: They have the ability to yield information important to understanding the history of the local area or region that cannot be found in historical documentation.

Integrity

The need for continual maintenance and repairs to canals requires special consideration of integrity. Irrigation systems are constantly evolving as features are upgraded, repaired, or replaced. Alterations made to canals during the period of significance, and even subsequent thereto, may not nullify eligibility if a canal retains certain key qualities. Most important are integrity of location, association, and overall design configuration of the conveyance prism (i.e., depth and width) and water control features. A canal which has retained its original form and associated appurtenant features has a high degree of integrity. It is not uncommon for canal lining to be replaced, or for

¹ The section has been excerpted and adapted from Heather K. Norby and Stephen R. Wee, Historic Property Survey Report: Friant Kern Canal, JRP Historical Consulting, 2019:52-53.

previously unlined segments to be lined. Such changes may not preclude a canal's eligibility if replacement features are in-kind, or they do not significantly damage the canal's historic association or its overall design. If in addition to integrity of association, location, and overall design, the historical setting and feeling of a canal are maintained, then the likelihood is even higher that an altered canal could remain eligible. On the other hand, if an entire canal is piped, it would no longer convey any of its original design, workmanship, materials, or historical association and would not be contributing. Conversely, partial piping of a significant canal may not preclude eligibility if a majority of a canal is still open and intact.

Appurtenant Canal Features²

Although appurtenant canal features are all operationally and thematically related to canals/laterals/ditches, each feature type serves a specific purpose. These features can be divided into five categories of structures: conveyance, regulating, protective, water measurement, and bridges. The first four of these types were built to function as part of the canal, while the bridges were built to function independently of the canal.

1. Conveyance Structures

Conveyance structures are features such as inverted siphons, drops, chutes, flumes, tunnels, and pipelines that are used to safely convey water from one location to another traversing various existing natural and manmade topographic features along the way. There are two types of pipelines, those that carry water below ground and those that carry water above ground.

2. Regulating Structures

Regulating structures are used to raise, lower, or control the release and volume of the water flow. Regulating structures that are located at the source of the water supply include headworks and turnouts. Headworks control the release of water into the canal, and they are often downstream from a major diversion or storage facility. Regulating structures located along the course of a canal include turnouts, checks, check-drops, radial gates, reservoirs, and diversion structures. The smaller regulating structures like checks and turnouts are basic components of an irrigation system.

3. Protective Structures

Protective structures protect the canal system and adjacent property from damage which would result from uncontrolled storm runoff or drainage water, or an uncontrolled excess of flow within the canal. Several different types of structures perform this function, including overchutes, drainage inlets, siphon spillways, and wasteways.

4. Water Measurement Structures and Objects

Water measurement structures are used to gauge water flow and ensure its equitable distribution. Many different types of water measurement structures are used in irrigation systems.

² Ibid., 53-54.

5. Bridges

Bridges crossing canals range from single lane bridges, multi-lane highway bridges, farm bridges, pedestrian bridges, and maintenance bridges.

Significance

Secondary to the canals in distributing water are the thousands of appurtenant features. With the exception of bridges, these appurtenant features are important to the overall operation of the main canals yet are too small in size and repetitive in design to merit individual eligibility. Even though bridges cross canals and can be physically tied to the canal prism, bridges have no connection to the operation of the AEWS and therefore merit separate evaluation from other appurtenant features. Bridges would rarely be individually eligible for the National Register in association with this historic context.

Registration Requirements

Appurtenant canal features can be eligible for listing in the NRHP and the CRHR for the following reasons:

Criterion A/1: They are directly associated with important events that occurred along canals;

Criterion B/2: not applicable;

Criterion C/3: They are among the best or a rare surviving example of a distinctive type of appurtenant canal feature; they represent the evolving technology in the design of appurtenant canal features; they represent a unique design solution developed in response to a difficult engineering challenge; they were identified during the construction period as an individually significant feature;

Criterion D/4: They have the ability to yield information important to understanding the history of the system.

Integrity

As with canals, many appurtenant features are upgraded, altered, or even replaced over time due to the constant ongoing maintenance needs. Integrity of a structure's historic materials, workmanship and design is essential for National Register eligibility under any criterion. Location is of primary importance under Criterion A and C – a structure will rarely qualify under this criterion if it does not remain on its historic site along its associated canal.

Historical structures are typically evaluated for NRHP eligibility under Criteria A and/or B, for their associative values with major historical trends or individuals, and C for potential design or engineering importance. Conveyance systems are typically eligible for listing in the NRHP under Criteria A and/or C.

The CRHR Criteria and registration requirements for conveyance systems mirror the NRHP Criteria and registration requirements. Conveyance systems are typically eligible for listing in the CRHR under Criteria 1 and/or 3.

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3. RECORDS AND SACRED LANDS FILE SEARCHES

3.1 RECORDS SEARCH

In order to determine whether the Project APE had been previously surveyed for cultural resources, and/or whether any such resources were known to exist within or near to it, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (SSJVIC) on January 22, 2024. The records search was completed to determine: (i) if pre-contact or historic-era cultural resources had previously been recorded within the Project APE; (ii) if the Project APE had been systematically surveyed by archaeologists prior to the initiation of this fieldwork; and/or (iii) whether the area surrounding the proposed Project was known to contain archaeological sites or built environment resources and to thereby be culturally sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest. The records search included the Project APE and a 0.5 mi. buffer.

According to the SSJVIC, no previous studies had been conducted within the Project APE, and three previous studies (TU-00535, TU-00624, and TU-01941) were identified within the 0.5 mi. buffer (Table 1).

The SSJVIC results identified one previously recorded historic-era built environment resources (P-54-003602) within the APE. An additional historic-era built environment resources (P-54-004632) were identified within the 0.5 mi. buffer, with the nearest located less than 0.1 mi. from the Project APE (Table 2). The results of the SSJVIC records search are available in Confidential Appendix A.

Table 1. Previous Reports within 0.5 mi. of the APE

Report #	Year	Author/Affiliation	Title	APE Relationship
TU-00535	1979	Weinberger, Gay	Archaeological Field Reconnaissance for the Charter Oak Estates	Outside
TU-00624	1973	Williams, Charlotte	The Archaeological Section of the Environmental Report for the 580 Acres North of the St. Johns River Along Both Sides of Ben Maddox Way	Outside
TU-01941	2021	Hudlow, Scott	A Phase I Cultural Resource Survey for Self-Help Enterprises, Colegio Project, City of Visalia, CA	Outside

Table 2. Previously Recorded Resources

Primary #	Type	Description	Eligibility Status	APE Relationship
P-54-003602	Historic-era structure	Modoc Ditch	Recommended ineligible	Within
P-54-004632	Historic-era structure	Topeka and Santa Fe Railway	Recommended ineligible	Outside

3.1.1 Previous Evaluation

A segment of the Modoc Ditch was evaluated by ASM Affiliates in 2021. The segment evaluated was about one mile long and is located between Road 100 and Shirk Street in Visalia, California. The Modoc Ditch was evaluated under CRHR criteria and was recommended not eligible under any criteria due to lack of integrity.

3.2 TRIBAL OUTREACH

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed on January 8, 2024. Based on the NAHC records, the APE is negative for sacred sites or traditional cultural places. Outreach letters were sent on February 8, 2024, to tribal organizations on the NAHC contact list. Follow-up emails were sent on March 20, 2024. The Santa Rosa Rancheria Tachi Yokut Tribe requested to be retained for a cultural presentation. No other responses were received as a result of this outreach. NAHC request, NAHC results, Tribal outreach letters, and Tribal responses can be found in Confidential Appendix B.

3.3 HISTORIC AERIAL AND TOPOGRAPHIC MAPS

ASM consulted historic topographic maps and historic aerial photography to identify potential historic-era structures or resources. According to an atlas, USGS topographic quadrangles, historical aerials, and Google Earth imagery, the area has undergone substantial development, particularly in the twentieth century. The area that was once agricultural lands and farmlands are now heavily developed residential areas. In 1898, no buildings or structures were located in the area of the APE, and the surrounding land was potentially a large agricultural area (Grunsky 1898). By 1924, the area seems to have maintained its agricultural nature with no buildings or structures noted around the APE (USGS 1927). By the time of survey, the water conveyance system noted on the map appears to have the same alignment within the APE as the present day, and the head of the canal is in the same location as the 1892 Thompson Atlas and the present. To the west of the APE is the Topeka and Santa Fe Railroad, which runs north-south, and to the east of the APE is an unnamed road which also runs north-south. By 1949, the Modoc Ditch was located in the same location as previously identified. By then, this area of Visalia had been infilled with residences, including a school and KKIN Radio Station close to the APE. Roads immediately surrounding the APE had been constructed (USGS 1949). Modoc Ditch retained the same alignment in the area immediately surrounding the APE as it does in the present.

Historic aerials from 1956 onward depict residential development of Visalia to the southwest, and some structures in the areas to the south of the APE. However, no buildings or structures existed

near or within the APE as it remained largely surrounded by agriculture. Few changes occurred in the decades following until 1984 when residences replaced agriculture southeast of the APE (Historic Aerials 1956, 1969, 1984, 1994). Between 2017 and 2018, portions of the APE were paved over for the Modoc Ditch Trail and Sante Fe Trail. From 2018 to 2020, the APE appears in its current form.

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4. METHODS AND RESULTS

An intensive Class III inventory/Phase I survey of the Project APE was conducted by ASM Associate Archaeologist Robert Azpitarte, B.A., with assistance from Assistant Archaeologist Margarita Medina Lemus, B.A., on March 21, 2024. The Class III inventory/Phase I survey included a review of the Project APE for the presence of built environment features. The field methods employed also included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars or historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil or burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation (OHP) Instructions for Recording Historic Resources using California Department of Parks and Recreation (DPR) 523 forms. Parallel survey transects spaced at maximum intervals of 15 m. apart were employed for pedestrian survey of the 92.2 ac. Project APE.

4.1 SURVEY RESULTS

4.1.1 Archaeological Results

The proposed Project APE consists of improvements to the Modoc Ditch which was constructed in the late nineteenth century. The Project APE consists of paved roads and unpaved road shoulders, as well as the St. John's River. Modern refuse in the form of plastics and concrete was observed within and directly surrounding the APE. Visibility for the Project APE ranged from poor (approximately 30 percent) to excellent (greater than 95 percent). Visibility was obscured by non-native vegetation and a modern bike path (road) that was hardscaped over. Visibility west of Road 216 was excellent (greater than 95 percent) due to previous disturbance. No archaeological resources were observed within the Project APE.

4.1.2 Built Environment Results

Modoc Ditch (P-54-00602)

ASM documented only the ~100-ft. segment of the Modoc Ditch within the APE, which begins at the headgate structure within the APE and extends south-southeast. The evaluated segment of the Modoc Ditch is an earthen ditch. As such, there is natural vegetation found on either side of the ditch as well as natural rocks and rock formations on either side of the ditch and within the ditch, which is visible during low water periods. The segment of the Modoc Ditch within the APE retains appurtenant canal features from the twentieth and the twenty-first century. On either side of the canal on the southern end of the headgate structure is a pair of rusted rebar fences used for erosion control rebar (Figures 7 and 8).



Figure 7. Modoc Ditch, view toward west.



Figure 8. Modoc Ditch, view toward northeast.

Modoc Ditch Checkgate

A checkgate composed of metal and concrete is within the APE adjacent to the Modoc Ditch headgate structure. It acts as a diversion dam that redirects apportioned water from the St. Johns River. This checkgate is composed of five metal gates for water to flow through with the one on the northern side being the widest. The checkgate gate is controlled by a manual hoist metal wheel. There is poured concrete on the side wall that connects with the headgate. The poured concrete across the width of the checkgate is used as river crossing or a catwalk, and a path through vegetation is visible on the northeastern side (Figures 9 and 10). It is possible that the structure identified as “Present Dam” in 1929 may have been replaced by the current metal checkgate structure sometime in the mid-twentieth (see Figure 5). ASM was not able to access the checkgate directly to confirm metal and concrete materials due to access issues.

Modoc Ditch Headgate Structure

The headgate structure was constructed circa 1929 and is composed of poured concrete. The sidewalls on the southwest side of the headgate structure are composed of concrete bricks that extend slightly northwest as part of the sidewall for the checkgate and slightly southwest as part of the headgate structure erosion control. Measurements were not possible in the field. As such, ASM utilized the 1929 original plans and current aerials to confirm that the circa 1929 headgate structure and culvert retains the same dimensions (see Figure 5, Figures 11 and 12).

Trails and Roads

Located within the APE are trails that were implemented by Visalia in the early twenty-first century. One trail follows the Modoc Ditch through the residential areas of Visalia and intersects with another trail which similarly follows the St Johns River through the residential areas of Visalia. The trails within the APE can be accessed on the west by North St. Johns Parkway, and on the east by the intersection of North Burke Street and Levee Drive. A black metal gate was constructed on either side of the headgate structure to prevent accessibility to the headgate as the trails cross over the Modoc Ditch headgate structure. These trails were used since the early twenty-first century (Figures 13 and 14).



Figure 9. Modoc Ditch checkgate. View toward northeast.



Figure 10. Modoc Ditch checkgate (at center) with headgate to culvert (at left) below bars. View toward northwest.



Figure 11. Modoc Ditch headgate outlet structure (culvert), view toward northeast.



Figure 12. Modoc Ditch headgate structure with metal rebar fencing to protect against side wall erosion, view toward north.



Figure 13. Trail located within the Modoc Ditch APE. View toward northwest.



Figure 14. Gate and trail located over Modoc Ditch headgate structure with checkgate (at right). View toward northwest.

5. SUMMARY, ASSESSMENT OF EFFECTS, AND RECOMMENDATIONS

A Class III inventory/Phase I survey for the St. Johns Water District – Modoc Ditch Diversion Improvements Project (Project), Tulare County, California. A records search was conducted at the SSJVIC. This search indicated that the Project APE had not been previously surveyed, and that one previously recorded cultural resource was within the Project APE. An NAHC SLF search was conducted for the Project APE and the NAHC responded with negative SLF results. Geoarchaeological review of the project APE indicates that the APE is unlikely to contain buried deposits. Historic aerial and topographic map review indicates the project APE has been heavily disturbed by agricultural activities as far back as 1892. Research further indicates that the APE has been disturbed by agricultural activities beginning with the 1876 construction of the Modoc Ditch.

A Class III inventory/Phase I survey fieldwork of the Project APE was conducted in March 2024 with parallel transects spaced at 15 m. intervals. Two segments of the Modoc Ditch (P-54-003602) was identified within the Project APE and recorded. A concrete checkgate at the Modoc Ditch and a headgate structure at the Modoc Ditch were identified. These built environment features were constructed in the early twentieth century, with the headgate structure identified as constructed in 1929. Additionally, a hiking trail was identified within the APE. This hiking trail is a twenty-first century construction. As such, this resource has not reached the appropriate age threshold for evaluation. Additionally, research has not revealed that this resource has achieved significance of exceptional importance within the last 50 years. Therefore, it has not been formally evaluated.

No additional built environment resources and no archaeological resources were identified within the APE.

5.1 EVALUATION

ASM considered whether the Modoc Ditch is eligible under any NRHP or CRHR criteria. As a water conveyance system in the central California region, the Modoc Ditch was evaluated under NRHP/CRHR criteria for irrigation systems because the Modoc Ditch is part of the St. Johns Water District.

ASM considered whether the recorded segment of the Modoc Ditch within the APE is eligible for listing in the NRHP/CRHR under Criterion A/1. To be eligible under this criterion, a water conveyance system must have had a significant impact on the settlement, agricultural economy, and/or development patterns of the area, be a defining element in the evolution of the cultural landscape, and/or are directly associated with important events. The Modoc Ditch/Canal was constructed in 1876. The Modoc Ditch/Canal is one of the few canals to bring water to land northwest of Visalia that provided water in support of large acreage of agricultural development, much of it owned and cultivated by the Visalia Fruit and Land Company. The Modoc Ditch continued to expand its reach through the twentieth century, providing much needed access to irrigation water in the area northwest of Visalia. While the late nineteenth century alignment emptied onto land in Section 28, T18S, R24E, the present mid-twentieth century alignment

terminates at an overflow reservoir in Section 18, (T18S/R24E). The Modoc Ditch provided the means to transform the surrounding area into large agricultural fields that supported not only the local areas of Visalia but likely large portions of California as the crops grown in the agricultural lands were likely transported and sold to other areas in the state. Although the areas immediately surrounding the canal in the eastern sections of the Modoc Ditch were developed for residential use, the Modoc Ditch continues to provide water to agricultural fields in the western sections of its reach before terminating just before Highway 99 and the Santa Fe Railroad. As such, the Modoc Ditch is an early example of a water conveyance system that had transformed the areas around it into agricultural landscapes that became a residential landscape by the mid-twenty first century. The Modoc Ditch is integral to community development. Research did not reveal that the Modoc Ditch was directly associated with a specific historic event. However, as previously stated, its construction is associated to the long history of early water conveyance systems in Central California. As such, the Modoc Ditch meets the necessary criteria to be potentially eligible under NRHP/CRHR criterion A/1, with a period of significance of 1876 (when the canal was constructed) to 1949 (the year the canal alignment changed and terminated at the overflow reservoir). As such, an assessment of integrity is warranted.

ASM assessed the integrity (location, design, setting, materials, workmanship, feeling, and association) of the segment of the Modoc Ditch within the project APE. The majority of the Modoc Ditch has been realigned, likely including the segment of the Modoc Ditch within the APE as an 1898 map identifies the canal traversing directly west while the 1927 USGS topographic map depicts the canal traversing in a southwestern direction. The segment of the Modoc Ditch within the APE was likely modified during construction of the headgate and culvert circa 1929, but that modification occurred within the period of significance. As such, the Modoc Ditch retains low integrity of *location*. The setting of the area surrounding the segment of the Modoc Ditch within the APE has changed since the late nineteenth century when the ditch was initially constructed. At that time, the Modoc Ditch was surrounded by agricultural lands, and in the present day, is surrounded by agricultural lands and residences. The changed setting likely spurred the realignments of the Modoc Ditch by 1949. As such, the Modoc Ditch retains moderate-to-low integrity of *setting*. Additionally, the two recorded segments of the canal (this recordation and a previous recordation) are unlined and appear to retain the same form as the original historic design of the canal. However, most of the canal has been realigned, and improvements to various features of the canal have occurred over time, primarily after the POS (1872-1949). As such, the Modoc Ditch retains low integrity of *design*. The materials used in the construction of the canal and the materials that are found within the canal represent the common materials found in nineteenth-century canal construction. However, the recorded segment of the Modoc Ditch within the APE was likely reconstructed circa 1929 during construction of the headgate. Therefore, it does not retain high integrity of *workmanship* and *materials* for the late nineteenth century but does retain high integrity for 1920s construction. The recorded segment of the Modoc Ditch within the APE continues to convey its history and is still visibly a canal from the early twentieth century. However, there are several contemporary intrusions into the Modoc Ditch area including the construction of a hiking trail and metal checkgate. As such, the recorded segment of the Modoc Ditch within the APE retains moderate-to-low integrity of *feeling*. Finally, the recorded segment of the Modoc Ditch is a significant resource in agricultural development in the history of the surrounding area and continues to play a significant role. As such, the recorded segment of the Modoc Ditch within the APE retains high integrity of *association*. The entire St. Johns Water

District irrigation system has not been recorded and evaluated nor has the entire Modoc Ditch. However, for the purposes of this Project, ASM recommends that the recorded segment of the Modoc Ditch does not retain the necessary integrity as stipulated in the criteria for water conveyance systems largely due to the significant alignment changes that occurred during the period of significance (1876-1949). Therefore, ASM recommends the recorded segment of the Modoc Ditch within the APE is not eligible for NRHP/CRHR Criterion A/1.

ASM considered whether the recorded segment of the Modoc Ditch within the APE is eligible for listing in the NRHP/CRHR under Criterion B/2. In order for a resource to be eligible under this criterion, it must be the result of direct efforts of a prominent individual associated with the development of the local area or region and must be the most prominent built environment resource associated with that individual. Research did not reveal that any particular person important to the history of the area was directly involved in the planning, development and/or construction of the ditch. As such, ASM recommends the recorded segment of the Modoc Ditch within the APE is not eligible under NRHP/CRHR Criterion B/2.

ASM considered whether the recorded segment of the Modoc Ditch within the APE is eligible for listing in the NRHP/CRHR under Criterion C/3. The Modoc Ditch was constructed in 1876 and conveys water from the southern banks of the St. Johns River in northeastern Visalia, across the northern sections of Visalia, before terminating in an overflow reservoir in the northwestern areas of wider Visalia, adjacent to Highway 99 and the Southern Pacific Railroad. While the construction of the canal was important for the area in the late nineteenth century, the canal did not represent a distinctive characteristic of canal design or a method of construction used during the late nineteenth century. The canal was designed and constructed in a way largely similar to other canal systems and structures in the central California area in the late 1800s. The construction and the first uses of the canal were not noted in local newspapers, and little mention of the Modoc Canal was noted in local newspapers over time. Additionally, the canal was constructed before the St. Johns Water District was organized, and its initial construction was associated with the Wutchumna Water Company. As such, while the canal was part of the initial construction of water conveyance systems in California in the late nineteenth century, it does not appear to historically represent a specific engineering design problem that was solved, as nothing of note was printed in the local newspapers nor did any resources contemporary to the development of the canal in the late nineteenth century note any particular challenges in the construction, design, or engineering. Research did not reveal that the canal operates in a capacity beyond its intended use to redirect water and irrigate the local areas, and as such does not appear to be a distinctive type of canal in comparison to other examples from its period of construction. However, as a canal constructed in the late nineteenth century, it represents the general trend of evolving technology in the engineering of canals as an early example of canal construction. While the design does not appear to represent an answer to a specific problem, its use is exemplary of the early endeavors to irrigate California's central valley. Finally, research did not reveal that the design and engineering of the canal was the work of a significant engineer or builder. The entirety of the Modoc Ditch has not been recorded or evaluated. Therefore, for the purposes of this report, ASM recommends that the segment of the Modoc Ditch within the APE is not eligible under Criterion C/3 for the period of significance of 1876 (the year of construction of the canal) through 1949 (the year the canal reached its terminus at the overflow reservoir).

ASM then considered whether the recorded segment of the Modoc Ditch within the APE is eligible under NRHP/CRHR Criterion D/4. As a built environment resource, Criterion D is not applicable as the segment of the canal does not have the potential to provide information about history or prehistory that is not available through historic research. As such, ASM recommends the recorded section of the Modoc Ditch within the APE is not eligible for listing in the NRHP/CRHR under Criterion D/4.

In conclusion, the recorded segment of the Modoc Ditch is not eligible under any NRHP or CRHR criteria.

The Modoc Ditch headgate structure and the Modoc Ditch checkgate were constructed in the early to mid-twentieth century, with a confirmed construction date of the headgate structure of 1929. These features are considered appurtenant canal features as they contribute to the function of the Modoc Ditch. Research did not reveal individual significance or importance of these features beyond their contribution to the function of the Modoc Ditch. As such, ASM does not recommend that the headgate is a contributor to the Modoc Ditch because the segment of the Modoc Ditch within the APE is recommended not eligible under any NRHP or CRHR criteria.

5.2 ASSESSMENT OF EFFECTS

The proposed construction will result in the in-kind replacement of the headgate of the Modoc Ditch, which was constructed in 1929. The Project may include construction of a wider culvert to accommodate higher flows. The segment of the Modoc Ditch and its associated headgate structure are recommended not eligible under any NRHP/CRHR criteria. As such, the proposed Project will not result in an adverse effect under Section 106 or a significant impact under CEQA to the Modoc Ditch (P-54-003602).

5.3 RECOMMENDATIONS

The segment of the Modoc Ditch within the APE is recommended not eligible for listing in the NRHP or CRHR and therefore is not considered a historic property under Section 106 or a historical resource under CEQA. No other cultural resources of any kind were identified during a Phase I study of the Project study area. Therefore, the proposed Project does not have the potential to result in adverse effects to known historic properties or significant impacts to historical resources.

ASM recommends a determination of *no adverse effect* under Section 106 and *no significant impact* under CEQA. It is further recommended that, in the unlikely event that previously unrecorded cultural resources are identified during Project construction, work be halted within a 100 ft. radius of the find and a qualified archaeologist be contacted to evaluate the newly discovered resource.

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APPENDIX E

FLOOD HAZARD MAP

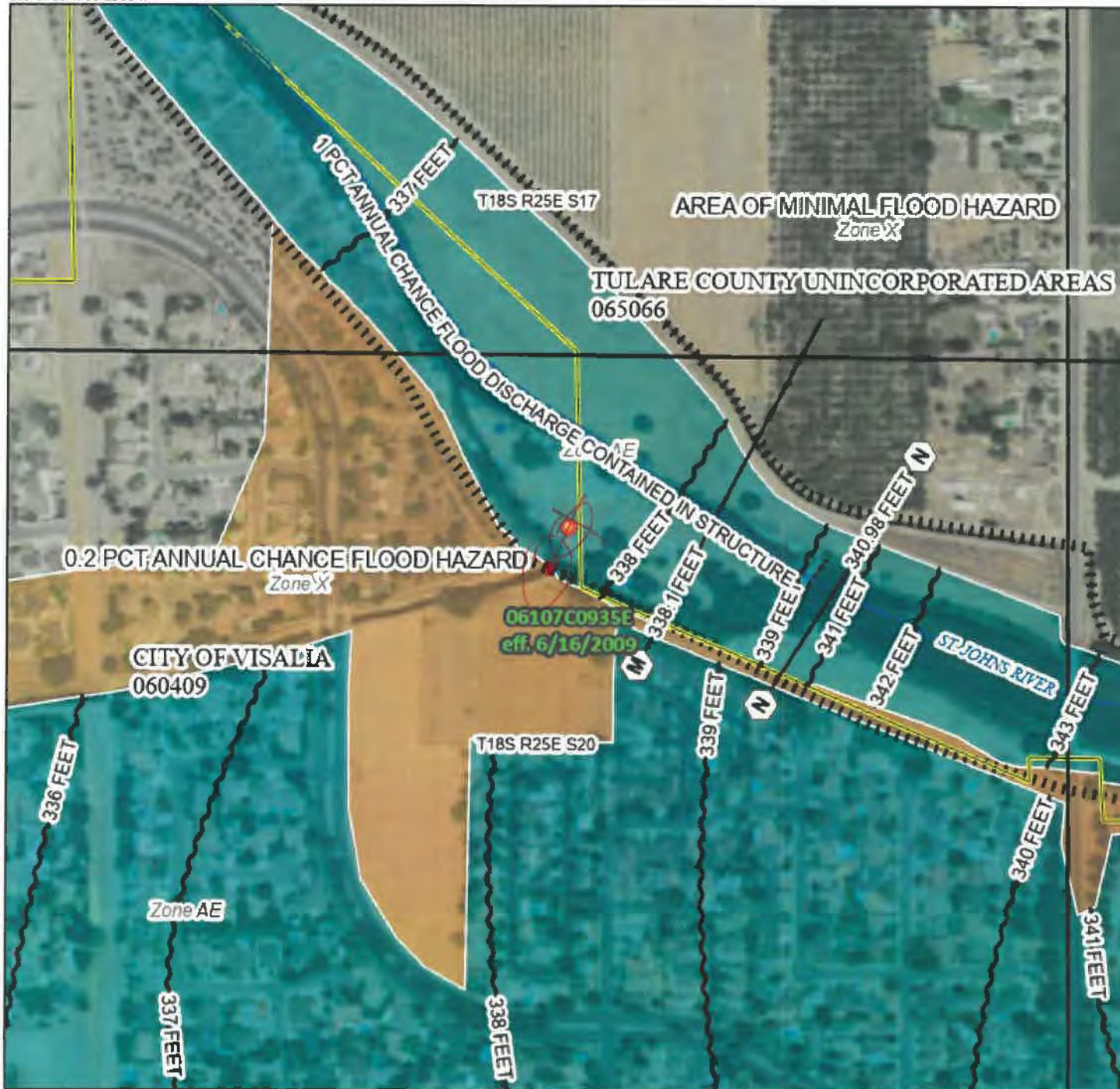
MODOC DITCH HEADGATE STRUCTURE REPLACEMENT

ST. JOHNS WATER DISTRICT

National Flood Hazard Layer FIRMette



119°17'20"W 36°21'31"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth
<i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
<i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard
<i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes.
<i>Zone X</i> |
| | | Area with Flood Risk due to Levee
<i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard
<i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard
<i>Zone X</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | Cross Sections with 1% Annual Chance |
| | | Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| MAP PANELS | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/24/2024 at 7:40 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmoderated areas cannot be used for regulatory purposes.

NOTES TO USERS

1. This map is prepared by the National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency (FEMA) in accordance with the National Flood Insurance Act of 1968, as amended. The NFIP is authorized to provide flood insurance coverage to property owners in the United States. The NFIP is a Federal Government program that provides flood insurance coverage to property owners in the United States. The NFIP is a Federal Government program that provides flood insurance coverage to property owners in the United States.

2. This map is prepared by the National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency (FEMA) in accordance with the National Flood Insurance Act of 1968, as amended. The NFIP is authorized to provide flood insurance coverage to property owners in the United States. The NFIP is a Federal Government program that provides flood insurance coverage to property owners in the United States.

3. This map is prepared by the National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency (FEMA) in accordance with the National Flood Insurance Act of 1968, as amended. The NFIP is authorized to provide flood insurance coverage to property owners in the United States. The NFIP is a Federal Government program that provides flood insurance coverage to property owners in the United States.

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LEGEND

- SPECIAL FLOOD HAZARD AREA SHADED TO INDICATE BY THE 1% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 0.2% ANNUAL CHANCE FLOOD
- 500 YEAR FLOOD RETURN PERIOD
- 100 YEAR FLOOD RETURN PERIOD
- 30 YEAR FLOOD RETURN PERIOD
- 15 YEAR FLOOD RETURN PERIOD
- 10 YEAR FLOOD RETURN PERIOD
- 5 YEAR FLOOD RETURN PERIOD
- 2 YEAR FLOOD RETURN PERIOD
- 1 YEAR FLOOD RETURN PERIOD
- 0.5 YEAR FLOOD RETURN PERIOD
- 0.25 YEAR FLOOD RETURN PERIOD
- 0.1 YEAR FLOOD RETURN PERIOD
- 0.05 YEAR FLOOD RETURN PERIOD
- 0.02 YEAR FLOOD RETURN PERIOD
- 0.01 YEAR FLOOD RETURN PERIOD
- 0.005 YEAR FLOOD RETURN PERIOD
- 0.002 YEAR FLOOD RETURN PERIOD
- 0.001 YEAR FLOOD RETURN PERIOD
- 0.0005 YEAR FLOOD RETURN PERIOD
- 0.0002 YEAR FLOOD RETURN PERIOD
- 0.0001 YEAR FLOOD RETURN PERIOD
- 0.00005 YEAR FLOOD RETURN PERIOD
- 0.00002 YEAR FLOOD RETURN PERIOD
- 0.00001 YEAR FLOOD RETURN PERIOD

**THIS AREA SHOWN AT A SCALE OF 1"=500'
ON MAP NUMBER 06107C0934**

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE

TULARE COUNTY, CALIFORNIA AND INCORPORATED AREAS

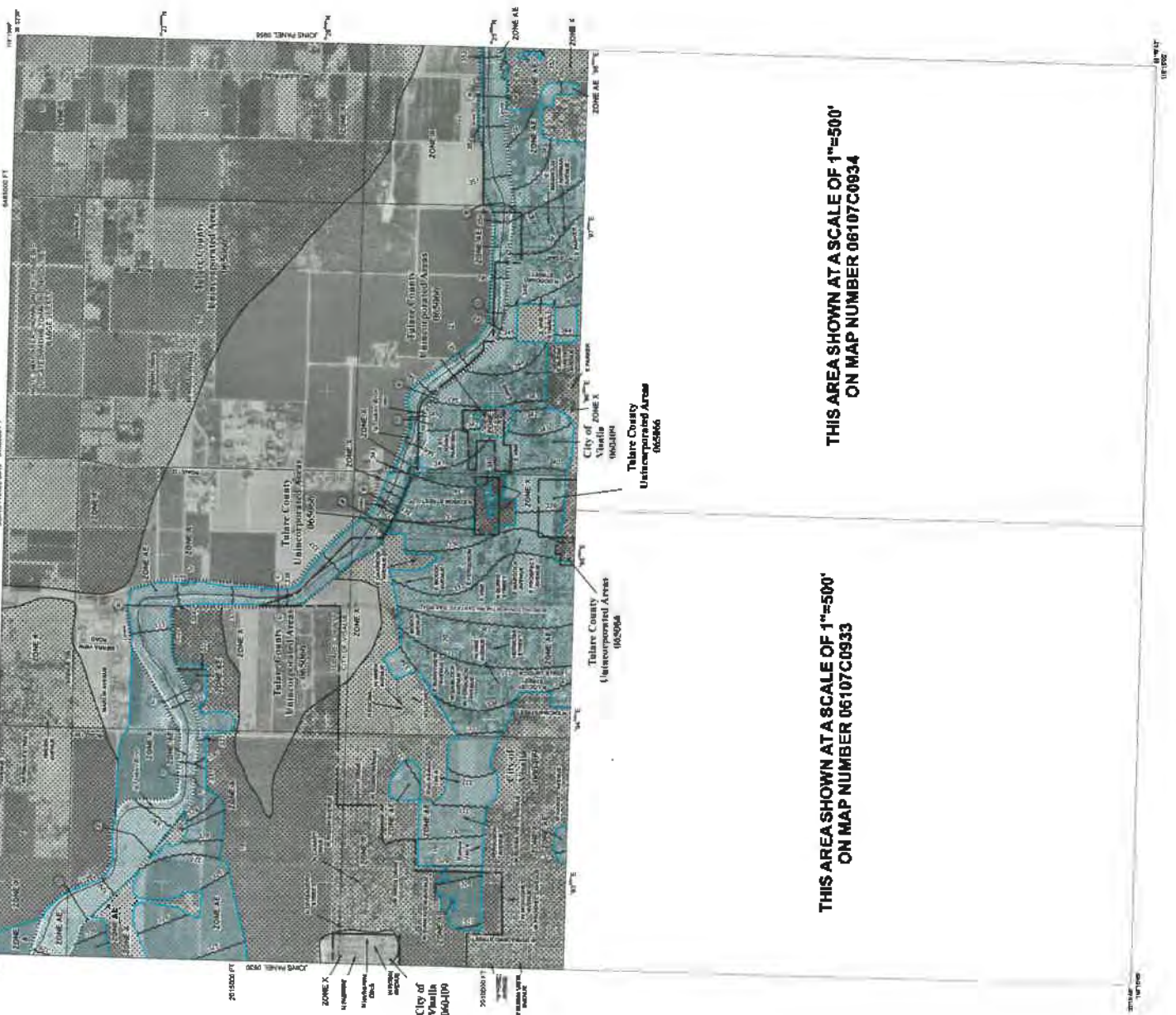
PANEL 061 OF 2650

SEE MAP KEY FOR FIRM PANEL LAY

DATE: 06/10/2009

EFFECTIVE: 06/10/2009

JUNE 10, 2009



**THIS AREA SHOWN AT A SCALE OF 1"=500'
ON MAP NUMBER 06107C0933**

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE

TULARE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 061 OF 2650

SEE MAP KEY FOR FIRM PANEL LAY

DATE: 06/10/2009

EFFECTIVE: 06/10/2009

JUNE 10, 2009