

**DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
SOUTH MOKELUMNE RIVER SETBACK LEVEE PROJECT**

Prepared for:

Reclamation District No. 348
500 Capitol Mall
Sacramento, California 95814

Prepared by:

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PROJECT SUMMARY

Project:	South Mokelumne River Setback Levee Project
Lead Agency:	Reclamation District No. 348 500 Capitol Mall Sacramento, CA 95814
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Project Location:	New Hope Tract, San Joaquin County
Project Sponsor:	Delta Levees Program Department of Water Resources P.O. Box 942836 Sacramento, CA 94236-0001
General Plan Designation:	General Agriculture (A/G)
Zoning:	Agriculture
Project Description:	Construct setback levees and riparian benches from Sta. 242+50 – 268+00, 293+00 – 312+00, and 311+00 – 322+00
Surrounding Land Uses and Setting:	Project is bordered by the South Mokelumne River to the west and farmland to the east
Other Public Agencies Whose Approval is Required:	<ul style="list-style-type: none">• California Department of Fish and Wildlife (Streambed Alteration Agreement)• Central Valley Flood Protection Board (Encroachment Permit)• Central Valley Regional Water Quality Control Board (Section 401 Water Quality Certification)• Delta Stewardship Council (Delta Plan Consistency Determination)• US Army Corps of Engineers (Section 404 Nationwide Permit 27)
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1?	No tribes have requested consultation. Tribal Cultural Resources are addressed in Section 3.18.

PROPOSED MITIGATED NEGATIVE DECLARATION

Project: South Mokelumne River Setback Levee Project

Lead Agency: Reclamation District No. 348

Project Location: New Hope Tract, San Joaquin County

Project Description: Portions of the New Hope Tract levee system, along the South Mokelumne River, are below the Delta Specific PL 84-99 Standard, which requires levee crown elevations be 1.5 feet above the 100-year flood elevation, waterside slopes at a minimum of 2:1, and landside slopes at a minimum of 3:1.

The South Mokelumne River Setback Levee Project (Project) will construct 3 setback levees of a total of 4,350 linear feet. Landside work involves placement of fill as compacted embankment with geometry that meets the Delta Specific PL 84-99 Standard. Aggregate base material will be placed on the setback levee crown to create an all-weather roadway. Waterside work includes excavation of the existing levee above Mean Lower Low Water (MLLW) to construct a riparian bench for habitat enhancement. The habitat bench and setback levee waterside slope will be planted with native species. Plantings will be monitored and maintained for 3 years to ensure success criteria is met.

Findings: An Initial Study has been prepared to assess the Project's potential effects on the environment and the significance of those effects. Based on the Initial Study, Reclamation District No. 348 has determined that the Project will not have any significant impacts on the environment once mitigation measures included in the Project design are implemented.

Mandatory Findings of Significance:

- The Project does not 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.
- The Project does not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The Project does not have impacts that are individually limited but cumulatively considerable.
- The Project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

Proposed Mitigation Measures: Although the Project could have a significant effect on the environment, there will not be a significant effect in this case because Reclamation District No. 348 has agreed to reduce those effects by incorporating mitigation measures into the Project. The mitigation measures are set forth within this document.

Determination

On the basis of this Initial Study, I find that the proposed Project will not have a significant effect on the environment, and that this Mitigated Negative Declaration has been drafted in accordance with the California Environmental Quality Act.

William Stokes, President
Reclamation District No. 348

Date

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LIST OF ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
BFE	Base Flood Elevation
BMPs	Best Management Practices
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Delta	Sacramento-San Joaquin Delta
District	Reclamation District No. 348
ESA	Environmentally Sensitive Area
FMMP	Farmland Mapping and Monitoring Program
FM	Freshwater Marsh
GGS	Giant Garter Snake
GHG	Greenhouse Gas
HTE	Hultgren-Tillis Engineers
HTL	High Tide Line
ISMND	Initial Study/Mitigated Negative Declaration
LF	Linear Feet
MHHW	Mean Higher High Water
MHW	Mean High Water
MLLW	Mean Lower Low Water
MLW	Mean Low Water
MSL	Mean Sea Level
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standards
NAVD 88	North American Vertical Datum of 1988

NMFS	National Marine Fisheries Service
OPR	Office of Planning and Research
RF	Riparian Forest
RCEM	Road Construction Emissions Model
SJMSCP	San Joaquin Multi-Species Habitat Conservation and Open Space Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMR	South Mokelumne River
SRA	Shaded Riverine Aquatic
SS	Scrub Shrub
Sta.	Station
SWPPP	Stormwater Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle
VMT	Vehicle Miles Traveled
WPT	Western Pond Turtle

1 INTRODUCTION

The New Hope Tract levee system consists of approximately 18.6 miles of levee: 9.6 miles along the Mokelumne River, 3.3 miles along the South Mokelumne River (SMR), 4.5 miles along Beaver Slough, and 1.2 miles of dryland levee along the southeastern portion of the tract. All the levees in the system are non-project levees which are maintained by Reclamation District No. 348 (District). As part of the South Mokelumne River Setback Levee Project (Project), the District plans to rehabilitate approximately 4,350 linear feet (LF) of the New Hope Tract levee system along the SMR to the Delta Specific PL 84-99 Standard. This Initial Study/Mitigated Negative Declaration (ISMND) has been prepared in compliance with the California Environmental Quality Act (CEQA) to address the potential environmental effects of the Project.

1.1 Project Vicinity

The Project is located in northwestern San Joaquin County on New Hope Tract, approximately 3.25 air miles southwest of the community of Thornton, CA. New Hope Tract is a 9,300-acre Sacramento-San Joaquin Delta (Delta) tract located in northern San Joaquin County (County), California (Figure 1). The tract is bordered by the Mokelumne River to the east, north and west, and by Beaver Slough to the south (Figure 2). Interstate 5 runs north-south across the eastern portion of the tract.

1.2 Project Area

The Project consists of rehabilitating 3 levee sections, totaling 4,350 LF, along the SMR from Station (Sta.) 242+50 – 268+00, 293+00 – 300+00, and 311+00 – 322+00 (see Table 1).

Table 1. Project Area

Site	Start Sta.	Stop Sta.	Length (ft)
A	242+50	268+00	2,550
B	293+00	300+00	700
C	311+00	322+00	1,100
		Total	4,350

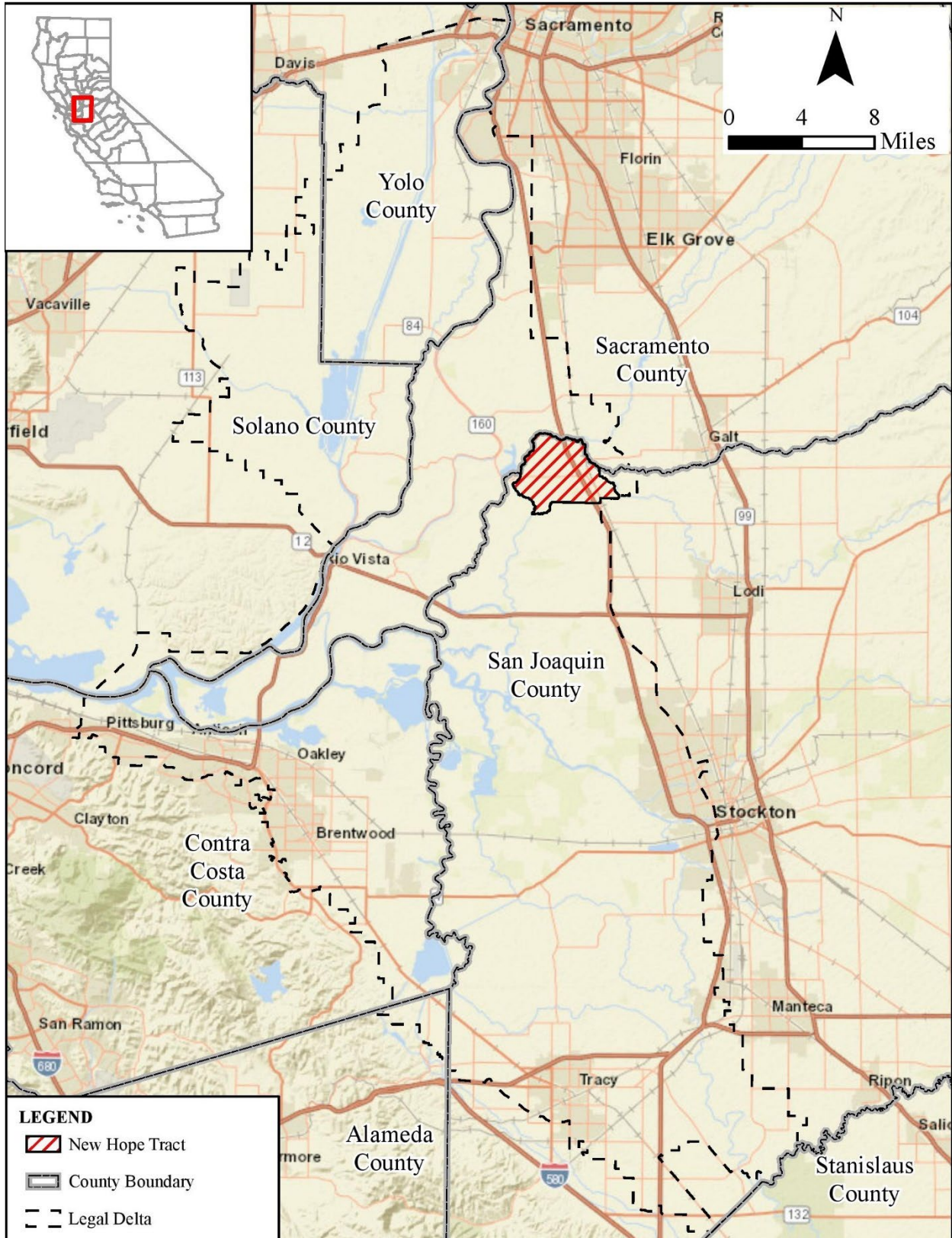


Figure 1. Vicinity Map



Figure 2. Project Area

1.3 Project Purpose and Benefits

Portions of the New Hope Tract levee system along the SMR are currently below Delta Specific PL 84-99 geometry criteria, which requires levee crown to be 16-foot-wide and located at elevations 1.5 feet above the 100-year flood elevation, waterside slopes at a minimum of 2:1 and landside slopes at a minimum of 3:1 (Figure 3).

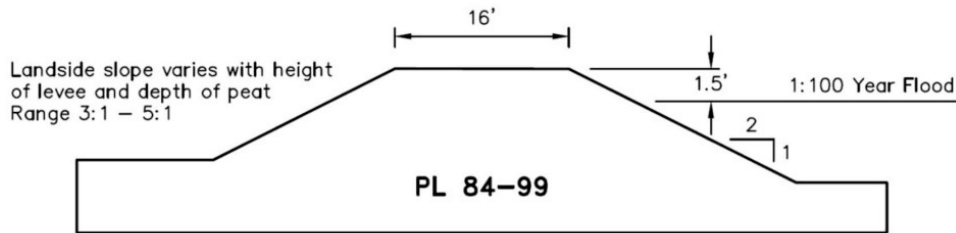


Figure 3. Delta Specific PL 84-99 Standard

The Project will reduce the risk of levee failure, therefore reducing associated impacts to the community of Thornton (approximate population of 1,000), intrastate commerce and traffic, and other public infrastructure. In addition, the Project will support habitat restoration and habitat enhancement along the SMR.

New Hope Tract has approximately 8,900 acres of cropland. The New Hope Tract levee system also protects public infrastructure (Interstate 5, Union Pacific Railroad, County roads, Thornton Fire District, New Hope Elementary School) and utilities (natural gas wells and lines). Failure of the New Hope Tract levee system would compromise the safety of Interstate 5, which would severely impact truck and vehicular traffic relying on this roadway.

In addition to the assets listed above, the levee system maintains the Mokelumne River and Beaver Slough water courses, particularly during high flow events. The River and Slough are part of the larger Delta water delivery and ecosystem, and accordingly provide a public benefit.

1.4 Project Description

The Project consists of constructing three new levee sections and removing a portion of the existing levee to create waterside habitat at the new levee sections along the southwestern side of New Hope Tract. The setback levee landside and waterside will have slopes at 3:1 and 2:1, respectively. The levee embankment crest will be 16 feet wide and will feature a 14-foot-wide all-weather road composed of 6 inches of aggregate base material.

1.4.1 Levee Rehabilitation

The Project includes constructing a new setback levee with imported fill material that will meet Delta Specific PL 84-99 geometry. Additionally, the Project includes the construction of an all-weather road along the levee crest. Generally, the levee setback section will feature a 16-foot-wide embankment crest, 2:1 waterside slope and 3:1 landside slope (Figure 4).

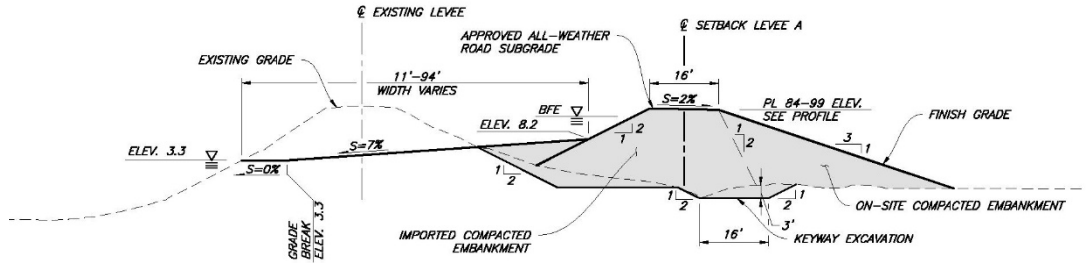


Figure 4. Typical Setback Levee Section

Landside levee rehabilitation will begin with clearing, grubbing, and stripping of the Project area. Next, the new levee sections and habitat bench will be constructed simultaneously with excavation of the existing levee. Then, soil-filled riprap and soil cover will be placed on the waterside slope of the rehabilitated levee and the all-weather patrol road will be constructed along the rehabilitated levee crest. Finally, the entire Project area will be hydroseeded with a native seed mixture. The Project will result in the rehabilitation of a total of 4,350 LF (~0.8 miles) distributed in three levee sections.

1.4.2 Habitat Enhancement

The Project will remove a portion of the existing levee to create waterside habitat along the southwestern side of New Hope Tract. The Project will establish 3 riparian benches along the SMR totaling 4,350 LF (Table 1). A typical riparian bench detail is shown below as Figure 5.

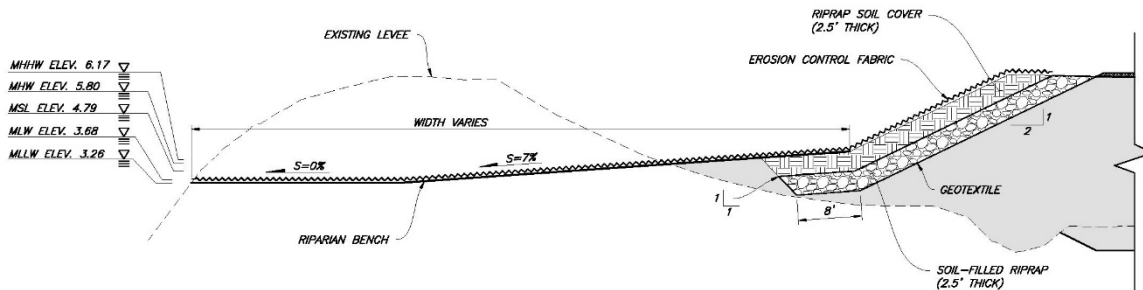


Figure 5. Typical Riparian Bench Detail

Riparian benches will be constructed on the levee waterside by excavating the existing levee above elevation 3.3 feet (NAVD 88), which is approximately Mean Lower Low Water (MLLW). Tidal elevations for the Project are summarized in Table 2; elevations were calculated from the South Mokelumne River at Thornton Road (SMR) Gage for data from January 1, 2011 to November 16, 2017.

Table 2. Tidal Elevations

Tidal Elevations (NAVD 88)	
Max	8.48
MHHW	6.17
MHW	5.80
MSL	4.79
MLW	3.68
MLLW	3.26
Min	1.92

Construction of the riparian benches will require the excavation of approximately 64,000 cubic yards of material. During excavation, existing trees on the waterside will be protected where feasible. The setback levee waterside slopes will be armored with soil-filled riprap and soil cover. The setback levee waterside slopes and upper portions of the riparian benches will be planted with native riparian plants to create scrub-shrub (SS) and riparian forest (RF) habitat; the lower portions of the riparian benches will feature freshwater marsh (FM) habitat. The District will provide a habitat enhancement planting, maintenance, and monitoring plan for review and approval by the California Department of Fish and Wildlife (CDFW). Plantings on the levee waterside will be monitored and maintained for 3 years after initial planting to ensure 80% success criteria is met. Planting acreages are summarized in Table 3. In addition to the acreages listed in Table 3, the Project will establish approximately 3,000 LF of shaded riverine aquatic (SRA).

Table 3. Planting Acreages

Site	FM	SS/RF	Total
A	1.966	2.781	4.747
B	0.314	0.59	0.904
C	0.636	0.862	1.498
Total	2.916	4.233	7.149

1.4.3 Mitigation

Impacts to AB 360 habitat will require mitigation at 3:1 for RF habitat, 2:1 for SS habitat, and 1:1 for SRA and FM habitats. However, mitigation for Project impacts will be planted on-site as part of the Project.

1.4.4 Imported Materials

The levee rehabilitation phase of the Project will require the import of approximately 215,000 tons of levee fill material and 3,200 tons of aggregate base material. The habitat enhancement phase of the Project will require the import of approximately 32,500 tons of riprap, 10,300 tons of riprap soil fill, and 31,300 tons of riprap soil cover. Sources for imported materials will be determined

by the contractor and approved by the District Engineer prior to construction. Materials will be imported by truck.

1.4.5 Construction Methods

Construction access to the Project site would be provided by existing levee access roads, including the levee crest patrol road. Construction of the Project would use conventional equipment including dozers, graders, excavators, compactors, backhoes, water trucks, and hand tools. Equipment will initially be staged between the existing levee and setback levee. During construction of the waterside habitat enhancement, equipment will also be staged on the setback levee crest.

1.4.6 Construction Schedule

The Project is expected to occur in 2022, however delays in the acquisition of permits and/or easements could delay construction to 2023.

1.5 **Mitigation Measures**

The following mitigation measures will be implemented as part of the Project to help assure that the Project will have no impact or only less than significant impacts on the environment.

- **AQ-1. Construction Emissions of PM₁₀**
 - All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, covered with a tarp or other suitable cover or vegetative ground cover.
 - All unpaved roads used to access the Project will be effectively stabilized of dust emissions using water.
 - All land clearing, grubbing, scraping, excavation, land leveling, and grading activities will be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
 - For transportation of imported materials, all material will be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container will be maintained.
 - All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. In addition, the use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions; the use of blower devices is expressly forbidden.
 - Trackout will be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
 - Limit traffic speeds of construction equipment and vehicles on unpaved roads to no more than 15 mph.
- **AQ-2. Emissions from Construction Equipment**
 - Reduce idling time (e.g., turn off trucks that are waiting more than 5 minutes to load or unload, turn off equipment when not in use, use of automatic shutdown

feature when available). Provide clear signage that posts this requirement for employees at the entrances to the site.

- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- **BIO-1. Rare Plant Avoidance**
 - Prior to commencement of construction, the intertidal marsh shall be designated as an Environmentally Sensitive Area (ESA) on contractor plans and flagged in the field with brightly colored flagging. The flagging will be attached to vegetation or stakes placed along the limit of construction on the landward side of the marsh. No construction activities or personnel shall enter the ESA. A qualified biologist or botanist shall provide the construction crew with information on the location of the special-status plants, how to recognize the ESA and the plants, and the avoidance measures in place for the protection of special-status plants and their habitat, including applicable measures in environmental permits.
- **BIO-2. Valley Elderberry Longhorn Beetle Avoidance and Mitigation**
 - Establish a setback of 20 feet from the dripline of each avoided elderberry shrub.
 - Throughout construction, install and maintain brightly colored flags or fencing around retained elderberry shrubs.
 - If shrubs cannot be avoided, the Project shall obtain take coverage via a formal Section 7 endangered species act consultation with USFWS for valley elderberry longhorn beetle (VELB).
 - If shrubs are impacted, prior to construction, purchase VELB mitigation credits at a USFWS-approved mitigation bank (Table 4). A total of 2 credits would be purchased for the removal of the 8 elderberry shrub saplings on the land side of the levee near Sta 267+00.

Table 4. Summary of VELB Mitigation Compensation

Habitat Type	Compensation Ratio ¹	Total Elderberry Disturbance Area	Compensation Area	VELB Credit Compensation ²
Riparian	3:1	1,200 sq ft	3,600 sq ft	2 credits

¹ Compensation ratio obtained from Table 1 of the 2017 VELB Framework.

² Per the 2017 VELB Framework, a single credit equals 1,800 square feet. The VELB Credit Compensation was calculated by dividing the Compensation Acreage by the number of acres in a VELB Credit.

- **BIO-3. Environmental Training**
 - Prior to construction, the contractor(s) shall be provided with the specific protective measures to follow during implementation of the Project. A qualified biologist shall provide the construction crew with information on the protected species potentially found in the Project vicinity, the protection afforded the species by the Federal Endangered Species Act and California Endangered Species Act, and guidance on those specific protection measures that must be implemented as part of the Project.
- **BIO-4. Waterside Work Window**
 - Waterside work will occur from June 1 to October 31, when special-status fish are least likely to be present and/or least vulnerable to waterside activities. This is the

window recommended by NOAA Restoration Center's Program to Facilitate Implementation of Restoration Projects in the Central Valley of California (NMFS 2018). The work window may be extended with approval from the National Marine Fisheries Service (NMFS) and CDFW.

- Ground-disturbing work along the shore of the SMR below the river HTL (8.48 ft elevation) shall be conducted at receding or low tide to avoid in-water work to the maximum extent possible.
- **BIO-5. Water Quality Protection**
 - The Project will implement best management practices (BMPs), including a Storm Water Pollution Prevention Program (SWPPP) or Water Pollution Control Program (WPCP), as appropriate, to minimize adverse effects to water quality, special-status species and their habitat, and designated critical habitat.
 - Construction equipment and plant materials shall be staged in designated terrestrial areas adjacent to the Project sites. Existing staging sites, maintenance toe roads, and crown roads shall be used to the maximum extent possible for Project staging and access to avoid affecting previously undisturbed areas.
 - The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents potential release of petroleum materials into state or federal waters. Fuel storage, refueling, and servicing of construction equipment will take place in upland locations.
 - Mechanized equipment used for work in the stream channel or within 25 feet of a wetted channel shall have a double (i.e., primary and secondary) containment system for diesel and oil fluids. Hydraulic fluids in mechanical equipment working within the river channel shall not contain organophosphate esters. Vegetable-based hydraulic fluids are preferred.
 - Prior to use, all equipment shall be cleaned to remove external oil, grease, dirt, or mud. Wash sites must be located in upland locations so wash water does not flow into the river channel or wetlands. All construction equipment must be in good working condition, showing no signs of fuel or oil leaks. Prior to construction, all mechanical equipment shall be thoroughly inspected and evaluated for the potential of fluid leakage. Mechanical equipment shall be inspected on a daily basis to ensure there are no motor oil, transmission fluid, hydraulic fluid, or coolant leaks. All leaks shall be repaired in the equipment staging area or other suitable location prior to resumption of construction activity. Equipment stored for a lengthy period of time (more than one week on site) shall have drip and leak pans placed underneath potential leak areas to contain accidental drips.
 - Oil absorbent and spill containment materials shall be located on-site when mechanical equipment is in operation within 100 feet of watercourses. If a spill occurs, no additional work shall commence in-channel until (1) the mechanical equipment is inspected by the contractor, and the leak has been repaired, (2) the spill has been contained, and (3) resource agencies (i.e., NMFS, USFWS, CDFW, as applicable) are contacted and have evaluated the impacts of the spill. Absorbent

and spill containment materials will otherwise be inspected regularly to ensure functionality.

- Precautions to minimize turbidity/siltation shall be implemented at the time of construction. This includes installation of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to erode into downstream reaches. If flows within the river reach or have the potential to reach areas of sediment exposed by the Project, a turbidity curtain will be used to minimize the effects of construction on river turbidity. These barriers shall be placed at all locations where the likelihood of sediment input exists and shall be in place during construction activities, and afterward if necessary. If any sediment barrier fails to retain sediment, corrective measures shall be taken immediately.
- Erosion control materials such as coir rolls or erosion control blankets will not contain plastic netting that could entrain reptiles (especially snakes) and amphibians.
- The contractor shall inspect, maintain, and repair all erosion control materials and devices prior to and after any storm event, at 24-hour intervals during extended storm events, and a minimum of every two weeks until all erosion control measures are no longer needed. If an erosion control measure fails and sediment is discharged, appropriate agencies should be notified within 48 hours of discovery.
- Any excavated material shall be stockpiled in areas a sufficient distance from watercourses, where it cannot enter the stream channel.
- Immediately after Project completion and before close of seasonal work window, all exposed soil shall be stabilized with erosion control measures such as mulch, seeding, and/or placement of erosion control blankets. Where straw, mulch, or slash is used on bare mineral soil, the minimum coverage shall be 95 percent with two-inch minimum depth. All non-natural erosion control materials shall be removed after the Project vicinity has fully stabilized. When seeding is used as an erosion control measure, only seeds from native plant species will be used. Sterile (without seeds), weed-free straw, free of exotic weeds, is required when hay or hay bales are used as erosion control measures.
- **BIO-6. Limit Effects of Construction on Aquatic Habitats**
 - Prior to beginning Project activities, the contractor shall establish and clearly mark the Project limits, including the boundaries of designated equipment staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones. Vegetation disturbance will be avoided and minimized to the extent practicable.
 - Where feasible, waterside construction shall occur from the top of the levee.
 - Woody debris and vegetation on the levee and in the river shall not be disturbed if outside of the Project's work area.
 - The amount of rock and other structural materials used for levee protection shall be limited to the minimum needed for scour protection.

- RSP will be removed/placed in a manner that limits resuspension of sediments. The Project shall conduct turbidity monitoring in accordance with the project's CWA 401 Water Quality Certification. If needed, rock placement methods will be modified, slowed, or suspended in order to comply with the terms and conditions of the Certification.
- **BIO-7. Minimization of Acoustic Impacts to Fish**
 - Operation of heavy equipment will be restricted to daylight hours to allow quiet nighttime migration conditions for fish.
- **BIO-8. Restoration Plan**
 - Prior to construction, a detailed restoration plan will be prepared and submitted to CDFW and NMFS for review. The restoration plan will describe responsible parties, the species palette, planting locations, planting densities, the schedule for implementation, restoration success criteria, monitoring methods, reporting requirements, and corrective actions to be taken if the proposed success criteria are not being met. The restoration plan will identify the location of the proposed intertidal marsh, RF, and SS habitat.
 - Restoration shall utilize plant species native to the Project vicinity or region and include a diverse community structure (plantings shall include both woody and herbaceous species). Restoration shall include control and proper disposal of invasive weeds.
 - Restoration shall include at minimum a 3:1 replanting ratio (3 native riparian plantings for each individual removed) for any woody riparian vegetation measuring 1 inch diameter or greater at breast height that is removed by the Project.
 - The restoration plan will include an adaptive management and monitoring program consistent with the framework established in the Delta Plan Appendix 1B.
 - The restoration plan will include an invasive species management plan that meets the requirements set forth in Delta Plan Mitigation Measure 4-1.
- **BIO-9. Western Pond Turtle Avoidance**
 - Prior to the start of construction, a biologist will conduct a training session for all construction personnel that includes a description of western pond turtle (WPT), their habitat, and how to proceed if a suspected WPT individual is encountered. The training will also describe the specific avoidance measures being implemented for this species.
 - Within 48 hours prior to the start of work, a qualified biologist will conduct a preconstruction survey for WPT and other special-status amphibians and reptiles. The survey area will include the construction area and 250 feet upstream and downstream of the construction area. If the biologist discovers a WPT or other special-status amphibian or reptile within the construction footprint on the land side of the levee, the biologist shall, with approval from CDFW and in accordance with applicable permits, relocate the individuals to suitable habitat (e.g., to one of the larger main canals on New Hope Tract outside the project area for WPT found on the land side). If a potential turtle nest is observed, the monitor shall flag the nest and a 300-foot environmentally sensitive area (ESA) buffer shall be established

around the nest. No construction or construction personnel shall be allowed in the ESA. The ESA buffer shall be indicated by temporary fencing if construction has or will begin before nesting periods end (the period from egg laying to emergence of hatchlings is normally April to November). If it is not feasible to avoid the nest, CDFW shall be contacted for guidance on potential nest relocation specific to the project site. If working outside the nesting period, no coordination with CDFW will be necessary.

- Any holes or trenches associated with the Project will be covered during non-work hours to prevent wildlife from becoming trapped or injured. Any holes that are not covered will have an escape ramp during nonwork hours to prevent wildlife from becoming trapped.
- If WPT (or other special-status wildlife) is encountered during construction, activities will cease until a qualified biologist verifies that the individual(s) have left on their own, that work activities will not affect the individual(s), or in coordination with CDFW and in accordance with applicable permits, the biologist moves the individual(s) to other suitable habitat on New Hope Tract, away from construction.
- **BIO-10. Giant Garter Snake Avoidance**
 - As GGS are not known to occur on New Hope Tract, the project will implement avoidance during construction as follows: If a giant garter snake is observed during preconstruction surveys or during construction, the Project shall immediately cease construction within 200 feet of potentially occupied aquatic habitat until the appropriate level of consultation with the USFWS and coordination with CDFW are completed.
 - Construction shall occur during the active period for the snake, between May 1 and October 1. If any work is proposed between October 2nd and April 30th, the USFWS shall determine if additional measures are necessary to minimize and avoid take.
 - Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary.
 - Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance.
 - Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species, including giant garter snake, and the importance of avoiding impacts to these species and their habitats.
 - In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site:
 - Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;
 - Restrict working areas, spoils and equipment storage and other Project activities to areas outside of marshes, wetlands and ditches; and

- Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.
- If on-site wetlands, irrigation ditches, marshes, etc. are being relocated in the vicinity: the newly created aquatic habitat shall be created and filled with water prior to dewatering and destroying the pre-existing aquatic habitat. In addition, non-predatory fish species that exist in the aquatic habitat and which are to be relocated shall be seined and transported to the new aquatic habitat as the old site is dewatered.
- Any dewatered habitat should remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.
- Preconstruction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.
- If a lapse in Project activity of 2 weeks or greater occurs, surveys for giant garter snake in the Project area shall be repeated.
- After completion of construction activities, remove any temporary fill and construction debris and, wherever feasible, restore disturbed areas to pre-Project conditions.
- **BIO-11. Nesting Bird Avoidance**
 - If construction occurs between February 15 and September 15, a qualified biologist shall conduct a preconstruction survey for the active nests of protected birds. The survey shall occur no more than 5 days prior to construction. The survey shall cover all areas to be disturbed by the Project, and accessible areas within the following buffers surrounding proposed work areas, staging areas, and access roads:
 - 250 feet for birds protected under the Migratory Bird Treaty Act (MBTA),
 - 300 feet for tricolored blackbird
 - 0.25 mile for nesting raptors
 - Surveys shall be conducted during periods of peak activity (early morning, dusk) and shall be of sufficient duration to observe movement patterns. Survey results, including a description of timing, duration and methods used, shall be submitted to CDFW for review 48 hours prior to the initiation of the Project. The measures listed below shall be implemented based on the survey results.

No Active Nests Found:

- If no active nest of a bird of prey, MBTA bird, or other CDFW protected bird is found, then no further avoidance and minimization measures are necessary.

Active Nests Found:

- If an active nest of a bird of prey, MBTA bird, or other CDFW protected bird is discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:

- Stop all work within a 300-foot radius of the active nest (if MBTA bird) or 0.25 mile (if raptor).
- Notify the Engineer.
- Do not resume work within the specified radius of the discovery until authorized.
- The biologist shall establish a minimum 0.25-mile radius Environmentally Sensitive Area (ESA) if the nest is that of a bird of prey, 300-foot radius ESA if the nest is of a tricolored blackbird, or 100-foot ESA if the nest is that of an MBTA bird other than a bird of prey. Activity in the ESA will be restricted as follows:
 - Do not enter the ESA unless authorized.
 - If the ESA is breached, immediately: Secure the area and stop all operations within 60 feet of the ESA boundary.
 - Notify the Engineer.
- If the ESA is damaged, the Project Engineer shall determine what efforts are necessary to remedy the damage and who performs the remedy.
- No construction activity shall be allowed in the ESA until the biologist determines that the nest is no longer active.
- The ESA may be reduced if a qualified biologist experienced with raptor behavior monitors the nest and determines, in coordination with CDFW, that no disturbance to the active nest is occurring. Reduction of the ESA depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project-specific conditions.
- Active nests found inside the limits of species-specific buffer zones or nests within the vicinity of the Project site showing signs of distress from Project activity as determined by the qualified biologist shall be monitored daily during the duration of the Project for changes in bird behavior. Buffer areas of active nests within the vicinity of the Project site showing signs of distress or disruptions to nesting behaviors from Project activity, as determined by the qualified biologist, shall have their buffers immediately adjusted by the qualified biologist until no further interruptions to breeding behavior are detectable.
- For raptor nests, the on-site biologist shall be on the work site daily while construction-related activities are taking place within the 0.25-mile ESA. The monitor shall have the authority to stop work if raptors are exhibiting agitated behavior.
- Between February 15 and September 15, if a lapse in Project activity of 7 days or more occurs, the survey for MBTA birds shall be repeated and no work shall proceed until the results have been submitted to CDFW.
- Between February 15 and September 15, if a lapse in Project activity of 14 days or more occurs, the survey for raptors within 0.25 mile shall be repeated and no work shall proceed until the results have been submitted to CDFW.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the protective measures outlined above (establish ESA,

monitor, etc.) will be implemented to ensure construction is not causing disturbance to the nest.

- **BIO-12. Burrowing Owl Avoidance**

- Prior to any construction, regardless of season, a qualified biologist will conduct a Take Avoidance Survey in accordance with applicable portions of the CDFW Staff Report on Burrowing Owl Mitigation guidelines (7 March 2012). The Take Avoidance Survey will be conducted within 14 days prior to initiation of ground-disturbing activities. The survey will cover all accessible potential burrowing owl habitat within 500 feet of the Project construction footprint.
- If a lapse in Project activity of 7 days or more occurs, the take avoidance survey shall be repeated and no work shall proceed until the results have been submitted to CDFW.
- If active burrowing owl burrows are found, the following measures will be implemented:
 - During the non-breeding season (September 1 through January 31), the biologist will establish a 160-foot Environmentally Sensitive Area (ESA) around the burrow. During the breeding season (February 1 through August 31), the biologist will establish a 250-foot ESA around the burrow. No construction activity will be allowed in the ESA.
 - The size of the ESA may be reduced if, in consultation with CDFW, the biological monitor determines that no disturbance to the burrowing owl is occurring.
 - In consultation with CDFW, burrowing owls that cannot be avoided through other means may be passively excluded during the non-breeding season using one-way doors, as described in the Exclusion Plan of Appendix E of the CDFW Staff Report on Burrowing Owl Mitigation.
- If potentially occupied burrows are observed during construction, work shall immediately cease within 500 feet of the burrow. A qualified biologist shall verify occupancy status and follow procedures outlined above including establishment of an ESA.

- **BIO-13. Swainson's Hawk Avoidance**

- If construction (including tree removal) is proposed to begin during the nesting season for Swainson's hawk (March 1 through September 15), a qualified biologist shall conduct a preconstruction survey for Swainson's hawk in accordance with the applicable sections of the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk TAC 2000). The survey effort shall include at minimum one survey for Swainson's hawk within 14 days in advance of the construction start date. The survey area will include the Project site (which contains no potential nest trees) and a 0.5-mile radius around the site.
- If a nesting Swainson's hawk is found within 0.5 mile of the Project, then a biologist experienced with raptor behavior will establish a 0.5-mile protection buffer. If construction activities that may cause nest abandonment or forced fledging are

necessary within the buffer, then the biologist shall monitor the nest for signs of disturbance on a daily basis during construction. If the Swainson's hawk is showing agitated behavior, then construction will cease or be reduced to a point that it does not disturb the hawks. Monitoring may be reduced if the on-site biologist determines, in coordination with CDFW, that construction is not disturbing the nesting hawks. Routine disturbances such as agricultural activities, commuter traffic, and routine facility maintenance would generally not be prohibited within the buffer.

- **BIO-14. Western Red Bat Avoidance**

- If work begins from May through July, trees within the BSA should be surveyed for this foliage-roosting bat within 15 days of the start of work. If western red bats (or sign of bat) are found within the BSA, the biologist shall evaluate the colony to determine its size and develop appropriate mitigation measures for CDFW review and approval. The bat survey shall document 1) the location of all roosting sites (location shall be adequately described and drawn on a map), 2) the number of bats present at the time of visit (count or estimate), and 3) the location, amount, distribution of all bat guano shall be described and shown on a map. Western red bats shall not be disturbed without specific notice to and coordination with CDFW.

- **CUL-1. Avoid and Minimize Potential Effects on Cultural Resources**

- If buried materials are encountered, all soil disturbing work should be halted at the location of any discovery until a qualified archaeologist completes a significance evaluation of the find(s) pursuant to Section 106 of the National Historic Preservation Act (36CFR60.4). Prehistoric archaeological site indicators expected within the general area include: chipped chert and obsidian tools and tool manufacture waste flakes; grinding and hammering implements that look like fist-size, river-tumbled stones; and for some rare sites, locally darkened soil that generally contains abundant archaeological specimens. Historical remains expected in the general area commonly include items of ceramic, glass, and metal. Features that might be present include structure remains (e.g., cabins or their foundations) and pits containing historical artifacts.
- Per the requirements of the California Code of Regulations, Title 14, Chapter 3, Section 15064.5(e) if human remains are encountered during the course of the project, excavation or disturbance of the location must be halted in the vicinity of the find, and the County coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the National American Heritage Commission (NAHC) within 24 hours. The NAHC will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent may make recommendations about the treatment or disposal of the human remains with appropriate dignity.

- **GEO-1. Avoid and Minimize Potential Effects on Paleontological Resources**

- If any subsurface paleontological resources are encountered during construction of the project, all construction activities in the vicinity of the encounter shall be halted until a qualified paleontologist can examine these materials, make a determination

of their significance and, if significant, recommend further mitigation measures that would reduce potential effects to a level that would be less than significant. Such measures could include 1) preservation in place or 2) excavation, recovery and curation by qualified professionals. The District shall be responsible for retaining qualified professionals, implementing recommended mitigation measures and documenting mitigation efforts in a written report, consistent with the requirements of the State CEQA Guidelines.

- **HAZ-1. Best Management Practices Regarding the Use of Hazardous Materials**

- No potentially hazardous materials will be stored in a location where there is potential to enter any waterways and/or contaminate aquatic resources.
- All construction materials with the potential to pollute runoff will be handled and delivered with care and stored under cover and/or surrounded by berms when rain is forecast or during wet weather.
- An effort will be made to store only enough of a product necessary to complete the job.
- Materials, fuels, liquids and lubricants, and equipment supplies stored onsite will be stored in a neat, orderly manner, in their appropriate containers, with the original manufacturer's label and, if possible, in an enclosure.
- Any hazardous materials will be stored and labeled according to local, state, and federal regulations.
- If drums must be stored without overhead cover, they will be stored at a slight angle to reduce corrosion and ponding of rainwater on the lids.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Manufacturer's recommendations for proper use and disposal of a product will be followed.
- Whenever possible, all of a product will be used up before disposal of its container.
- If surplus product must be disposed of, the manufacturers or the local and State recommended methods for proper disposal will be followed.

- **HAZ-2. Prevent, Control, and Minimize Impacts from a Spill**

- Minor spills are those that can be controlled by onsite personnel. The following actions will occur upon discovery of a minor spill:
 - The spread of the spill will be contained.
 - If the spill occurs on impermeable surfaces, such as any temporary surfaces installed for pollution prevention during construction, it will be cleaned up using "dry" methods (i.e., absorbent materials, cat litter, and/or rags).
 - If the spill occurs in permeable substrate areas, it will be immediately contained by constructing an earthen dike. The contaminated soil will be dug up and properly disposed of.
 - If the spill occurs during rain, the impacted area will be covered to avoid runoff, and appropriate clean-up steps will be taken after precipitation.

- Onsite personnel should not attempt to control major spills until the appropriate and qualified emergency response staff has arrived at the site. Failure to report major spills can result in significant fines and penalties.
 - Any major release or threatened release of a hazardous material requires immediate reporting by the responsible person to the Cal OES State Warning Center (800) 852-7550 and the Unified Program Agency (UPA) or 911.
 - For spills of federal reportable quantities, the National Response Center will also be notified at (800) 424-8802. The federal reportable spill quantity for petroleum products is any oil spill that (1) violates applicable water quality standards, (2) causes a film or sheen upon or discoloration of the water surface or adjoining shoreline, or (3) causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.
 - A written report will be sent to all notified authorities.
- Diesel fuel, oil, gasoline, and lubricants are considered petroleum products. These materials will be handled carefully to minimize their exposure to storm water. The risks in using petroleum products will be reduced by following these steps:
 - Waste oil and other petroleum products will not be discharged into the ground or other water bodies.
 - Petroleum products will be stored in tightly sealed containers that are clearly labeled, in a covered area, within prefabricated spill containment devices, earthen berms, or similar secondary containment features.
 - Onsite vehicles will be monitored for fluid leaks and receive regular preventative maintenance to reduce the chance of leakage (e.g., check for and fix fuel oil leaks in construction vehicles on a regular basis).
 - Bulk storage tanks having a capacity of more than 55 gallons will be provided with a secondary containment measure. Containment can be provided by a prefabricated temporary containment mat, a temporary earthen berm, or other measure.
 - Bulk fuel or lubricating oil dispensers will have a valve that must be held open to allow the flow of fuel into construction vehicles. During fueling operations, the contractor will have personnel present to detect and contain spills.
- The following additional spill control and cleanup practices will be followed:
 - Spills will be contained and cleaned up immediately after discovery.
 - Manufacturer's methods for spill cleanup of a material will be followed as described on the material safety data sheet (MSDS) sheets (kept with product containers).
 - Materials and equipment needed for cleanup procedures will be kept readily available onsite, either at an equipment storage facility or on the contractor's trucks. Equipment to be kept onsite will include, but not be limited to, brooms, dust pans, shovels, granular absorbents, sand, sawdust,

absorbent pads and booms, plastic and metal trash containers, gloves, and goggles.

- Onsite personnel will be made aware of cleanup procedures, the location of spill cleanup equipment, and proper disposal procedures.
 - Toxic, hazardous, or petroleum product spills required to be reported by regulations will be documented, and a record of the spills will be kept with this Project.
 - If a spill occurs that is reportable to the federal, state, or local agencies, the contractor is responsible for making and recording the reports.
- **HAZ-3. Reduce the Potential for Fire**
 - Smoking will be permitted only in designated smoking areas or within the cabs of vehicles or equipment.
 - Every fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all flammable materials will be removed from equipment parking and storage areas.

2 DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

3 ENVIRONMENTAL IMPACTS

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

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

3.1 Aesthetics

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 non-urbanized area, 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 an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The Project site is located in New Hope Tract, a predominantly rural area of the northern edge of the San Joaquin County. The tract is bordered by the Mokelumne River to the east, north and west, and by Beaver Slough to the south. Interstate 5 runs north-south across the eastern portion of the tract.

a) *Would the Project have a substantial adverse effect on a scenic vista?*

New Hope Tract is not a designated scenic vista, and the Project will not damage any scenic resources. Following the Project construction, the general appearance of the levee system as viewed from public areas would be the same as existing conditions. Thus, there will be no impact.

b) *Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Although Interstate 5 runs through the eastern half of New Hope Tract (see Figure 2), the portion of the highway on New Hope Tract is not designated a state scenic highway (California Department of Transportation, 2018). Thus, there will be no impact.

- c) Would the Project in non-urbanized area, 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 an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?**

Construction activities will temporarily disrupt the visual character of the Project area due to the removal of existing vegetation and the presence of construction equipment. However, at Project completion, native grasses will be reestablished, and construction equipment will be removed. Thus, effects of the Project are considered temporary and less than significant.

- d) Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

There will be no creation of a new source of substantial light or glare as a result of the Project. Thus, there will be no impact.

3.2 Agriculture and Forestry Resources

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland 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"/>

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

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California’s agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland.

The FMMP map produced in 2018 for San Joaquin County classifies the Project area and the majority of New Hope Tract as Prime Farmland (California Department of Conservation, 2021). New Hope Tract consists of approximately 8,900 acres of farmland and the Project will convert 7.95 acres (approximately 0.09%) to non-agricultural use due to construction of the setback levees. Thus, impacts are considered less than significant.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

See answer to a) above.

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Of the 32,101,515 acres of forest within California, 16,616,065 acres are considered timberlands. Timberland is forest that can produce commercial wood products and is not reserved (California Department of Fish and Wildlife, n.d.). According to the Forests and Timberlands map for Region 3 prepared by CDFW's Timberland Conservation Program, no portion of New Hope Tract is zoned as forest land or timberland (2018) . Thus, no impact would occur.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

See answer to c) above.

e) Would the Project 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?

Besides the conversion to non-agricultural use that was described in a), no additional changes in the existing environment will occur as a result of the Project. Thus, no impact would occur.

3.3 Air Quality

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

Environmental Setting

The Project site is located in the northern region of the San Joaquin Valley Air Pollution Control District (SJVAPCD), which includes eight counties in California’s Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin portion of Kern.

Air pollution in the San Joaquin Valley Air Basin (SJVAB) can be attributed to both human-related (anthropogenic) and natural (non-anthropogenic) activities that produce emissions. Air pollution from significant anthropogenic activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, create the ideal conditions for trapping air pollution for long periods of time and producing harmful levels of air pollutants, especially ozone and particulate matter (San Joaquin Valley Air Pollution Control District, 2015).

The Clean Air Act (CAA) requires the Federal Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for six (6) common air pollutants. These commonly found air pollutants are known as “criteria pollutants” and can be detrimental to human health and the environment. Criteria pollutants include particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Pollutants are generally classified in primary and secondary. Primary pollutants are generated and emitted directly into the atmosphere; examples include particulates (PM₁₀ and PM_{2.5}), carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x). Secondary pollutants are formed by chemical reactions in the atmosphere; ozone is an example of a secondary pollutant (San Joaquin Valley Air Pollution Control District, 2015).

Air pollution in the San Joaquin Valley results from local emissions as well as from emissions and secondary pollutants transported into the Valley. It is believed that the Valley's air pollution in the summer and winter is caused by locally generated emissions.

States can also determine their own air quality standards, given that state standards shall be at least as stringent as the NAAQS. In California, the Air Resources Board (ARB) is the agency responsible for management and coordination of state and local air pollution control programs and for implementing the California Clean Air Act (CCAA). The State Department of Public Health established California Ambient Air Quality Standards (CAAQS) and were subsequently adopted by the California ARB (California Air Resources Board, n.d.; San Joaquin Valley Air Pollution Control District, 2015).

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The SJVAPCD has adopted several air quality attainment plans over the years that identify measures needed in the Valley to attain EPA's increasingly stringent NAAQS. The SJVAPCD has implemented these plans and adopted nearly 650 rules that have resulted in significant emissions reductions.

The SJVAPCD's air quality plans include emissions inventories to measure sources of air pollutants, to evaluate feasibility of implementing different control methods, and to provide strategies for air pollution reduction. The SJVAPCD's plans also include innovative alternative strategies for accelerating attainment through non-regulatory measures such as incentive programs; technology advancement programs; the SJVAPCD's legislative platform; community outreach and education programs. Additional strategies include energy efficiency, eco-driving, green purchasing and contracting, supporting urban heat island mitigation efforts, and encouraging cleaner methods of generating electrical energy and mechanical power (San Joaquin Valley Air Pollution Control District, n.d.).

The Project will not impact the implementation of any applicable air quality plan, thus there will be no impact.

b) Would the Project 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?

The EPA and the California ARB have established Ambient Air Quality Standards in an effort to protect human health and welfare. Geographic areas with air quality not meeting the standards are designated as "nonattainment". The nonattainment classification is further divided based on the severity of the problem, with marginal, moderate, serious, severe, and extreme nonattainment classification for ozone. Nonattainment categories for PM range from marginal to serious (San Joaquin Valley Air Pollution Control District, 2015).

Based on the federal standards, the SJVAPCD is classified as extreme nonattainment for the 8-hour ozone standard, and nonattainment for PM_{2.5}. Based on state standards, the SJVAPCD was deemed severe nonattainment for the 1-hour ozone, nonattainment for the 8-hour ozone,

PM₁₀, and PM_{2.5}. The SJVAPCD’s attainment status, at the time of this writing, is presented in Table 5. Although infrequent, the SJVAPCD’s attainment status does change.

Table 5. San Joaquin Valley Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - One hour	Revoked in 2005	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment

Source: San Joaquin Valley Air Pollution Control District - Ambient Air Quality Standards & Valley Attainment Status <https://valleyair.org/aqinfo/attainment.htm>, accessed on September 29, 2021.

Emissions associated with Project construction were calculated using the Road Construction Emissions Model (RCEM), version 9.0, May 2018. The RCEM was developed by the Sacramento Metropolitan Air Quality Management District (Sac Metro) and recommended for CEQA process to analyze construction emissions for non-linear projects (including levees) within the Sacramento region. The RCEM model was selected to evaluate Project’s construction emissions given that the Project is located near the boundary of Sacramento-San Joaquin County.

The RCEM model calculations were based on a total area of 16 acres and a project length of 0.823 miles. An equipment list for Project construction is provided in Table 6. Details about the materials amounts and construction assumptions used in the RCEM model are given below:

- Anticipated maximum number of acres the equipment can pass over in an 8-hour workday: 0.8 acres (for grubbing/clearing and grading/excavation period),
- Haul truck capacity of 20 yd³,
- Volume of material imported for grading is 4,000 yd³ per day,
- Volume of aggregate material for paving is 2,000 yd³ per day,
- Number of workers: 4 for grubbing/land clearing, 10 for grading, and 4 for paving,
- Number of commute miles is 35 per one-way trip per worker,
- Total number round trips are 200 per day for the grading, and 100 trips per day for the paving,
- Assumed an 8-hour workday, and 5 days per week.

Table 6. List of Construction Equipment

Construction Period	Number of Vehicles
Grubbing/Land Clearing	(1) Crawler Tractor
	(1) Grader
	(2) Scrapers
	(1) Water truck
Grading/Excavation	(1) Crawler Tractor
	(1) Excavator
	(1) Grader
	(1) Roller
	(2) Scrapers
Paving	(1) Water truck
	(1) Grader
	(1) Roller
	(1) Water truck

The RCEM model results for total emissions of the Project construction are given in Table 7.

Table 7. Estimate of Total Construction Emissions

ROG	CO	NOx	Total PM₁₀	Exhaust PM₁₀	Fugitive Dust PM₁₀	Total PM_{2.5}	Exhaust PM_{2.5}	Fugitive Dust PM_{2.5}	SOx
0.18	1.56	5.18	0.55	0.19	0.36	0.19	0.11	0.07	0.02

Notes:

- 1) Emission values in tons per construction project.
- 2) PM₁₀ and PM_{2.5} estimates assume 50% control of fugitive dust from watering and associated dust control measures provided by water trucks as specified.
- 3) Total PM₁₀ emissions are the sum of exhaust and fugitive dust emission; total PM_{2.5} emissions are the sum of exhaust and fugitive dust emissions.

The results of the emission model were compared with the SJVAPCD thresholds of significance for criteria pollutant emissions (Table 8). The model results indicate that emissions from the Project will not considerably increase any of the criteria pollutants for which the project region is nonattainment under a federal or state ambient air quality standard. The Project will implement mitigation measures AQ-1 (Construction Emissions of PM₁₀) and AQ-2 (Emissions from Construction Equipment) to control emissions of PM₁₀ associated with construction activities and construction equipment.

Although construction of the Project is expected to generate some emissions for which the San Joaquin Valley Air Basin is considered nonattainment, these emissions are only temporary and the Project will not involve any operational emissions. Thus, the Project would have no cumulative impact on the air quality of the region and the District will implement appropriate mitigation measures to reduce air pollutant emissions.

Table 8. SJVAPCD’s Air Quality Thresholds of Significance – Criteria Pollutants

Pollutant/Precursor	Operational Emissions		
	Construction Emissions	Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (tpy)	Emissions (tpy)	Emissions (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

c) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Locations that may contain a high concentration of highly sensitive population groups are called sensitive receptors and include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. There are no sensitive receptors within the Project boundary. The nearest residence is located on the landside of the levee about 800 feet southeast of the Site B and 1,400 feet northwest of Site A, between stations 284+00 and 285+00. However, residents at this house are expected not to be impacted by the Project construction emissions.

As explained in b), the air quality assessment determined that levels of emissions generated by the Project construction will not exceed any of the construction emission thresholds of significant. To avoid possible explosion of nearby sensitive receptors to pollutant levels, the District will implement BMPs, which were described in AQ-1.

Therefore, the Project will have impacts to the nearby sensitive receptors that will be reduced to a less-than-significant level with the implementation of all feasible mitigation measures.

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

The Project will not create other emissions leading to odors and is in a sparsely populated area. Once work is completed, the levees will not generate odors or other emissions of concern. Therefore, there will be no impact.

3.4 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 Game, U.S. Fish and Wildlife Service or National Marine Fisheries 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, and regulations or by the California Department of Fish and Game, U.S. Fish and Wildlife Service or National Marine Fisheries Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Data from the California Natural Diversity Database (CNDDDB), CDFW, California Native Plant Society (CNPS), United States Fish and Wildlife Service (USFWS), and biological field surveys by SWCA biologists in September 2019 and May 2020, were used to determine the special-status species and associated habitat that could occur in the Project area or be affected by the Project (SWCA Environmental Consultants, 2021b). Species with potential to be affected are discussed below and mitigation measures are included where necessary to avoid, minimize, and mitigate potentially significant impacts.

A. Special-status Plants

Protocol botanical surveys conducted during the evident and identifiable period in September 2019 and May 2020 documented the following special-status plant species in the biological study area (SWCA Environmental Consultants, 2021b):

- One population of Mason’s lilaepsis (*Lilaeopsis masonii*; State Rare and California Rare Plant Rank 1B.1) growing in intertidal marsh along the shore of the SMR near Sta. 313+00 in Area 3.
- Several populations of Sanford’s arrowhead (*Sagittaria sanfordii*; California Rare Plant Rank 1B.2) growing in intertidal marsh along the shore of the SMR in Areas 1 and 3 near Sta. 252+00, between Sta. 312+00 and 314+00 and near Sta. 323+00.

The intertidal marsh and the locations of the rare plants are shown on Figures 4 and 5 in the Biological Resources Evaluation (SWCA Environmental Consultants, 2021b). The rare plant populations are restricted to the existing intertidal marsh, which will be avoided by the Project (see Figure 6 and Figure 8). To ensure avoidance of special-status plant species, the Project will implement BIO-1.

Impacts: No impact.

Mitigation: Mason’s lilaepsis and Sanford’s arrowhead are covered species under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable rare plant mitigation under the SJMSCP or if no SJMSCP coverage is obtained, the Project will implement the following measures: BIO-1.

B. Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB; *Desmocerus dimorphus*) is a federal threatened beetle species that spends most of its life inside obligate elderberry (*Sambucus sp.*) host plants. There are 9 blue elderberry shrubs (*Sambucus nigra ssp. caerulea*) located on the land side of the levee in or near the BSA (see Figure 6 and Figure 7). No potential VELB exit holes or VELB individuals were observed in the BSA during the biological survey. The elderberry

shrubs occur in a riparian context. Eight of the shrubs occur clustered near Sta. 267+00 on the landside levee slope in Area 1. These 8 shrubs are young saplings that occur in an area where vegetation is regularly maintained. The ninth shrub occurs near Sta. 286+00 on the landside levee slope about 500 feet from proposed work. The USFWS assumes all riparian elderberry shrubs within the range of VELB are ‘suitable habitat, likely occupied’ (USFWS 2017).

Impacts: Project construction on the landside levee slope near Sta 267+00 will remove approximately 8 young elderberry shrubs that lie within the footprint of proposed grading and the new levee road. The 8 elderberry shrubs occur in an area about roughly 60 x 20 feet in size (1,200 square feet). No impacts to the one large shrub near Sta. 286+00 are anticipated. With implementation of measure BIO-2 (VELB Avoidance and Mitigation), Project impacts to VELB will be less-than-significant.

Mitigation: VELB is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable VELB mitigation under the SJMSCP **or** if no SJMSCP coverage is obtained, the Project will implement the following measures, or similar measures determined in consultation with the USFWS: BIO-2.

C. Special-status Fish

The following special-status fish species are known to occur in the SMR adjacent to the Project and have the potential to be affected (SWCA Environmental Consultants, 2021b):

- North American green sturgeon, southern DPS (*Acipenser medirostris*; Federal threatened; designated critical habitat present in Project area; State species of special concern)
- White sturgeon (*Acipenser transmontanus*; State species of special concern)
- Pacific lamprey (*Entosphenus tridentatus*; State species of special concern)
- Delta smelt (*Hypomesus transpacificus*; Federal threatened; designated critical habitat present in Project area; State endangered)
- Western river lamprey (*Lampetra ayresii*; State species of special concern)
- Sacramento hitch (*Lavinia exilicauda exilicauda*; State species of special concern)
- California Central Valley (CCV) steelhead DPS (*Oncorhynchus mykiss*; Federal threatened; designated critical habitat present in Project area)
- Central Valley fall, late-fall-run Chinook salmon ESU (*Oncorhynchus tshawytscha*; State species of special concern)
- Central Valley spring-run (SR) Chinook salmon ESU (*Oncorhynchus tshawytscha*; Federal threatened; State threatened)
- Sacramento River winter-run (WR) Chinook salmon ESU (*Oncorhynchus tshawytscha*; Federal endangered; State endangered)
- Sacramento splittail (*Pogonichthys macrolepidotus*; State species of special concern)
- Longfin smelt, San Francisco Bay-Delta DPS (*Spirinchus thaleichthys*; Federal candidate; State threatened)

No spawning habitat for the special-status fish species listed above occurs in the Project area (SWCA Environmental Consultants, 2021b).

The portion of the SMR in the Project area is a migration corridor for the special-status fish species listed above. The expected timing of each species' spawning migration is described in the biological resources evaluation report (SWCA Environmental Consultants, 2021b), but generally coincides with increased river flows in late fall, winter, and spring.

The portion of the SMR in the Project area provides marginal juvenile rearing habitat for green sturgeon, white sturgeon, Sacramento hitch, CCV steelhead, SR Chinook salmon, and WR Chinook salmon. Rearing habitat is considered marginal due to the extent of existing RSP and the lack of channel margin vegetation. The portion of the SMR in the Project area does not provide suitable juvenile rearing habitat for smelt, lampreys, or Sacramento splittail (SWCA Environmental Consultants, 2021b).

Impacts: The landside levee work will not affect special-status fish, which occur only in the river. Work on the water side of the levee has the potential to impact migrating and/or rearing special-status fish during construction. Impacts could occur in the form of 1) acoustic stress on individual fish, 2) accidental spills of gasoline, lubricants, and other chemicals used on or in construction equipment, 3) localized temporary increases in turbidity from moving equipment and ground-disturbing activities.

The Project proposes to excavate the existing levee to create a mosaic of intertidal marsh and native riparian corridor along the SMR. The excavation of the existing levee will increase the width of the SMR and allow for intertidal habitat creation in a corridor approximately 50-100 feet wide, on average. Across the three setback levee segments, a total of approximately 2.92 acres of intertidal FM, and approximately 4.23 acres of SS / RF habitat will be created (total of approximately 7.15 acres). The corridor will consist of a gentle but varied slope from approximately the high tide line (HTL; 8.48 ft elevation) to approximately the Mean Lower Low Water (MLLW; 3.26 ft elevation), and thus will experience different frequencies and durations of tidal inundation. Roughly one-third of the corridor will be situated at MLLW so that it generally remains inundated. The restoration design will include retention of existing woody riparian vegetation where possible. Depending on final restoration design, some trimming and some removal of riparian vegetation may be necessary to achieve desired slopes, elevations, and hydrology within the corridor.

The corridor enhancements will increase the quantity and quality of habitat for the special-status fish that occur in the SMR. While the Project will result in a net enhancement of special-status fish habitat, Project construction has the potential to impact individual fish that may be present in the SMR. The SMR is a federal jurisdictional water under the Clean Water Act and Rivers and Harbors Act. The Project will need to complete Section 7 consultation with the USFWS (for Delta smelt), and NMFS (for salmonids, green sturgeon, critical habitat, and essential fish habitat) during federal waters permitting. The SJMSCP does not provide Section 10 ESA coverage for fish species. Required permits and consultations will be obtained prior to

commencement of construction. The bid specifications and contract will specify that the contractor will comply with the terms and conditions outlined in the permits.

With implementation of mitigation measures BIO-3 (Environmental Training), BIO-4 (Waterside Work Window), BIO-5 (Water Quality Protection), BIO-6 (Limit Effect of Construction on Aquatic Habitats), BIO-7 (Minimization of Acoustic Impacts to Fish), and BIO-8 (Restoration Plan), impacts to special-status fish species will be less-than-significant.

Mitigation: Implement BIO-3 through BIO-8. These mitigation measures limit waterside work to the period of June 1 through October 31 as recommended by NMFS, protect water quality, control erosion, limit potential effects to aquatic habitats, limit potential impacts from acoustic stress during construction, and detail onsite riparian habitat creation.

D. Western Pond Turtle

Western pond turtles (WPT) were observed in the SMR basking on logs along the shoreline (SWCA Environmental Consultants, 2021b). The irrigation ditches contain prey species such as small amphibians and fish, vegetation that provides cover from predators, and some areas with deeper, persistent water that WPT could utilize year-round. The ditches in the Project area are generally shallow and may not provide sufficient habitat for a large WPT population. WPT could nest on the landside of the levee within the BSA. Nesting is considered unlikely due to the extent of cultivated agriculture on the land side of the levee and the steep, rip-rap lined levee slope on the water side of the levee.

Project enhancements will increase the amount of aquatic habitat for WPT. The created intertidal marsh will provide opportunities for WPT foraging. The Project will construct a less steep levee slope and add soil cover on top of the RSP allowing WPT to traverse the levee slope and improving connectivity between the water and landside of the levee.

Impacts: While the Project will result in a net enhancement of WPT habitat, Project construction has the potential to impact WPT individuals. With implementation of mitigation measures BIO-3 (Environmental Training), BIO-8 (Restoration Plan), and BIO-9 (Western Pond Turtle Avoidance), impacts to WPT will be less-than-significant.

Mitigation: WPT is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable WPT mitigation under the SJMSCP **or** if no SJMSCP coverage is obtained, the Project will implement the following measures: BIO-3, BIO-8, and BIO-9.

E. Giant Garter Snake

No giant garter snake (GGS) populations are known to occur on the New Hope Tract and there is little connectivity with existing populations (California Department of Fish and Wildlife, 2021). No GGS were observed in the Project area during the general biological surveys conducted during the GGS active season (SWCA Environmental Consultants, 2021b). GGS may nevertheless be present in the BSA in association with the irrigation ditches (ID) on the land side of the levee (ID-01 through ID-11) or the intertidal marsh (IM) at the north end of

Area 3 near Sta. 323+00 (IM-01). The ditches generally contain water during the snake's active season and prey species such as small amphibians and fish. Habitat in the ditches is of marginal quality due artificial hydrology, ditch maintenance, extent of upland row crop agriculture in the surrounding area, and general lack of cover and refuge from predators. With the exception of IM-01 near Sta. 323+00, there is no potential habitat for GGS along the SMR, which is tidal, lacks extensive emergent vegetation, and contains predatory fish. Suitable upland habitat may occur up to 200 feet from suitable aquatic habitat.

Impacts: The Project will require the realignment of approximately 0.84 acre of potentially suitable aquatic GGS habitat in irrigation ditches ID-01 through ID-11 on the land side of the levee. The Project will avoid potentially suitable aquatic habitat in IM-01 on the water side of the levee. The Project proposes to construct waterside habitat similar to IM-01, and thus the Project will create additional suitable habitat for GGS along the SMR.

While there are no known populations of GGS on New Hope Tract, GGS may nevertheless be present within the irrigation ditches and IM-01. Project construction has the potential to impact individual GGS that could be present in suitable aquatic habitat or within 200 feet. Vehicles traveling on levee crest roads or construction access roads could strike snakes basking on or migrating across these roads or other uplands within 200 feet of aquatic habitat. The Project will implement GGS avoidance measures based on the SJMSCP (San Joaquin County, 2000). With implementation of BIO-3 (Environmental Training), BIO-8 (Restoration Plan), and BIO-10 (Giant Garter Snake Avoidance), and after obtaining required incidental take coverage, potential impacts to GGS are less-than-significant.

Incidental take coverage under the Federal Endangered Species Act may be obtained through participation in the SJMSCP or during Section 7 consultation with USFWS during federal waters permitting. Take coverage under the California Fish and Game Code Section 2081, would be provided through participation in the SJMSCP or through a separate Section 2081 permit. The Project would be required to implement all terms and conditions of the permits providing take coverage.

Mitigation: GGS is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable GGS mitigation under the SJMSCP **or** if no SJMSCP coverage is obtained, the Project will implement the following measures, or measures determined in consultation with the USFWS: BIO-3, BIO-8, and BIO-10.

F. Tricolored Blackbird

Tricolored blackbirds were not observed during biological surveys of the BSA. The Project area generally lacks suitable nesting habitat for tricolored blackbird. Nesting could occur in the areas dominated by Himalayan blackberry if the blackberry is not cut/sprayed as was observed during field surveys as having occurred in the Project area. No potential nesting habitat otherwise occurs in the Project area. Tricolored blackbird may forage in the open areas in the nonnative grassland and agricultural fields on the landside of the levee (SWCA Environmental Consultants, 2021b).

Impacts: The Project has low potential to impact nesting tricolored blackbird. The Project will temporarily disturb approximately 1.76 acres of foraging habitat (nonnative grassland) and permanently convert approximately 3.34 acres of foraging habitat (nonnative grassland). The Project will create approximately 4.23 acres of RF and SS habitat suitable for tricolored blackbird nesting and foraging. Over 10,000 acres of suitable foraging habitat occur in the surrounding area on New Hope Tract and adjacent Delta islands. With implementation of preconstruction surveys and avoidance (BIO-11), no take of tricolored blackbird will occur. With implementation of BIO-3 (Environmental Training), BIO-8 (Restoration Plan), and BIO-11 (Nesting Bird Avoidance), potential impacts to tricolored blackbird are less-than-significant.

Mitigation: Tricolored blackbird is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable tricolored blackbird mitigation under the SJMSCP **or** if no SJMSCP coverage is obtained, the Project will implement the following measures: BIO-3, BIO-8, and BIO-11.

G. Burrowing Owl

No burrowing owls or burrows suitable for nesting were observed during biological surveys. No burrowing owls are known to occupy the BSA or areas within 1 mile of the BSA. Burrowing owls nesting elsewhere may still forage in the BSA and could nest in the BSA if suitable burrows become established. Burrowing owls are not expected to nest on the waterside levee slope because of the proximity of tidal waters that lower temperatures, inundate, or splash up the slope, the prevalence of avian predator perches and ambush points, and because the levee is underlain with RSP that prevents burrow excavation (SWCA Environmental Consultants, 2021b).

Impacts: The Project has low potential to impact burrowing owl. The Project will temporarily disturb approximately 1.76 acres of foraging habitat (nonnative grassland) and permanently convert approximately 3.34 acres of foraging habitat (nonnative grassland). Over 10,000 acres of suitable foraging habitat occur in the surrounding area on New Hope Tract and adjacent Delta islands. With implementation of BIO-3 (Environmental Training), BIO-11 (Nesting Bird Avoidance), and BIO-12 (Burrowing Owl Avoidance), potential impacts to burrowing owl are less-than-significant.

Mitigation: Burrowing owl is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable burrowing owl mitigation under the SJMSCP **or** if no SJMSCP coverage is obtained, the Project will implement the following measures: BIO-3, BIO-11, and BIO-12.

H. Swainson's Hawk

One Swainson's hawk was observed flying overhead during the survey conducted on September 19, 2019. No nesting Swainson's hawks were observed in the BSA. The nearest record of nesting Swainson's hawk is from 2009, approximately 0.5 mile north of the BSA along the SMR (CNDDDB Occurrence #1851). One potential raptor nest was observed outside

the BSA in a tree on the water side of the levee between Area 2 and Area 3. The nest did not appear to be active during the survey but could be used by Swainson's hawk in the future. A nest was not observed at the location of the Swainson's hawk CNDDDB record 0.5 miles north of the BSA. Trees within the BSA provide suitable nesting habitat for Swainson's hawk. Suitable foraging habitat occurs in the nonnative grassland and agricultural fields in the BSA (SWCA Environmental Consultants, 2021b).

Impacts: The Project has the potential to impact nesting Swainson's hawk. Swainson's hawks could occupy the existing raptor nests near the BSA or build their own nests in the BSA during the nesting season (March 1 through September 15). If any Swainson's hawks are nesting nearby, construction could contribute to nest abandonment or predation. Measure BIO-13 protects nesting Swainson's hawks by requiring preconstruction surveys for Swainson's hawk in accordance with the applicable sections of the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000), and avoidance buffers if any active Swainson's hawk nests are found.

The Project will temporarily disturb approximately 1.76 acres of foraging habitat (nonnative grassland) and permanently convert approximately 3.34 acres of foraging habitat (nonnative grassland). The Project will create approximately 4.23 acres of RF and SS habitat which could be used for foraging. Over 10,000 acres of suitable foraging habitat occur in the surrounding area on New Hope Tract and adjacent Delta islands.

With implementation of BIO-3 (Environmental Training), BIO-11 (Nesting Bird Avoidance), and BIO-13 (Swainson's Hawk Avoidance), potential impacts to Swainson's hawk are less-than-significant.

Mitigation: Swainson's hawk is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable Swainson's hawk mitigation under the SJMSCP or if no SJMSCP coverage is obtained, the Project will implement the following measures: BIO-3, BIO-11, and BIO-13.

I. White-tailed Kite

White-tailed kite was not observed in the BSA during biological surveys. One potential raptor nest was observed approximately 50 feet outside Area 3 of the BSA during the survey conducted on September 19, 2019. White-tailed kites are not expected to nest in the BSA due to lack of dense tree stands for nesting. White-tailed kites are more likely to nest in areas outside of the BSA. The nonnative grassland on the levee and nearby agricultural fields provides foraging habitat.

Impacts: The Project has the potential to impact white-tailed kite. The Project will temporarily disturb approximately 1.76 acres of foraging habitat (nonnative grassland) and permanently convert approximately 3.34 acres of foraging habitat (nonnative grassland). The Project will create approximately 4.23 acres of RF and SS habitat which could be used for foraging. Over

10,000 acres of suitable foraging habitat occur in the surrounding area on New Hope Tract and adjacent Delta islands.

With implementation of BIO-3 (Environmental Training), and BIO-11 (Nesting Bird Avoidance), and BIO-13 (Swainson's Hawk Avoidance), potential impacts to white-tailed kite are less-than-significant. White-tailed kite is a fully protected species. No take of white-tailed kite is allowed.

Mitigation: White-tailed kite is a covered species under the SJMSCP. Participation in the SJMSCP is voluntary. The Project will acquire SJMSCP coverage and implement applicable white-tailed kite mitigation under the SJMSCP or if no SJMSCP coverage is obtained, the Project will implement the following measures: BIO-3, BIO-11, and BIO-13.

J. Song Sparrow “Modesto Population”

Modesto song sparrow was observed during the biological survey. Area 3 contains emergent vegetation suitable for song sparrow nesting. One potentially active song sparrow nest was observed in emergent vegetation along the SMR in Area 3 on May 21, 2020. Modesto song sparrow may also forage in the BSA (SWCA Environmental Consultants, 2021b).

Impacts: The Project has the potential to impact Modesto song sparrows. The Project will temporarily disturb approximately 1.76 acres of foraging habitat (nonnative grassland) and permanently convert approximately 3.34 acres of foraging habitat (nonnative grassland). The Project will create approximately 4.23 acres of RF and SS habitat which could be used for foraging and possibly nesting. Impacts to foraging habitat in the Project area are unlikely to impact the survival of the species given thousands of acres of suitable foraging habitat (e.g., irrigation ditches, canals, and fields) in the surrounding area on the New Hope Tract and adjacent Delta islands that will remain undisturbed by Project activities. With implementation of BIO-3 (Environmental Training) and BIO-11 (Nesting Bird Avoidance), potential impacts to Modesto song sparrow are less-than-significant.

Mitigation: Implement measures BIO-3 and BIO-11.

K. Other Migratory Birds and Birds of Prey

Potential barn swallow (*Hirundo rustica*) nests were observed under the pump platforms in the BSA. One potentially active song sparrow nest and one active red-tailed hawk nest were observed in Area 3. Nests of migratory birds and birds of prey could become established in trees, on the ground or in clumps of dense vegetation during the breeding season, which is approximately February 15 to August 31 for most species in the Central Valley.

Impacts: Project construction during the period of February 15 through August 31 could contribute to the abandonment or predation of nests of migratory birds and birds of prey. With implementation of BIO-3 (Environmental Training) and BIO-11 (Nesting Bird Avoidance), potential impacts to migratory birds and birds of prey are less-than-significant.

Mitigation: Implement measures BIO-3 and BIO-11.

L. Western Red Bat

No western red bats were observed within the BSA during the biological survey. The riparian habitat in the BSA is patchily distributed along the SMR and there are no large stands of mature cottonwood or sycamore trees. Western red bat is therefore unlikely to occur in the BSA. Western red bat could still be present in some of the riparian vegetation with low likelihood, and any maternal roosts present during the period of May through July could be disturbed by construction.

Impacts: Project construction during the period of May through July could impact maternal roosts. With implementation of BIO-14 (Western Red Bat Avoidance), potential impacts to bats including western red bat are less-than-significant.

Mitigation: Implement measure BIO-14.

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

Biological communities in the Project area are mapped and described in detail in the biological resources evaluation report (SWCA Environmental Consultants, 2021b); see Figures 4 and 5 in the biological evaluation report. Sensitive natural communities in the BSA consist of the SMR (including portions classified as intertidal marsh, intertidal willow scrub, vegetated shallows, and open water), potential non-jurisdictional irrigation ditches, RF, SS, and riparian blackberry brambles. Baseline surveys included identification and mapping of all woody riparian vegetation (SWCA Environmental Consultants, 2021b). A total of 90 riparian trees/shrubs were mapped (see Table 7 and Figure 5 in the biological resources evaluation report; the total does not include 9 elderberry shrubs). Trees removed during construction will be replanted on site with native plantings at a 3:1 ratio. The proposed Project will create approximately 2.92 acres of intertidal FM habitat within the SMR and approximately 4.23 acres of riparian habitat along the edge of the SMR.

Federal designated critical habitat for North American green sturgeon southern distinct population segment, California Central Valley steelhead, and Delta smelt occurs in the SMR. The critical habitat extends laterally to the HTL at an elevation of 8.48 ft (SWCA Environmental Consultants, 2021b). Existing critical habitat is degraded with substantial opportunity for improvement as a result of the Project. The SMR is also Essential Fish Habitat (EFH) for Chinook salmon.

Impacts: Project impacts to biological communities including the SMR are summarized in Table 9 and shown on the Project Impact Map (see Figure 6, Figure 7, and Figure 8)

Table 9. Summary of Natural Community Impacts

Natural Community	Area in BSA (ac)	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
AQUATIC COMMUNITIES				
SOUTH MOKELUMNE RIVER (SMR)				
Intertidal Marsh ¹	0.28	0.00	0.00	0.00
Intertidal Willow Scrub ¹	0.24	0.00	0.00	0.00
Vegetated Shallows ¹	1.73	0.00	0.00	0.00
Open Water ¹	5.42	0.61	0.00	0.61
OTHER WETLANDS AND WATERS				
Irrigation Ditch ²	2.17	0.00	0.84	0.84
UPLAND COMMUNITIES				
Blackberry Brambles	0.73	0.04	0.55	0.59
Nonnative Grassland	5.79	1.76	3.34	5.10
Riparian Forest ³	0.35	0.00	0.12	0.12
Riparian Scrub Shrub ³	0.03	0.00	0.01	0.01
Row Crop Agricultural	50.89	4.75	3.06	7.81
OTHER FEATURES				
Developed ⁴	8.72	--	--	--
Exposed RSP ⁴	0.53	--	--	--
Total:	76.88	7.16	7.92	15.08

¹ No impacts to the Intertidal Marsh, Intertidal Willow Scrub, and Vegetated Shallows are anticipated. The Project will disturb the shoreline of the SMR near the HTL with removal of RSP and excavation of the existing levee slope during construction of the riparian corridor/bench. Approximately 0.61 acre of temporary impacts to the SMR may occur between the MLLW and HTL elevations.

² Irrigation ditches within the project footprint will be relocated approximately 15 feet landward of the new levee landside toe. The relocated irrigation ditches would be similar in dimension and extent.

³ Impacts to the Riparian Forest and Riparian Scrub Shrub communities are based on mapping conducted by SWCA (2021b) in areas above the High Tide Line and consist of removal of RSP and excavation of the existing levee slope during construction of the riparian corridor/bench. A separate assessment by Dave Contreras of CDFW based on a December 16, 2021, site visit included canopy cover below the HTL, and identified 0.50 acre of riparian forest and 0.39 acre of scrub shrub habitat in the project area. The project may disturb up to 0.50 acre of riparian forest and up to 0.39 acre of scrub shrub habitat. The Project recognizes the value of the existing riparian trees/shrubs along the SMR, and will retain these habitat elements where feasible in final design.

⁴ No impacts tabulated for existing Developed and Exposed RSP.

The Project will not impact wetlands. The Project will avoid existing riparian vegetation along the SMR to the extent practicable, as determined by the engineer during final design. Final restoration design may require removal, trimming, and/or disturbance to RF and SS communities along the SMR to achieve a final grade that provides adequate hydrology in the created riparian corridor. The Project may therefore disturb up to approximately 0.50 acre of RF and up to approximately 0.39 acre of SS habitat.

Habitat creation in the new riparian corridor includes approximately 4.23 new acres of combined RF and SS habitat (configuration to be determined during final design) and 2.92 new acres of intertidal FM habitat.

The setback levee will increase the area occupied by the SMR by approximately 6.16 acres (existing HTL vs. new HTL) and will increase the quantity and quality of EFH and critical habitat for North American green sturgeon, California Central Valley steelhead, and Delta smelt.

With implementation of mitigation measures BIO-6 (Limit Effect of Construction on Aquatic Habitats), and BIO-8 (Restoration Plan), impacts to riparian habitat or other sensitive natural communities will be less-than-significant.

Mitigation: Implement BIO-6 and BIO-8.

c) *Would the Project 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?*

The jurisdictional wetland delineation concluded that no Section 404 jurisdictional wetlands occur in the Project area (SWCA Environmental Consultants, 2021a). The portion of the SMR in the Project area is a tidally influenced jurisdictional water of the United States up to the high tide line (8.48 ft). The portion of the SMR delineated in the Project area includes special aquatic sites such as intertidal marsh, intertidal willow scrub, and vegetated shallows. The irrigation ditches on the land side of the levee are potential non-jurisdictional waters (SWCA Environmental Consultants, 2021a).

Impacts: The Project has been designed to minimize impacts to waters of the U.S. as defined by Section 404 of the Clean Water Act. The setback levees will expand the extent of Section 404 jurisdictional waters within the SMR by approximately 6.16 acres (existing HTL vs. new HTL). The project may temporarily disturb approximately 0.61 acre of the SMR when the existing levee is excavated down to the elevations subject to tidal action. (Note: The intertidal marsh and vegetated shallows in the SMR were mapped to the HTL. These habitats occur only at lower elevations near the MLLW, and thus would be avoided even if restoration work extends below the HTL.)

Impacts to jurisdictional features may be permitted under a Section 404 Clean Water Act permit, a Section 10 Rivers & Harbors Act permit, a Section 401 Water Quality Certification, and a CDFW 1602 Streambed Alteration Agreement. Required permits will be obtained prior to commencement of construction. The bid specifications and contract will specify that the contractor will comply with the terms and conditions outlined in the permits. The USACE and USEPA provide guidance as to when the construction or maintenance of irrigation ditches is exempt from permitting under Section 404 of the CWA (see July 24, 2020, Joint Corps-EPA Memo Concerning Exempt Construction or Maintenance of Irrigation Ditches and Exempt Maintenance of Drainage Ditches).

With implementation of mitigation measures BIO-5 (Water Quality Protection), BIO-6 (Limit Effect of Construction on Aquatic Habitats), and BIO-8 (Restoration Plan), impacts to Clean Water Act jurisdictional waters will be less-than-significant.

Mitigation: Implement BIO-5, BIO-6, and BIO-8.

d) *Would the Project 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 site?*

The Project will not substantially interfere with the movement of native fish and wildlife. Special-status fish species use the SMR as a migratory corridor to spawning habitat upstream. The Project is intended to enhance the quality of habitat on the water side of the levee and includes creation of a riparian corridor with intertidal marsh along the length of the Project. The widening of the SMR and riparian corridor will improve the ability of fish and wildlife to migrate through and along the river.

Impacts: Construction of the Project is anticipated to require one construction season and could temporarily disrupt movement of native fish and wildlife species that occur in or adjacent to the Project area. Since the Project occurs at the edge of the approximately 200-foot-wide river, the Project will not block fish migration. By restricting the waterside work window to the period when special-status fish are least likely to be present (BIO-4), the Project avoids directly affecting major fish migrations. Following Project completion, the setback levee and riparian habitat created by the Project will enhance the passage of fish and wildlife through the project area by providing vegetation cover and structure within intertidal areas.

With implementation of mitigation measures BIO-4 (Waterside Work Window), BIO-5 (Water Quality Protection), BIO-6 (Limit Effect of Construction on Aquatic Habitats), BIO-7 (Minimization of Acoustic Impacts to Fish), and BIO-8 (Restoration Plan), impacts to movement and migratory corridors of fish wildlife species will be less-than-significant.

Mitigation: Implement BIO-4 through BIO-8.

e) *Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Native oak trees, heritage oak trees, and historical trees growing on properties located within County jurisdiction may be protected under San Joaquin County code, Title 9, Division 15 (Chapter 9, Sections 1505.1-1505.9). Under County code, a native oak tree is defined as a valley oak with a trunk diameter of greater than 6 inches to less than 32 inches for a single trunk tree, or a combined trunk diameter of 8 inches or greater for a multi-trunk tree, measured 4.5 feet above the average ground elevation of the tree. A heritage oak tree is defined as a native oak that has a single trunk diameter of 32 inches or greater, measured 4.5 feet above the average ground elevation of the tree. An historical tree is designated as such by the Planning Commission. No native oak trees, heritage oak trees, or historical trees were documented in the vicinity of the project during the tree survey (SWCA Environmental Consultants, 2021b).

Under the San Joaquin County Development Title Supplement 103, any potential destruction, elimination, or degradation of riparian habitat requires a riparian habitat mitigation plan. The Project will create riparian habitat. Should the County require a riparian habitat mitigation plan, the Project's detailed restoration plan (BIO-8) would satisfy this requirement.

Impacts: No impact.

Mitigation: Implement BIO-8

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

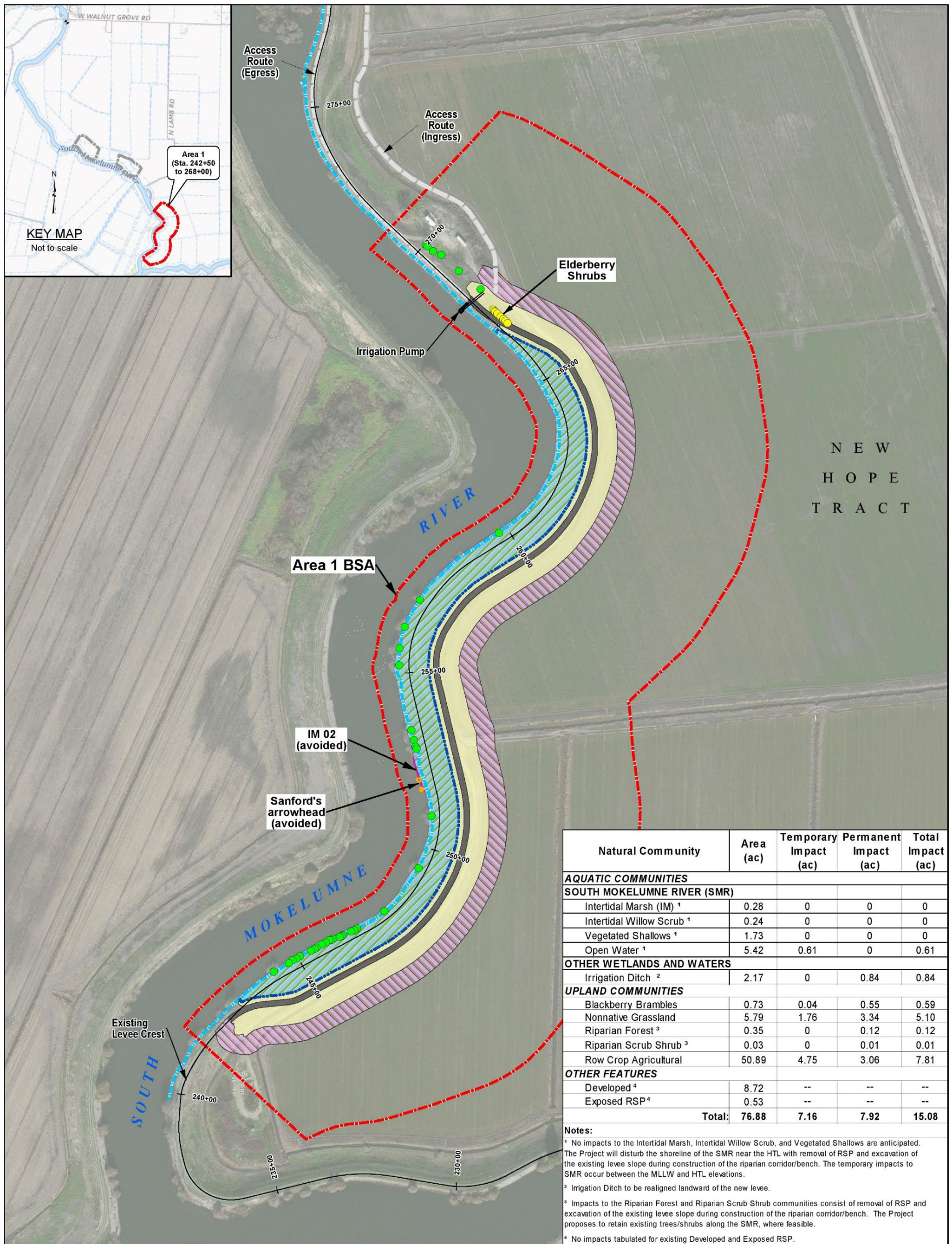
The SJMSCP provides take coverage under Section 10 of the federal Endangered Species Act for certain projects located in San Joaquin County. Participation in the SJMSCP is voluntary and the Project may elect to participate in the SJMSCP.

The Delta Reform Act (Water Code Section 85057.5) requires any State or local agency proposing to undertake a Covered Action to submit to the Delta Stewardship Council a written certification of consistency with the Delta Plan. The Project is a Covered Action that requires certification of consistency with the Delta Plan. The Delta Plan outlines policies and recommendations to further the state's coequal goals for the Delta: Improve statewide water supply reliability, and protect and restore the Delta ecosystem, all in a manner that preserves, protects and enhances the unique agricultural, cultural, and recreational characteristics of the Delta. Applicable requirements include Delta flow objectives, restoration of habitat, protection of opportunities to restore habitat, expanding and protecting floodplains and floodways, avoiding introduction of habitat for invasive species, and other aspects of land use siting, design, and project administration. The Project has been designed to be consistent with applicable policies of the Delta Plan and must apply for and receive the consistency determination before work may begin.

There are no other Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans covering the Project area. The Project does not conflict with the SJMSCP, Delta Plan, or any other Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impacts: No impact.

Mitigation: None required.



Natural Community	Area (ac)	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
AQUATIC COMMUNITIES				
SOUTH MOKELUMNE RIVER (SMR)				
Intertidal Marsh (IM) ¹	0.28	0	0	0
Intertidal Willow Scrub ¹	0.24	0	0	0
Vegetated Shallows ¹	1.73	0	0	0
Open Water ¹	5.42	0.61	0	0.61
OTHER WETLANDS AND WATERS				
Irrigation Ditch ²	2.17	0	0.84	0.84
UPLAND COMMUNITIES				
Blackberry Brambles	0.73	0.04	0.55	0.59
Nonnative Grassland	5.79	1.76	3.34	5.10
Riparian Forest ³	0.35	0	0.12	0.12
Riparian Scrub Shrub ³	0.03	0	0.01	0.01
Row Crop Agricultural	50.89	4.75	3.06	7.81
OTHER FEATURES				
Developed ⁴	8.72	--	--	--
Exposed RSP ⁴	0.53	--	--	--
Total:	76.88	7.16	7.92	15.08

Notes:
¹ No impacts to the Intertidal Marsh, Intertidal Willow Scrub, and Vegetated Shallows are anticipated. The Project will disturb the shoreline of the SMR near the HTL with removal of RSP and excavation of the existing levee slope during construction of the riparian corridor/bench. The temporary impacts to SMR occur between the MLLW and HTL elevations.
² Irrigation Ditch to be realigned landward of the new levee.
³ Impacts to the Riparian Forest and Riparian Scrub Shrub communities consist of removal of RSP and excavation of the existing levee slope during construction of the riparian corridor/bench. The Project proposes to retain existing trees/shrubs along the SMR, where feasible.
⁴ No impacts tabulated for existing Developed and Exposed RSP.

SOUTH MOKELUMNE RIVER
SETBACK LEVEE PROJECT
STA. 242+50 TO 322+00

- Biological Study Area (BSA)
- South Mokelumne River HTL (8.48 ft; NAVD 88; coincides with OHWM)
- Intertidal Marsh (IM)
- Tree Location
- Elderberry Shrub Location
- Mason's lilaepsis (*Lilaepsis masonii*)
- Sanford's arrowhead (*Sagittaria sanfordii*)
- New HTL (8.48 ft; NAVD 88)
- New Levee Crest Road
- New Setback Levee
- New Waterside Slope / Bench
- Staging Areas
- Construction Access / Truck Route

Project Impacts
Sheet 1 of 3, Area 1,
(Sta. 242+50 to 268+00)

New Hope Tract
San Joaquin County, CA
NAD 1983 StatePlane California III
FIPS 0403 Feet
121°28'33.77"W 38°11'57.03"N

0 150 300 Feet
0 50 100 Meters



1:3,000

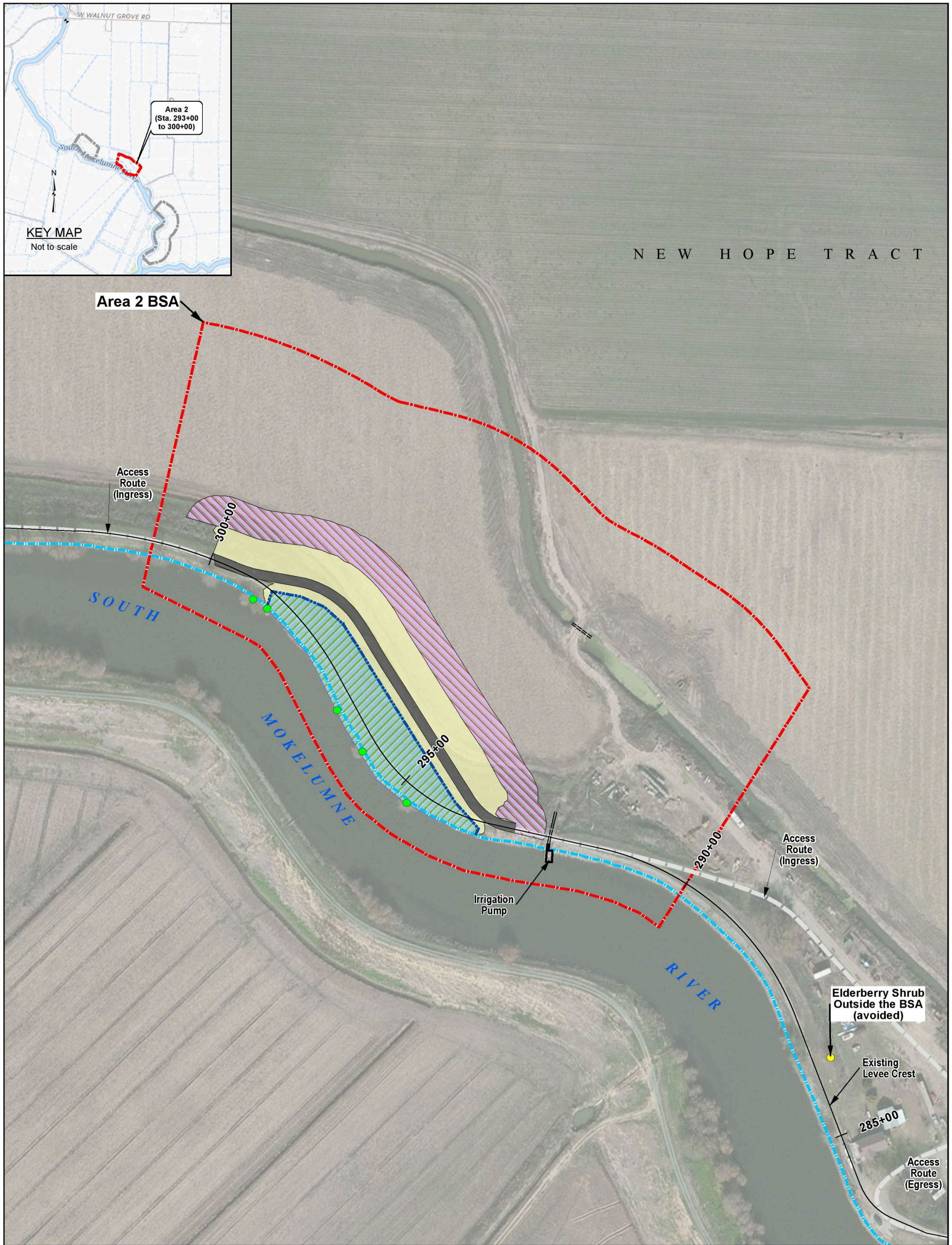


Aerial Photograph: 17 September 2018
GE01 Vivid Maxar Imagery
ArcGIS World Imagery Basemap Layer

Updated: 4 January 2022
Project No. 66467 (15055)
MXD Template:



Figure 6. Project Impacts, Site A



SOUTH MOKELUMNE RIVER
SETBACK LEVEE PROJECT
STA. 242+50 TO 322+00

- | | |
|---|-----------------------------------|
| Biological Study Area (BSA) | New HTL (8.48 ft; NAVD 88) |
| South Mokelumne River HTL (8.48 ft; NAVD 88; coincides with OHWM) | New Levee Crest Road |
| Intertidal Marsh (IM) | New Setback Levee |
| Tree Location | New Waterside Slope / Bench |
| Elderberry Shrub Location | Staging Areas |
| Mason's lilaepsis (<i>Lilaepsis masonii</i>) | Construction Access / Truck Route |
| Sanford's arrowhead (<i>Sagittaria sanfordii</i>) | |

Project Impacts
Sheet 2 of 3, Area 2,
(Sta. 293+00 to 300+00)

New Hope Tract
San Joaquin County, CA
NAD 1983 StatePlane California III
FIPS 0403 Feet
121°28'51.90"W 38°12'26.98"N

0 90 180 Feet
0 30 60 Meters



1:1,800

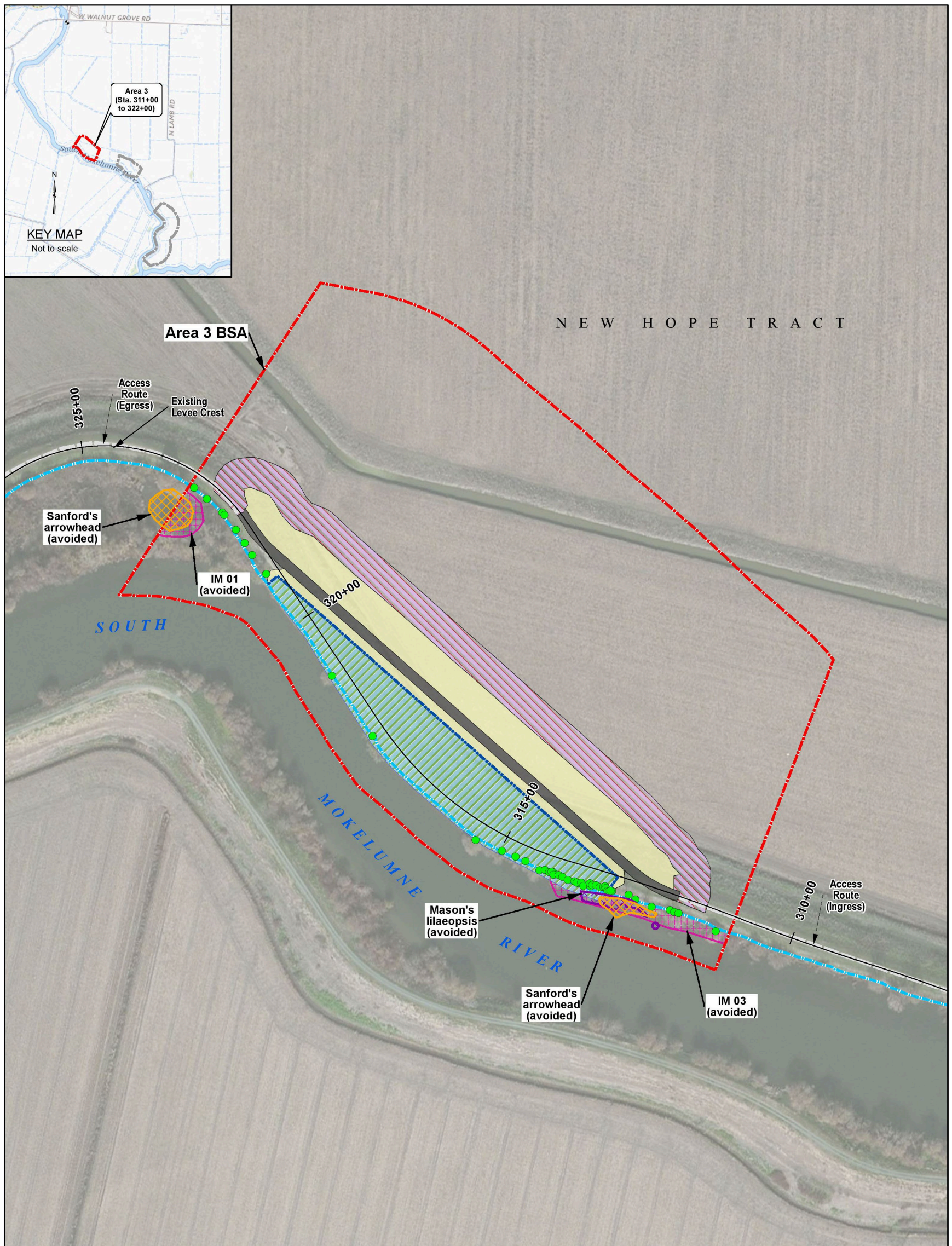


Aerial Photograph: 17 September 2018
GE01 Vivid Maxar Imagery
ArcGIS World Imagery Basemap Layer

Updated: 4 January 2022
Project No. 66467 (15055)
MXD Template:



Figure 7. Project Impacts, Site B



SOUTH MOKELUMNE RIVER
SETBACK LEVEE PROJECT
STA. 242+50 TO 322+00

- Biological Study Area (BSA)
- South Mokelumne River HTL (8.48 ft; NAVD 88; coincides with OHWM)
- Intertidal Marsh (IM)
- Tree Location
- Elderberry Shrub Location
- Mason's lilaepsis (*Lilaepsis masonii*)
- Sanford's arrowhead (*Sagittaria sanfordii*)
- New HTL (8.48 ft; NAVD 88)
- New Levee Crest Road
- New Setback Levee
- New Waterside Slope / Bench
- Staging Areas
- Construction Access / Truck Route

Project Impacts
Sheet 3 of 3, Area 3,
(Sta. 311+00 to 322+00)

New Hope Tract
San Joaquin County, CA
NAD 1983 StatePlane California III
FIPS 0403 Feet
121°29'16.20"W 38°12'35.04"N

0 90 180 Feet
0 30 60 Meters



1:1,800



Aerial Photograph: 17 September 2018
GE01 Vivid Maxar Imagery
ArcGIS World Imagery Basemap Layer

Updated: 4 January 2022
Project No. 66467 (15055)
MXD Template:



Figure 8. Project Impacts, Site C

3.5 Cultural Resources

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

a) *Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?*

A cultural resources study for the Project was conducted by Tom Origer & Associates (2021). The study included archival research at the Central California Information Center, California State University, Stanislaus, examination of the library and files of Tom Origer & Associates, Native American contact, and field inspection of the Area of Potential Effects (APE).

A house constructed in the early part of the 20th century, which is located on the levee at Sta. 284+50, has the potential to meet criteria for inclusion on the National Register of Historic Properties and California Register of Historical Resources. However, the house is outside the Project area and will not be impacted by Project construction.

Resource P-39-005383 (the New Hope 1101 12 kV Distribution Line) has been documented within a portion of the APE. It was evaluated and found ineligible for inclusion on both the National Register of Historic Properties and the California Register of Historical Resources.

According to the cultural study, the levee and the ditches would not yield information important to the history of the local area or state. Therefore, the levee and ditches would not meet the criteria for inclusion on the National or California registers.

Given the high potential for buried archaeological sites, implementation of mitigation measure CUL-1 will avoid any substantial adverse changes to the significance of these resources.

The report prepared by Tom Origer & Associates contains information about the location of cultural resources. For the protection of these resources, the document is not provided in this ISMND, but it is available for qualified reviewers by contacting Wagner & Bonsignore, Consulting Civil Engineers.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

No archaeological site indicators were observed within the APE (Tom Origer & Associates, 2021). However, CUL-1 will also be implemented if archaeological resources are discovered during earthwork activities. Implementation of this mitigation measure will reduce impacts on undiscovered archaeological resources to a level that would be less than significant.

c) Would the Project disturb any human remains, including those interred outside of formal cemeteries?

The cultural resources study indicates no human burials within the APE, and no human remains were encountered within the Project area during the field survey. Based on current information, the Project will likely not disturb any human remains, including those interred outside of formal cemeteries. If human remains are discovered during construction work, mitigation measure CUL-1 will be implemented to reduce the impacts to less than significant.

3.6 Energy

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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"/>

Environmental Setting

Total energy consumption of San Joaquin County was reported as 5,583 millions of kWh (GWh) in 2019, with 1,893 million used by residential sector and 3,690 million by non-residential (Source: California Energy Commission). The area of San Joaquin County accounted for approximately 1.8% of the State’s electricity consumption and 0.8% of the State’s natural gas consumption in 2015 (San Joaquin Council of Governments, 2018).

The San Joaquin County 2035 General Plan encourages the use of renewable energy, energy conservation, and energy efficiency techniques in all new building design, orientation, and construction, and support of alternative modes of transportation and fuels (San Joaquin Council of Governments, 2018).

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

The Project construction involves fuel consumption (typically diesel or gasoline) for the operation of construction equipment. The vehicles used to transport equipment and employees to and from the Project site will also consume the same type of fuels. However, the consumption of energy resources during the Project construction will not be in a wasteful, inefficient, or unnecessary manner.

The rehabilitated levee sections will not consume any type of energy resources. For the abovementioned reasons, there will be no impacts regarding this issue.

b) *Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The rehabilitated levees will not use any type of energy once construction work is completed. Therefore, the Project will not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Thus, there will be no impact.

3.7 Geology and Soils

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The San Joaquin Valley is in the southern half of the Great Valley Geomorphic Province. Most of the areas in the Central Valley are known to be distant from active faults and generally would experience infrequent, low levels of seismic shaking. However, infrequent earthquakes with stronger shaking could occur. Areas within and adjacent to the Bay-Delta region and along Interstate 5 in the San Joaquin Valley have a higher potential for stronger ground shaking due to their close proximity to the San Andreas Fault Zone (U.S. Bureau of Reclamation, 2019).

The historical delta at the confluence of the Sacramento River and San Joaquin River is referred to as the Sacramento–San Joaquin Delta, or Delta. The Delta is a flat-lying river delta that evolved at the inland margin of the San Francisco Bay Estuary as two overlapping and coalescing geomorphic units: the Sacramento River Delta to the north and the San Joaquin River Delta to the south (U.S. Bureau of Reclamation, 2019).

The Delta has experienced several cycles of deposition, nondeposition, and erosion that have resulted in the thick accumulation of poorly consolidated to unconsolidated sediments overlying the Cretaceous and Tertiary formations since late Quaternary time. It is calculated that the peat and organic soils in the Delta began to form about 11,000 years ago during an episode of sea-level rise (U.S. Bureau of Reclamation, 2019).

The rise in sea levels allowed for accretion of marsh vegetation and formation of a widespread inland Delta covered by marsh deposits (Hultgren - Tillis Engineers, 2020). Tule marshes established on peat and organic soils in many portions of the Delta. Additional peat and other organic soils formed from repeated inundation and accumulation of sediment of the tules and other marsh vegetation (U.S. Bureau of Reclamation, 2019).

Hultgren – Tillis Engineers (HTE) performed a geotechnical investigation for the Project (herein referred to as ‘geotechnical study’), its results were presented in the HTE report dated November 25, 2020. According to the geotechnical study, the existing levee consists of a layer of fill over alluvial deposits consisting mainly of clays, silts, and peats, with thin interbedded layers of sand. Near the landside toe of the existing levee and along the alignment of the new setback levee, soil consisted of a mixture of marsh, alluvial and basin deposits in the upper 3 to 8 feet, below existing grade. The marsh deposits consisted of organic clays, organic silts, and peat. The alluvial and basin deposits generally consisted of fine-grained clays and silts.

HTE concluded that due to the presence of marsh and alluvial deposits, the setback levees should be constructed in two stages to avoid overstressing the ground and causing ground failure. HTE also concluded that the setback levee should be constructed as a zoned embankment. The zone of the setback levee extending below the levee crest to the waterside slope should be constructed with low permeability imported fill material. The landside slope of the setback levee may be constructed with existing levee fills or with imported fill.

a) *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

The purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to address the hazard of surface fault rupture through the regulation of development in areas near *Holocene-active faults*. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults. According to the California Department of Conservation - Earthquake Fault Zone Map, the Project area is not located within a delineated Alquist-Priolo Earthquake Zoned fault. The rehabilitation of the levee does not involve the construction of new structures or residences. Therefore, there will be no adverse impacts regarding this issue.

ii) *Strong seismic ground shaking?*

Although the Project is situated on an area that is susceptible to seismic shaking due to the close proximity to potentially active faults, the Project will improve levee stability and reduce the risk of failure by meeting the Delta Specific PL 84-99 Standard.

HTE performed a preliminary evaluation of seismic concerns for the levee. Based on a pseudo-static slope stability analysis for the proposed levee for both landside and waterside slopes, the geotechnical study indicates that the levee should not experience significant displacements due to seismic motion.

For Delta levees, the two soil zones most susceptible to liquefaction are the levee fill (where the fill consists of sand) and the upper portion of the foundation sand below the marsh deposits. The proposed levee will consist of fine-grained material resistant to liquefaction (Hultgren - Tillis Engineers, 2020).

iii) *Seismic-related ground failure, including liquefaction?*

See response to ii) above.

iv) *Landslides?*

The Project is located on a relatively flat topography and the potential for landslides is considered remote in the Delta due to the lack of significant slopes. Although the levee banks that constitute the Project are sloped, the Project is intended to improve levee stability and protect the levee slopes from erosion. Thus, there will be no impact as a result of the Project.

b) *Would the Project result in substantial soil erosion or the loss of topsoil?*

To minimize the risk of loss of topsoil, the Project will implement Stormwater Pollution Prevention Plans (SWPPP) and BMPs that will reduce any possible impacts to a less than significant level. In addition, the new landside levee slope and upper reaches of the waterside slope will be hydroseeded with a native grass mixture. In the long-term, these measures will provide erosion control.

c) *Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

The geotechnical study indicated that the new levee will be founded on soft to medium stiff marsh and alluvial deposits that may have a significant effect on the safety of the levee relative to levees constructed on firm soil. Principles for design and construction on soft ground recommended by HTE will minimize the risk of ground movement during fill placement.

By achieving the Delta Specific PL 84-99 Standard, the rehabilitated levee will substantially improve the stability of the levee system, relative to existing conditions. Therefore, the Project will provide an overall benefit to the District despite being located on unstable soils.

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

The geotechnical study determined that the 3 setback levees will be constructed on marsh, alluvial and basin deposits (Hultgren - Tillis Engineers, 2020). None of these soils are classified as an expansive soil, as defined in Table 18-1-B of the Uniform Building Code. Therefore, the Project will not create substantial risks to life or property regarding expansive soils.

e) *Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The rehabilitation of the levee does not involve construction or operation of any type of wastewater disposal facility, including septic tanks. Thus, there are no impacts regarding this issue.

f) *Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

It is not known if any paleontological resource exists in the Project area. The rehabilitation of the levee does not involve deep excavation, and most construction work will occur near or above the surface.

If any paleontological resources are encountered during construction of the Project, the District will implement the mitigation measure GEO-1 (Avoid and Minimize Potential Effects on Paleontological Resources) to address paleontological discoveries. Thus, implementation of

the mitigation measure will reduce any potential impacts on these resources to a less than significant level.

3.8 Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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"/>

Environmental Setting

Greenhouse gases (GHGs) are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth’s atmosphere. There are no “attainment” concentration standards established by the Federal or State government for greenhouse gases. Some greenhouse gases occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities (San Joaquin Valley Air Pollution Control District, 2015).

Under Assembly Bill 32 (AB 32) GHGs are defined as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

To assist Lead Agencies in assessing and reducing the impacts of GHGs emissions of a project, SJVAPCD has adopted the policy *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The SJVAPCD’s Governing Board also approved the guidance document *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA*. In support of the policy and guidance document, the SJVAPCD prepared a staff report titled *Addressing Greenhouse Gas Emissions Under the California Environmental Quality Act* (herein referred to as the Staff Report).

Emissions of GHGs derive from multiple sectors including transportation, electricity, industry, commercial and residential, agriculture, recycling and waste, and high global warming potential sources like refrigerants, chlorofluorocarbons, and electrical insulation (Mintier Harnish, 2016).

Transportation is one of the sectors that contributes to greenhouse gas emissions (GHG) in San Joaquin County. Transportation-related GHG emissions represent approximately 62 percent of the total GHG emissions (Mintier Harnish, 2016).

CEQA requires lead agencies to identify potentially significant effects on the environment of projects they intend to carry out or approve and to mitigate significant effects whenever it is feasible to do so.

In accordance with (San Joaquin Valley Unified Air Pollution Control District, 2009), for projects with GHG emissions, determining if the GHG emissions are significant involves three steps:

- Identify and quantify GHG emissions.
- Assess the significance of the GHG emissions on the environment.
- If the GHG emissions are found to be significant, identify alternatives and/or mitigation measures that will reduce the impact of the GHG emissions to less than significant or to the extent feasible.

a) *Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Greenhouse gas emissions associated with the Project construction were estimated using the RCEM model (see Section 3.3) and the total emissions are provided in Table 10.

Table 10. Total GHG Emission Estimates for the Project Construction

CO₂ (tons)	CH₄ (tons)	N₂O (tons)	CO₂e (MT)
2,311	0.08	0.33	2,186.5

To determine whether the level of GHG emissions will have a significant effect on the environment, model results were compared with the preliminary recommendations for significance thresholds provided by the California Air Resources Board (ARB). Based on available data for the industrial sector, ARB staff proposed a quantitative threshold of 7,000 metric tons of CO₂ equivalent per year (MT CO₂e/year) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions (San Joaquin Valley Unified Air Pollution Control District, 2009).

According to the model results, total GHG emissions from the Project Construction will be below the recommended threshold of 7,000 MT of CO₂e/year. Once constructed, no GHG emissions will be generated by the rehabilitated levee. Thus, the Project is expected to have a less than significant impact in regards to GHG emissions.

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

The Project will not interfere with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Thus, there will be no impact.

3.9 Hazards and Hazardous Materials

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The California Health and Safety Code (HSC) defines “Hazardous material” as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment, or a material specified in an ordinance adopted as listed in California HSC §25501(n)(2).

Data regarding hazardous material sites are recorded in two database systems: (1) GeoTracker, which is developed and supported by the State Water Board, and (2) EnviroStor, which is the Department of Toxic Substances Control's data management system. The two database systems provide names, cleanup status, and location.

EnviroStor provides information regarding Cleanup Sites, Hazardous Waste Facilities, and Permitted Facilities. GeoTracker contains records for sites that require cleanup, such as Leaking Underground Storage Tank (LUST) Sites, Department of Defense Sites, and Cleanup Program Sites.

A search on GeoTracker and EnviroStor found no record of cleanup sites or hazardous material or waste facilities within the Project area or the surrounding areas.

a) Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Project involves short-term construction activities and, once the work is completed, there will be no routine use, transportation, or disposal of hazardous materials. Hazardous chemicals used during construction activities could include, but are not limited to, fuel, motor oil and lubricants for the operation and maintenance of equipment. The transport and use of hazardous materials is strictly regulated by local, state and federal agencies to minimize the adverse impacts of accidental spills. Contractors are typically required to use, store and dispose any hazardous materials in accordance with all applicable regulations. In addition to state and federal regulations, the San Joaquin County 2035 General Plan provides policies and regulations regarding the use, transportation, storage, and disposal of hazardous materials.

To minimize the risk of hazardous materials releases during Project construction, the District will implement and adopt the Best Management Practices (BMPs) described in HAZ-1 (Best Management Practices Regarding the Use of Hazardous Materials) and HAZ-2 (Prevent, Control, and Minimize Impacts from a Spill).

If hazardous chemicals such as fuel or motor oil were to be mishandled, leaking or spilled at the Project area, contractors will provide spill containment for vehicles and the containment will adhere to all required state and federal standards. The San Joaquin County Environmental Health Department (SJC EHD) needs to be notified of a hazardous material release of ANY quantity within 24 hours of the release. The District can do so by calling the SJC EHD main line at 209-468-3420. Hazardous materials spills or releases, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of quantity spilled, must be immediately reported if the spill has entered or threatens to enter a water of the State, or has caused injury to a person or threatens injury to public health. Immediate notification must be made to the local emergency response agency, or 911, and the Cal OES State Warning Center. The notification number is 800-852-7550/916-845-8911. (San Joaquin Council of Governments, 2018).

However, the most likely incidents involving hazardous materials during the Project construction would be minor spills or drips. According to San Joaquin Council of Governments (2018), small fuel or oil spills would have a negligible impact on public health.

Considering the small amount of hazardous chemicals that will be used during Project construction and the implementation of the BMPs (outlined in HAZ-1 and HAZ-2) that the Project contractor will be required to use, the Project will create a less than significant hazard to the public or the environment with mitigation measures incorporated.

- b) *Would the Project 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?***

See response to (a) above.

- c) *Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

There are no existing or proposed schools within one-quarter mile of the Project area. The closest schools are in Walnut Grove and Thornton; these communities are located about 2 miles from the Project site. Thus, the Project would not have any impacts.

- d) *Would the Project 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?***

Data regarding hazardous material sites were searched from GeoTracker and EnviroStor database systems. There is no record of hazardous waste facilities and sites located in the footprint or the vicinity of the Project area. Thus, there will be no impact.

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area?***

The Project is not located within an airport land use plan neither located within two miles of a public airport. Thus, there will be no impact.

- f) *Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

The Project will rehabilitate three existing levee sections along the SMR and will feature an all-weather road along the crest. However, this road is private and used only by the District for levee inspections and patrolling. Since the road is not public and it is not planned to be used for emergency evacuations, the Project will have no impact regarding this issue.

g) *Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Potential fire hazards are described in more detail in Section 3.20 (Wildfire). The California Department of Forestry and Fire Protection (Cal Fire) has mapped the entire area of New Hope Tract as “Local Reasonability Area” with no “moderate” to “very high” fire hazard severity zones (San Joaquin County Geographic Information Systems, 2020). The Project is located in an area of irrigated and cultivated agricultural fields, and there are no structures within the Project footprint. In addition, the Project will not result in new structures. Once construction work is completed, conditions of the rehabilitated levee will be similar to current conditions. Therefore, the Project is expected not to expose people or structures to a significant risk of loss, injury or death involving wildland fires. In addition, the Project will implement HAZ-3 (Reduce the Potential for Fire) to reduce the potential for a grass fire. Thus, the Project will have no impact.

3.10 Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

Environmental Setting

San Joaquin County encompasses approximately 1,440 square miles in central California, and includes rivers, streams, sloughs, marshes, wetlands, channels, harbors, and underground aquifers.

The major rivers in this hydrologic region are the San Joaquin, Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno. The Calaveras, Mokelumne, and Stanislaus Rivers flow through or border San Joaquin County and discharge directly into the Delta

or into the San Joaquin River which in turn flows to the Delta. The west and southwestern portion of the County is part of the Delta (San Joaquin Council of Governments, 2018).

The Mokelumne River flows westward from its headwaters in the high Sierra Nevada to the eastern edge of the Delta, where it combines with the Cosumnes River. The Mokelumne River drains a watershed of about 2,140 squared-miles and flows through the dissected uplands between Jackson and San Andreas into Pardee Reservoir where it is released to flow downstream into Camanche Reservoir and out along the alluvial plains and fans toward its confluence with the San Joaquin River near Isleton. Flow in the Mokelumne River below the Camanche Reservoir varies seasonally and is dependent on discharges from the on-stream reservoir, from less than 200 AF/day during the dry season to 9,900 AF/day during the wet season. These flows correlate to discharges from as low as 100 to no more than 5,000 cfs reported by the USGS below the Camanche Dam (Eastern San Joaquin Groundwater Authority, 2019).

According to the San Joaquin County 2035 General Plan, water quality within the Delta has significantly deteriorated due to the operation of water export projects (i.e., Central Valley Project and State Water Project). Water quality and supplies within the Delta necessary to support agricultural uses and fishery resources are often inadequate and causes negative economic impacts to the County (Mintier Harnish, 2016).

New Hope Tract lies within the Eastern San Joaquin Groundwater Subbasin. The Subbasin is located to the west of the Sacramento-San Joaquin River Delta (Delta) and is bounded by the Sierra Nevada foothills to the east, the San Joaquin River to the west, Dry Creek to the north, and Stanislaus River to the south (Eastern San Joaquin Groundwater Authority, 2019). Groundwater in Eastern San Joaquin County supports much of the County's agricultural, rural, and municipal and industrial water needs especially in dry years when surface water sources are depleted (Mintier Harnish, 2016).

The Eastern San Joaquin Subbasin has been in an overdraft condition for many years. Overdraft occurs when the amount of groundwater extracted exceeds the long-term average groundwater recharged. The Sustainable Groundwater Management Act (SGMA) requires development and implementation of a Groundwater Sustainability Plan (GSP) that achieves groundwater sustainability in the Subbasin by 2040. According to groundwater evaluations and analysis, at projected groundwater pumping levels, the long-term groundwater pumping offset and/or recharge required for the Subbasin to achieve sustainability is approximately 78,000 AF/year. Groundwater levels are expected to continue to decline based on projections of current land and water uses (Eastern San Joaquin Groundwater Authority, 2019).

In the Eastern San Joaquin Subbasin, the groundwater quality varies by location. Areas along the western side have historically had higher levels of salinity. Sources of salinity include in the Subbasin include Delta sediments, deep saline groundwater, and irrigation return water. Maximum TDS concentrations across the Subbasin have been reported as high as 2,500 milligrams per liter (mg/L) along portions of the Subbasin's western boundary. TDS concentrations decrease significantly to the east, to typically less than 500 mg/L (the recommended limit for aesthetic considerations). Elevated concentrations of other constituents, such as nitrate, arsenic, and point-

source contaminants, are generally localized and not widespread and are generally related to natural sources or land use activities (Eastern San Joaquin Groundwater Authority, 2019).

Groundwater levels within the levee sections subject to the Project were measured during the geotechnical study by HTE. Typical groundwater levels within the levee are expected to be near mean tide levels. New Hope Tract is below sea level and groundwater levels within the island are artificially controlled by evapotranspiration and pumping. The groundwater levels are expected to be within a few feet of the ground surface during much of the year.

a) *Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The Project is limited to short-term construction activities that include clearing, grubbing, excavation, and grading. Once the work is completed, no activities will be conducted at the rehabilitated levee sections. Activities related to the Project construction would have the potential to disturb and expose site soils to water erosion and increase the potential for sediment-laden stormwater runoff entering the SMR. In addition, accidental discharge of hazardous materials such as fuels, oils, grease, and lubricants used for construction equipment could potentially result in contamination of the water or adversely affect aquatic life, fish, or wildlife.

The District will implement appropriate mitigation measures outlined in BIO-5 (Water Quality Protection) to minimize the risk for surface or groundwater quality degradation. Thus, this issue will have a less than significant impact with mitigation measures incorporated.

As explained in Section 3.9 (Hazards and Hazardous Materials), accidental leaks, spills or releases of hazardous substances are expected to be minor with no significant adverse effect on the environment. In cases of accidental discharge of hazardous materials, contractors will implement appropriate BMPs to prevent or minimize the potential for hazardous materials degrading water quality (HAZ-1 and HAZ-2).

SWPPP compliance, coupled with the adoption and implementation of the BMPs described in Section 1.5 (Mitigation Measures), would reduce the Project's potential water quality impacts to a less than significant level. Upon completion of construction work, the rehabilitated levee sections will have no impacts to surface or groundwater quality.

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

The Project construction will not require the use of groundwater supplies. The supply for the water trucks will be provided by the District's drainage facilities. After completion, the rehabilitated levee will not use groundwater or interfere with groundwater recharge. Thus, the project will have no impact on the sustainable groundwater management of the basin.

c) *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i) result in substantial erosion or siltation on- or off-site;

The Project involves rehabilitation of an existing levee system by constructing a new offset levee and removing a portion of the existing levee to create a waterside habitat. The setback levee waterside slopes will be armored with soil-filled riprap. The rehabilitated levee is expected to reduce the risk of failure and erosion of the levee system. The Project does not propose alterations to existing drainage pattern of the site or area, neither will alter the course of a stream or river that could result in substantial erosion or siltation on- or off-site. Thus, no impact is expected regarding this issue.

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

The Project will result in a rehabilitated levee section which will not increase the rate or amount of surface runoff due to the lack of impervious surfaces; the rehabilitated levee will consist of fill material and aggregate base material. Thus, there is no impact.

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

The New Hope Tract levee system includes ditches and canals that are used for irrigation and drainage. The Project will rehabilitate three sections of the existing levee along the SMR and will not substantially increase runoff contributions relative to current conditions. Thus, no impact is expected regarding this issue.

iv) impede or redirect flood flows?

The levee system at New Hope Tract is designed to protect the public infrastructure, agricultural land and private assets for high flood events along the SMR. The Project does not involve the construction of new structures. The Project will not change current conditions in a way which would impede or redirect flood flows.

d) *Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

The Project site, and most areas in New Hope Tract, are mapped as zone AE by the FEMA Flood Insurance Rate Map (FIRM). This zone is listed as a high risk and special flood hazard area. Further, these areas are subject to inundation by the 1-percent-annual-chance (100-year) flood. The Project consists of rehabilitation of an existing levee system for protection against the 100-year flood.

According to the *CGS Information Warehouse: Tsunami Hazard Area Map*, the Counties of San Joaquin and Sacramento are not identified to be at risk of tsunami. Seiches are standing

waves in an enclosed or partially enclosed body of water. Seiches are typically caused by strong winds and rapid changes in atmospheric pressure. The Project will not influence the potential for this type of events. As explained earlier, the Project will repair existing levee sections, which would make them less susceptible to erosion and failure. Therefore, rehabilitation of the levee system will increase flood protection from the events described herein. Thus, there will be no impacts regarding this issue.

3.11 Land Use and Planning

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Agriculture is the predominant land use in San Joaquin County, with approximately 89 percent of the County dedicated to agricultural activities. The second largest use is residential land, with about 175,870 acres in this use (approximately 20 percent of the County area). The majority of the unincorporated residential acreage is concentrated along the edges of existing cities and in urban and rural communities in the County (San Joaquin Council of Governments, 2018).

The San Joaquin County 2035 General Plan designates the majority of the New Hope Tract as agricultural land use, with the exception of the town of Thornton (approximate population of 809), an unincorporated community protected by the New Hope levee system. The Project area is located about 3 aerial miles southwest of the community of Thornton.

a) *Would the Project physically divide an established community?*

Rehabilitation of the three levee sections and construction of the riparian benches will not physically divide an established community. Thus, there will be no impact.

b) *Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

There are numerous federal, state, and local laws, regulations, policies, programs, plans, codes, and ordinances that regulate land use in the San Joaquin region. Local land use changes are regulated by the general plans, specific plans, and zoning ordinances of San Joaquin County as well as the cities within the County (San Joaquin Council of Governments, 2018). As mentioned in Section 3.2 Agriculture and Forestry Resources, changes to the agricultural land in New Hope Tract are predicted to be less than significant. This ISMND document described potentially significant impacts on Biological Resources (Section 3.4), and Hydrology and Water Quality (Section 3.10). The Project will implement appropriate mitigation measures (Section 1.5) to avoid or reduce these impacts to a less than significant level. Given that the Project will not conflict with any land use plan, policy, or regulation. Impacts will be less than significant.

3.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<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"/>

Environmental Setting

The San Joaquin County 2035 General Plan indicated that mineral resources within San Joaquin County consist primarily of sand and gravel aggregate, with limited mining of peat, gold, and silver. In the past placer gold deposits have been found in several rivers and creeks in the County. These deposits were dredged for gold by independent operators in the years following the 1849 gold rush. Peat soil removal occurred during the 1970s and 1980s. Mining operations existing within the County are related to sand and gravel aggregate operations (Mintier Harnish, 2016).

a) *Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

The geotechnical study by HTE indicated the presence of clay, silts, and peats within the existing levees, but these are not of significant value to the region and the residents. The Project would not directly result in the extraction, exploration, or digging for mineral resources. Therefore, the Project will not result in the loss of availability of a known mineral resource.

b) *Would the Project 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?*

A search in the database of the U.S. Geological Survey Mineral Resources Data System, found no mineral resources within New Hope Tract. Therefore, the Project will not 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. Thus, there will be no impact.

3.13 Noise

Would the Project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

Environmental Setting

Noise can be generally defined as a sound that is loud or unpleasant or that causes disturbance. Per the San Joaquin 2035 General Plan, exposure to excessive noise is often cited as a health problem in terms of general well-being and contribution to undue stress and annoyance. Sources of noise in the County include traffic on State highways and local roads, aircraft operations, commercial and industrial uses, agricultural operations, active recreation areas, and mining operations.

Sound is usually measured in decibels (dB). In-air noise when frequency-weighted to approximate human hearing is measured on an A-weighted scale, denoted as dBA (NRC, 2012). For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq). The Leq, or equivalent sound level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually one hour.

Noise analysis for the Project under CEQA evaluated whether the Project would result in significant adverse environmental effects. To determine if the Project would result in a significant effect, existing noise levels (or baseline environmental setting) were compared to the predicted noise level with the Project. The assessment includes looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area.

The Project is located on agricultural land and rural area. There are no significant sources of noise within the Project boundary and adjacent lands. The only sources of noise near the Project site are agricultural operations and road trips made by District during levee inspections and patrolling. There are not any noise-sensitive land uses (e.g., residential, cultural, educational, medical

services) within the Project boundary, as defined in San Joaquin County Development Title (Section 9-110.4). The nearest residence is located on the landside of the levee approximately 800 feet southeast from the southern end of Site B, between stations 284+00 and 285+00.

The San Joaquin County – Development Title (Section 9-1025.9) specifies noise levels standards for new stationary sources (Table 9-1025.9, Part II) and included herein for reference in Table 11. According to Table 11, projects that will result in new stationary noise sources must not create daytime (7:00 a.m. to 10:00 p.m.) noise levels over 50 dB Leq or nighttime (10:00 p.m. to 7:00 a.m.) noise levels over 45 dB Leq at the nearest location of offsite outdoor activity (i.e., the property line of the nearest sound receiver) (Municipal Code Corporation, 2021).

Table 11. Maximum Allowable Noise Exposure for New Stationary Noise Sources

	Outdoor Activity Areas¹ Daytime² (7 a.m. to 10 p.m.)	Outdoor Activity Areas¹ Nighttime² (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (Leq), dB	50	45
Maximum Sound Level (Lmax), dB	70	65

¹ Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

² Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

a) *Would the Project result in 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?*

The Project will not result in generation of any increase in ambient noise levels, relative to existing conditions.

Construction of the Project will generate temporary noise that is primarily generated by the operation of heavy equipment. Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, and distance between noise source and receptor. Noise levels during construction of the Project are expected to be generated during the grading/excavation, placement of fill as compacted embankment, and placing aggregate base road surfacing.

Stationary equipment (e.g., pumps, generators, and air compressors) will not be used in the Project. Typical noise levels associated with construction equipment used in the Project are provided in Table 12. This assessment includes predicted construction noise impact at the first sensitive receptor located approximately 800 feet away from the Project boundary. The following assumptions were considered for the noise impact assessment: continuous operation time of one-hour, free-field conditions and ignoring ground effects.

Table 12. Construction Equipment Noise Levels

Source: FTA (Federal Transit Administration, 2018), except as noted.

Equipment	Typical Noise Level at 50 feet from Source, dBA	Expected Noise Level at 800 feet from Source, dBA
Water truck	84	60
Tractor	84	60
Grader	85	61
Excavator	85*	61
Roller	85	61
Scraper	85	61
Backhoe	80	56

*From FHWA, Construction Noise Handbook (Federal Highway Administration, 2006).

The construction noise assessment included a conservative scenario when several pieces of equipment are operating at the same time. This estimate combined noise level from multiple sources at the same location in accordance with the rules for decibel addition described by U.S. Nuclear Regulatory Commission (NRC, 2012). A total noise level for all equipment combined can be assumed to not exceed 88 dBA at 50 feet, equivalent to approximately 64 dBA at a distance of 800 feet.

According to the Federal Transit Administration (2018), local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project.

Although there are no standardized criteria for assessing construction noise impacts, the following guidelines can be considered reasonable criteria for assessment:

Table 13. General Assessment Construction Noise Criteria

Source: (Federal Transit Administration, 2018)

Land Use	<i>L_{eq, equip} (1 hr), dBA</i>	
	Day	Night
Residential	90	80
Commercial	100	100
Industrial	100	100

The predicted noise levels from the assessment were compared with the construction noise criteria. Construction activities for the Project are scheduled for daylight hours only. The predicted noise levels of the individual pieces of equipment (at 800 feet) and total noise levels for all equipment combined will not exceed the general construction noise criteria for residential land use. Therefore, the Project will not substantially increase ambient noise levels in the vicinity of the project. Thus, potential impacts are less than significant regarding this issue.

b) *Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?*

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Operation of construction equipment causes vibrations that spread through the ground and diminish with distance however, construction vibrations do not often reach the levels that can damage structures (Federal Transit Administration, 2018).

The rehabilitation of the levee does not involve construction activities that may result in building damage or prolonged annoyance (e.g., blasting, pile-driving, vibratory compaction, demolition, and drilling or excavation near sensitive structures). Therefore, there is no need for a quantitative construction vibration assessment.

There are no adopted state policies or standards for groundborne vibration. Some local jurisdictions regulate vibration through enforcement of local ordinance standards. These standards generally relate to preventing perceptible vibration from being generated past the property line of the source location (San Joaquin Council of Governments, 2018).

Because the nearest sensitive receptor is located about 800 feet away, the construction equipment would not likely expose people or structures to excessive groundborne vibration or groundborne noise levels.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?*

The Project is not located within the vicinity of a private airstrip or within two miles a public airport. Thus, no there will be no impact.

3.14 Population and Housing

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The population of the entire San Joaquin Valley was estimated to be 4,267,626, with the population of San Joaquin County estimated to be 762,148 (based on 2019 Census estimate). San Joaquin County has an estimated 248,636 housing units. Detached single family homes in the County have averaged around 75%, with multi-family about 25% in recent years.

The community of Thornton is located about 3 miles northeast of the Project site. According to the San Joaquin 2035 General Plan, the boundary of this community includes about 520 acres and a population of about 809. Despite the rural environment, Thornton is considered an urban community because of its size, its region-serving commercial base, its distance from major population centers, and its access to Interstate 5. The town center is surrounded by a residential area which includes single-family homes and multi-family units (Mintier Harnish, 2016).

a) Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The Project will rehabilitate three sections along an existing levee system, thus increasing flood protection for the adjacent lands. The Project will not create residences or other development that would directly or indirectly result in the population growth in the area. Therefore, the Project will have no impacts regarding this issue.

b) Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project is located in a sparsely populated with few structures and houses and none within the Project area. The Project is limited to the maintenance of an existing levee and will not result in demolition of houses and will not adversely impact any residents of New Hope Tract. Therefore, the Project will not displace people or housing.

3.15 Public Services

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

Environmental Setting

The Project site is located within San Joaquin County, the nearest fire station is Thornton Fire District located in the community of Thornton, approximately 3 miles northeast of the Project site.

Law enforcement services for the Project vicinity are provided by the San Joaquin County Sheriff's Department. The San Joaquin Sheriff's Office is located on 7000 Michael Canlis Blvd, French Camp, CA 95231.

New Hope Elementary School is the only school located within the boundaries of New Hope Tract and provides public educational services for elementary students. The San Joaquin County Parks & Recreation provides park and recreational services to unincorporated San Joaquin County. There are no park and recreation facilities in the Project vicinity.

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

a) Fire protection?

The Project involves levee repair along the SMR. Construction activities would involve minor temporary increases in fire start potential, as described in Section 3.9 (Hazards and Hazardous

Materials) but activities would be subject to applicable fire prevention requirements (HAZ-3). As noted in Section 3.14 (Population and Housing) the project would not construct residences or other development that would encourage population growth in the area. Therefore, the Project would not create additional long-term demand for fire protection services. No new or expanded fire protection facilities that could have environmental impacts would be required. There will be no impacts on fire protection services.

b) Police protection?

The Project would not create additional demand for police protection services. No new or expanded police protection facilities that could have environmental impacts would be required. The Project would have no impacts on this issue.

c) Schools?

The Project would not create additional demand for school services. No new or expanded school facilities that could have environmental impacts would be required. The Project would have no impacts on this issue.

d) Parks?

The Project would not involve any direct effect on existing park or recreation facilities or create additional demand for parks or other public facilities. No new or expanded facilities that could have environmental impacts would be required. Public river access is unavailable due to private land ownership adjacent to the river. The Project would have no impact on this issue.

e) Other public facilities?

The Project would not involve any direct effect on existing park or recreation facilities or create additional demand for parks or other public facilities. No new or expanded facilities that could have environmental impacts would be required. The Project would have no impact on this issue.

3.16 Recreation

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<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"/>

Environmental Setting

As noted in Section 3.15 (Public Services) the San Joaquin County Parks & Recreation Department provides park and recreation services to unincorporated San Joaquin County. There are no County parks or recreational facilities in the Project vicinity. Public access to the segment of the SMR on which the Project site is located is unavailable due to the private land ownership adjacent to the river.

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?*

There are no parks or recreational facilities on New Hope Tract. Thus, there will be no impact.

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?*

The Project does not include recreational facilities. Thus, there will be no impact.

3.17 Transportation

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, 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 Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

San Joaquin County’s existing regional transportation networks and facilities include an intermodal system consisting of a state and interstate highway system, an inland port, bike and bus routes, rail, including passenger and freight, and commercial passenger airline service (San Joaquin Council of Governments, 2018).

Most work-related daily trips are made in automobiles with origins beginning and ending in San Joaquin County. In 2019, 79.3% of workers in San Joaquin County drove alone to work, followed by those who carpooled to work (12%) and those who worked at home (4.21%). San Joaquin County has an established network of roadways that serve the transportation needs of residents, visitors, and businesses.

The main roads serving the project vicinity are Walnut Grove Road, Thornton Road, and Interstate 5. Walnut Grove Road is the main route that connects the Project site to the community of Thornton. Thornton Road connects to Walnut Grove Road and runs parallel to Interstate 5.

No regular public transit service is provided to the Project site or vicinity. There are no designated bike routes and no pedestrian sidewalks in the area.

a) *Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?*

There are no transportation plans established for New Hope Tract. Thus, there will be no impact.

b) Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Senate Bill 743, signed in 2013, required changes to the guidelines implementing CEQA of transportation impacts. In January 2019, the Natural Resources Agency and the Governor's Office of Planning and Research (OPR) codified SB 743 into the Public Resources Code (PRC) and the CEQA Guidelines (City of Long Beach, 2020).

Pursuant to SB 743, Section 15064.3 defines vehicle miles traveled¹ (VMT) as the most appropriate measure to evaluate transportation impacts.

CEQA Guidelines Section 15064.3, subdivision (b) [Criteria for Analyzing Transportation Impacts] creates a presumption of no significant transportation impacts for (a) land use projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor, (b) land use projects that reduce VMT below existing conditions, and (c) transportation projects that reduce or have no impact on VMT.

Section 15064.3, subdivision (b) also allows a lead agency to qualitatively evaluate VMT impacts if existing models are not available; and gives lead agencies discretion to select the most appropriate methodology to evaluate a project's VMT, but requires lead agencies to document the methodology and/or model assumptions in the environmental document prepared for the project.

Although, there will be an amount of travel for all vehicles used by the employees during Project construction, the associated impact on VMT is only temporary and will not significantly increase total VMT of the region. After construction work is completed, the Project will not change the VMT of the area relative to current conditions.

Following the recommendations provided by the 2018 OPR's Technical Advisory on Evaluating Transportation Impacts (Technical Advisory), rehabilitation projects designed to improve the condition of existing transportation assets (e.g., roadways) that would not increase vehicle capacity would not likely lead to a substantial or measurable increase in vehicle travel and therefore, no quantitative analysis is required (Governor's Office of Planning and Research, 2018).

The Project will excavate the existing levee to create a riparian bench, construct a setback levee, and reconstruct a private levee road. Rehabilitation of the existing levee is not considered a transportation or land use project, and the daily VMT from the workers is limited to the duration of Project construction. The Project will not have short term or long-term effects on the VMT of New Hope Tract or nearby areas. The Project will have no effect on the total change in the VMT of the area in comparison with current conditions (i.e., driving patterns are not expected to change). Given the limited impact on VMT, the Project will not interfere with the state goals to reduce greenhouse gas emissions as planned under SB 375. Thus, the Project is expected to cause a less than significant impact on this issue.

¹ "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project.

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

The geometric design features of the rehabilitated levee will be similar to the existing features and will be compatible with existing uses. Thus, there will be no impact.

d) *Would the Project result in inadequate emergency access?*

New Hope Tract is only accessible by Interstate 5. The Project area does not include Interstate 5 or any other public road. There will be no change to emergency access to New Hope Tract or its vicinities. Thus, there will be no impact.

3.18 Tribal Cultural Resources

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

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

i) *Listed or eligible for listing in the California Register for Historical Resources, or in the local register or historical resources as defined in Public Resources Code Section 5020.1(k), or*

As noted in Section 3.5 (Cultural Resources), a cultural resources study for the Project was conducted by Tom Origer & Associates (2021). The study included a record search of the Sacred Land File by the NAHC which indicated absence of resources in the Project site. However, NAHC recommended contacting other sources of cultural resources for information regarding known and recorded sites. NAHC provided Tom Origer & Associates with a list of twelve contacts representing nine Native American tribes who may have knowledge of resources within the Project site. As a result of the outreach, 2 tribes,

the Northern Valley Yokuts Tribe and Wilton Rancheria, responded stating that the tribes would like to consult on the Project.

In accordance with Assembly Bill 52 and Section 21080.3.1(d) of the California Public Resources Code (PRC), the District sent letters dated December 17, 2021, to the North Valley Yokuts Tribe and Wilton Rancheria with formal notification about the Project and the opportunity to consult regarding cultural resources. The North Valley Yokuts Tribe nor Wilton Rancheria responded to the District within the 30-day timeframe set by AB 52; therefore, no further consultation is required.

Given that there is the possibility that construction work could unearth cultural resources of significance, implementation of mitigation measures is required to address such encounters. Mitigation measure CUL-1 (Avoid and Minimize Potential Effects on Cultural Resources) would reduce any potential impacts on unknown resources of potential value to Native American tribes, including burials, to a level that is less than significant.

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

See response to i) above.

3.19 Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The current and future water supply is critical to the health and well-being of San Joaquin County's economy and residents. While all cities and most unincorporated areas of the County are served by water districts or municipal water systems, some communities are not located within water districts or do not have water systems that provide water service. These communities rely on private wells and groundwater. However, most water supply districts in San Joaquin County have been transitioning away from groundwater sources to surface water to reduce overdraft of groundwater (Mintier Harnish, 2016).

Water delivery in San Joaquin County is provided by several agencies and projects including federal, state, regional, and local water projects; special districts (e.g., irrigation, water, and water conservation); and private water systems. Irrigation and domestic water systems within San Joaquin County are operated and maintained by irrigation districts, water districts, and water conservation districts (Mintier Harnish, 2016).

Sanitary sewer service within the County is generally provided by special districts including community service districts, public utility districts, sanitary districts, and sewer maintenance districts (Mintier Harnish, 2016).

The major sewer district areas in San Joaquin County have their own sewer treatment facilities and they provide sewer services to large populated areas. Some of the unincorporated communities of San Joaquin County do not have sanitary sewer infrastructure and are serviced by individual or community septic systems (Mintier Harnish, 2016).

Based on the San Joaquin County 2035 General Plan, the community of Thornton is equipped with a sewer and septic systems. Water is procured from groundwater using domestic wells.

a) *Would the Project 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?*

The Project will not require the relocation or construction of water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. Thus, there will be no impact.

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

The water utilized during construction of the Project will be provided by the District. Upon work completion, the rehabilitated levee will not require a water supply for operation or maintenance. Therefore, there will be no impacts regarding this issue.

c) *Would the Project 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?*

The Project will not generate new sources of wastewater neither increase current demand. Therefore, the Project will not be served by a wastewater treatment provider. Thus, there will be no impact.

d) *Would the Project 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?*

The Project will not generate any type of solid waste. Therefore, there will be no impacts to solid waste collection capacity or infrastructure and no impacts to the solid waste reduction goals.

e) *Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

See response to d) above.

3.20 Wildfire

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

Environmental Setting

Fire hazards in San Joaquin County include wildland fires, peat fires, chemical fires, flammable liquid storage fires, structural fires, and fires that result from transportation (vehicle) accidents. Four San Joaquin County communities (Bellota, Clements, Linden, and Lockeford) are identified as communities at risk for wildland fire due to their location near areas susceptible to potential wildfires (Mintier Harnish, 2016).

Based on the map “Fire Hazard Severity Zones- San Joaquin County”, New Hope Tract and vicinity are mapped as a Local Responsibility Areas – areas which are served by local fire protection districts or departments (San Joaquin County Geographic Information Systems, 2020).

a) *Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?*

The Project involves improvement of an existing levee and replacement of a levee crest road. However, this road is private, and it is only used by the District for levee inspections and patrolling. Since the road is not public and emergency access routes in New Hope Tract will be accessible to emergency response vehicles or for emergency evacuations during and after the construction, the Project will have no impact regarding this issue.

b) Would the Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The Project is located on a topographically flat area with few habitable structures in the vicinity and none within the Project footprint. As explained in Section 3.14 (Population and Housing), the Project does not involve construction of structures and therefore, it will not expose residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. In addition, the Cal Fire Hazard Severity maps does not designate the Project site as a Very High, High, or Moderate Severity Zone. Therefore, there will be no impact.

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

The Project will not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or impacts to the environment. Thus, there will be no impact.

d) Would the Project expose people or structures to significant risk, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Except for the levees, the topography of New Hope Tract is flat. The Project area and vicinity are located on the San Joaquin Valley. The Project is intended to reduce the potential for flooding by increasing stability of existing levee sections. The Project will not expose people or structures to flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Thus, there will be no impact.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

This ISMND identifies the various potential environmental impacts of the Project to Biological Resources (Section 3.4), Cultural Resources (Section 3.5), and Hydrology and Water Quality (Section 3.10). Several mitigation measures (Section 1.5) will be implemented as an effort to reduce potentially significant impacts on each of these topics to a less than significant level.

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)?

The results described in this ISMND indicate that the environmental impacts associated with levee rehabilitation and habitat enhancement are generally categorized as either less than significant or no impacts are expected. When the Project generates an impact that is less than significant with mitigation incorporated, the Project proposes several mitigation measures (see Section 1.5) that will be implemented to help assure that the Project will have no impact or only less than significant impact.

There are currently no other projects in the area, which combined will increment the environmental effect of the Project. The District has previously worked on various levee rehabilitation projects on New Hope Tract. The Project, in combination with similar past and future projects, will generate beneficial impacts by improving levee stability and enhancing flood protection for the existing assets on New Hope Tract.

c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Rehabilitation of the existing levee and construction of riparian benches for habitat enhancement is expected to not have significant environmental effects. Several mitigation measures will be implemented during construction to reduce the potential impacts to air quality, biological resources, cultural resources, hydrology and water quality of the area. The Project will increase flood protection for New Hope Tract and will not adversely alter the life of the island's inhabitants. Thus, the Project will not degrade the quality of life of human beings, either directly or indirectly.

4 REFERENCES

4.1 Document Preparers

This ISMND was prepared by Wagner & Bonsignore, Consulting Civil Engineers for use by and under the supervision of Reclamation District No. 348. The following persons were involved in preparation of the of the ISMND:

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Exhibit A. Scope of Work Plan Set

RECLAMATION DISTRICT NO. 348

**NEW HOPE TRACT
SOUTH MOKELUMNE RIVER SETBACK LEVEE PROJECT
PFA NH-17-1.0-SP**

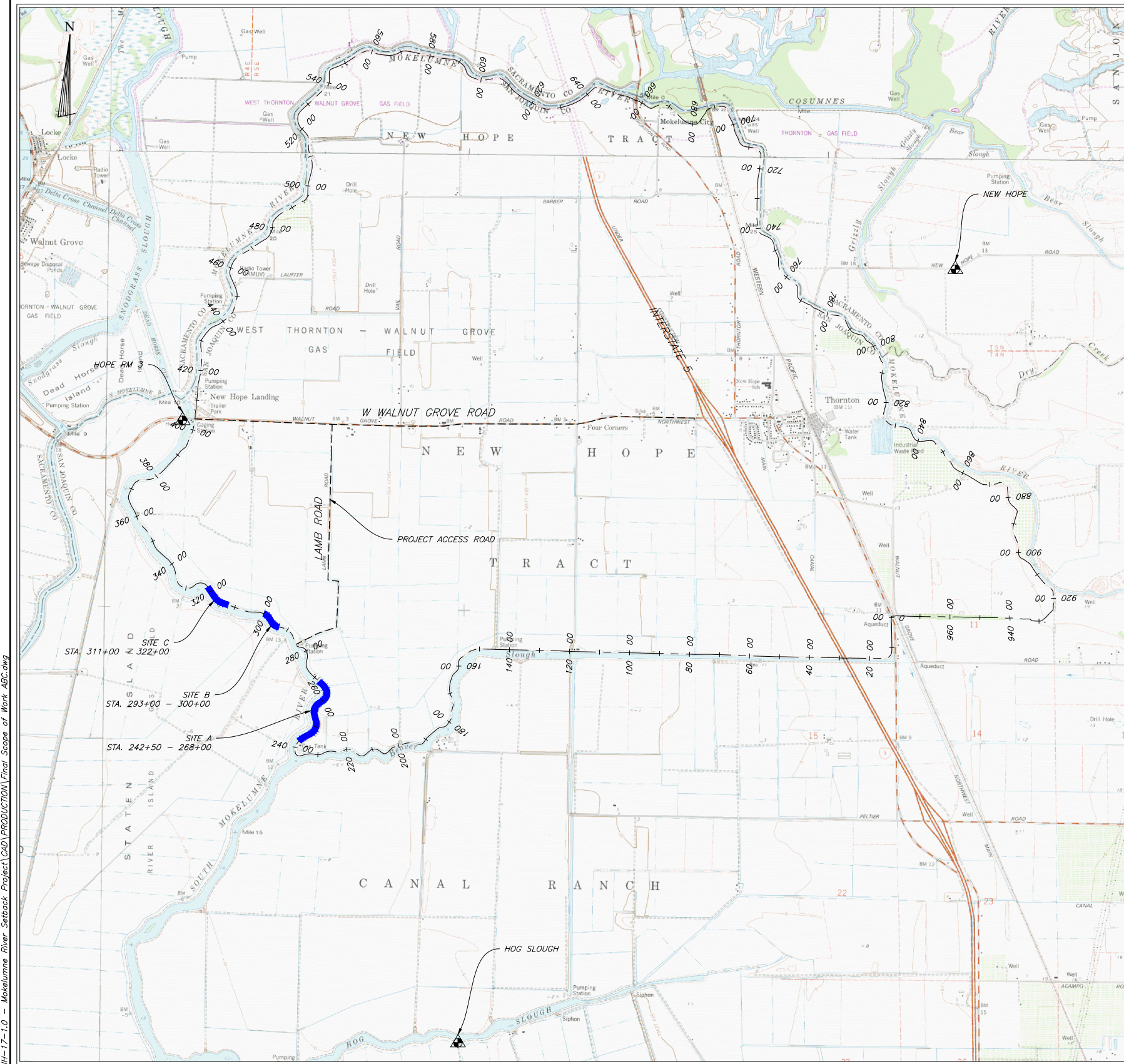
SCOPE OF WORK

San Joaquin County

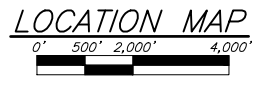
California

WAGNER & BONSIGNORE CONSULTING CIVIL ENGINEERS A CORPORATION

2151 RIVER PLAZA DRIVE, SUITE 100 SACRAMENTO, CALIFORNIA



BASE MAP PER USGS 7.5 MINUTE QUADRANGLE MAP FOR BRUCEVILLE, COURTLAND, ISLETON AND THORNTON, CALIFORNIA



SHEET INDEX

TITLE	SHEET
SHEET INDEX, LOCATION AND VICINITY MAP	1
PLAN AND PROFILE, SHEET INDEX	2
PLAN AND PROFILE, STA. 242+50 TO STA. 252+00	3
PLAN AND PROFILE, STA. 252+00 TO STA. 264+00	4
PLAN AND PROFILE, STA. 264+00 TO STA. 268+00	5
PLAN AND PROFILE, STA. 293+00 TO STA. 300+00	6
PLAN AND PROFILE, STA. 311+00 TO STA. 322+00	7
TYPICAL SECTIONS AND DETAILS	8

ABBREVIATIONS

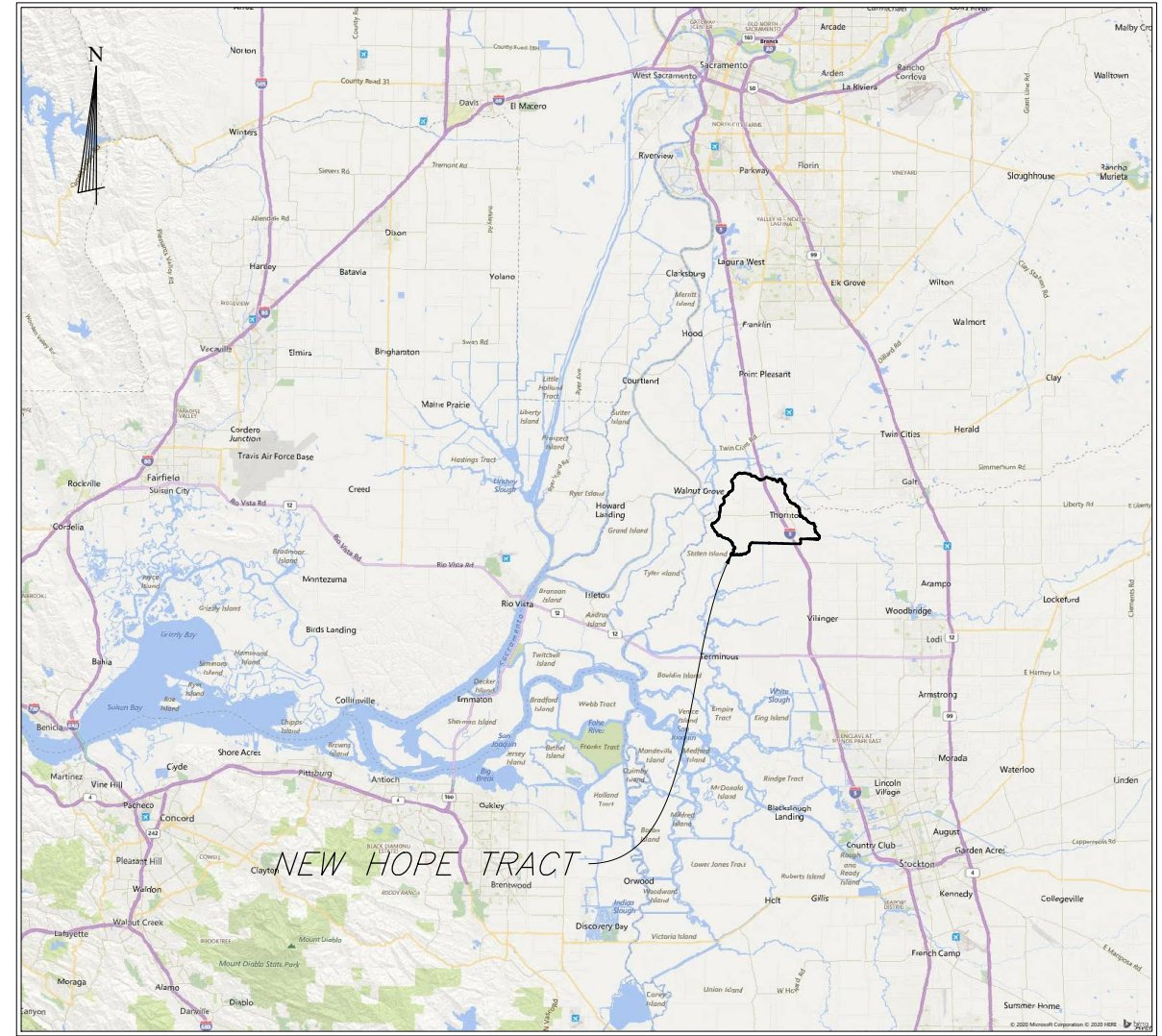
AF	ACRE-FOOT	MAX.	MAXIMUM
AC	ACRES	MHW	MEAN HIGH WATER
AB	AGGREGATE BASE	MHHW	MEAN HIGHER HIGH WATER
APPROX.	APPROXIMATE	MLW	MEAN LOW WATER
BFE	BASE FLOOD ELEVATION	MLLW	MEAN LOWER LOW WATER
CL	CENTER LINE	MSL	MEAN SEA LEVEL
CC	CENTER TO CENTER	MI	MILES
CF	CUBIC FEET	MIN.	MINIMUM
CY	CUBIC YARDS	MISC.	MISCELLANEOUS
Ø	DIAMETER	NTS	NOT TO SCALE
D/S	DOWNSTREAM	OC	ON CENTER
ELEV.	ELEVATION	OD	OUTSIDE DIAMETER
EST.	ESTIMATED	REQD	REQUIRED
EG	EXISTING GRADE	SPECS	SPECIFICATIONS
FG	FINISH GRADE	SF	SQUARE FEET
FL	FLOW LINE	SY	SQUARE YARDS
GB	GRADE BREAK	STA.	STATION
HP	HINGE POINT	TONS	TONS
ID	INSIDE DIAMETER	TYP.	TYPICAL
LF	LINEAR FEET	U/S	UPSTREAM

PROJECT CONTROL

BENCHMARK
 NGS MONUMENT "NEW HOPE" (PID AE9876) ELEVATION 14.00 FEET (NAVD 88) AS SHOWN ON NGS DATASHEETS RETRIEVED 7-6-2016.

BASIS OF BEARINGS
 COORDINATES, BEARINGS AND DISTANCES ARE BASED ON ZONE 3 OF THE CALIFORNIA COORDINATE SYSTEM NAD83, EPOCH 2010.00. A LINE BETWEEN NGS MONUMENT "HOPE RM 3" (PID JS1244) AND NGS MONUMENT "HOG SLOUGH" (PID AE9876) BEARS SOUTH 32°44'32" WEST AS CALCULATED FROM COORDINATES SHOWN ON NGS DATASHEETS RETRIEVED 7-6-2016. ALL DISTANCES SHOWN ARE GRID DISTANCES. TO CONVERT TO GROUND DISTANCES DIVIDE GRID DISTANCE BY 0.99996491. (AVERAGE OF COMBINED SCALE FACTORS)

BASIS OF BASE FLOOD ELEVATIONS
 BASE FLOOD ELEVATIONS ARE BASED ON THE SACRAMENTO-SAN JOAQUIN DELTA HYDROLOGY SPECIAL STUDY BY THE US ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT, DATED FEBRUARY 1992. ELEVATIONS CONVERTED FROM NGVD 29 TO NAVD 88 BY DATUM SHIFT OF +2.4.



VICINITY MAP
 NTS

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REVISIONS			
REF.	DESCRIPTION	APVD.	DATE

**PRELIMINARY
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 Drawn By: V. WANG
 Checked By: -
 Approved By: -
 Date: JANUARY 2022

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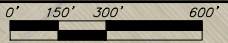
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RECLAMATION DISTRICT NO. 348	SHEET 1
SOUTH MOKELUMME RIVER SETBACK LEVEE PROJECT	OF 8
LOCATION MAP, VICINITY MAP, PROJECT CONTROL, AND SHEET INDEX	SHEETS



PLAN AND PROFILE SHEET INDEX



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NOTES

1. AERIAL IMAGERY PER U.S. DEPARTMENT OF AGRICULTURE (USDA) - AERIAL PHOTOGRAPHY FIELD OFFICE, NATIONAL AGRICULTURAL INVENTORY PROJECT, FLOWN JUNE 17, 2020.

REVISIONS			
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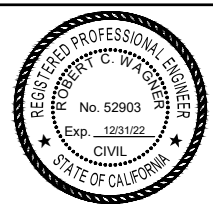
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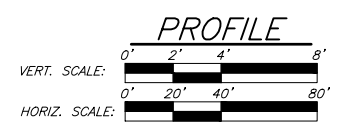
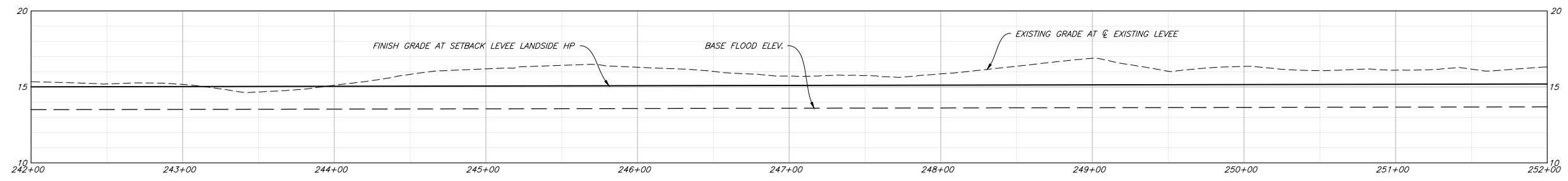
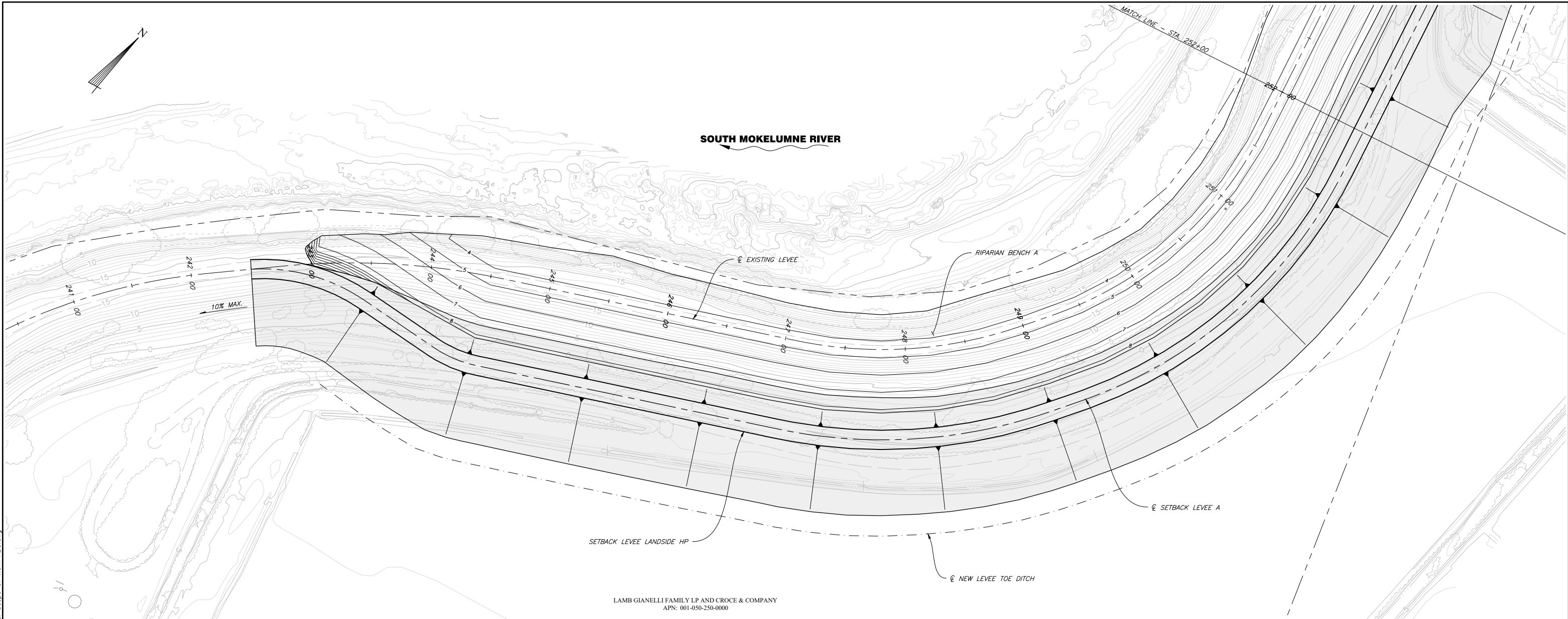
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RECLAMATION DISTRICT NO. 348 SOUTH MOKELUMNE RIVER SETBACK LEVEL PROJECT PLAN AND PROFILE SHEET INDEX
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SHEET
 2
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 8
 SHEETS

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- NOTES**
- LANDSIDE BASE TOPOGRAPHY PER AMERICAN AERIAL MAPPING, INC., FLOWN JULY 26, 2019.
 - WATERSIDE BASE TOPOGRAPHY PER ETRAC INC., DATED SEPTEMBER 2019.

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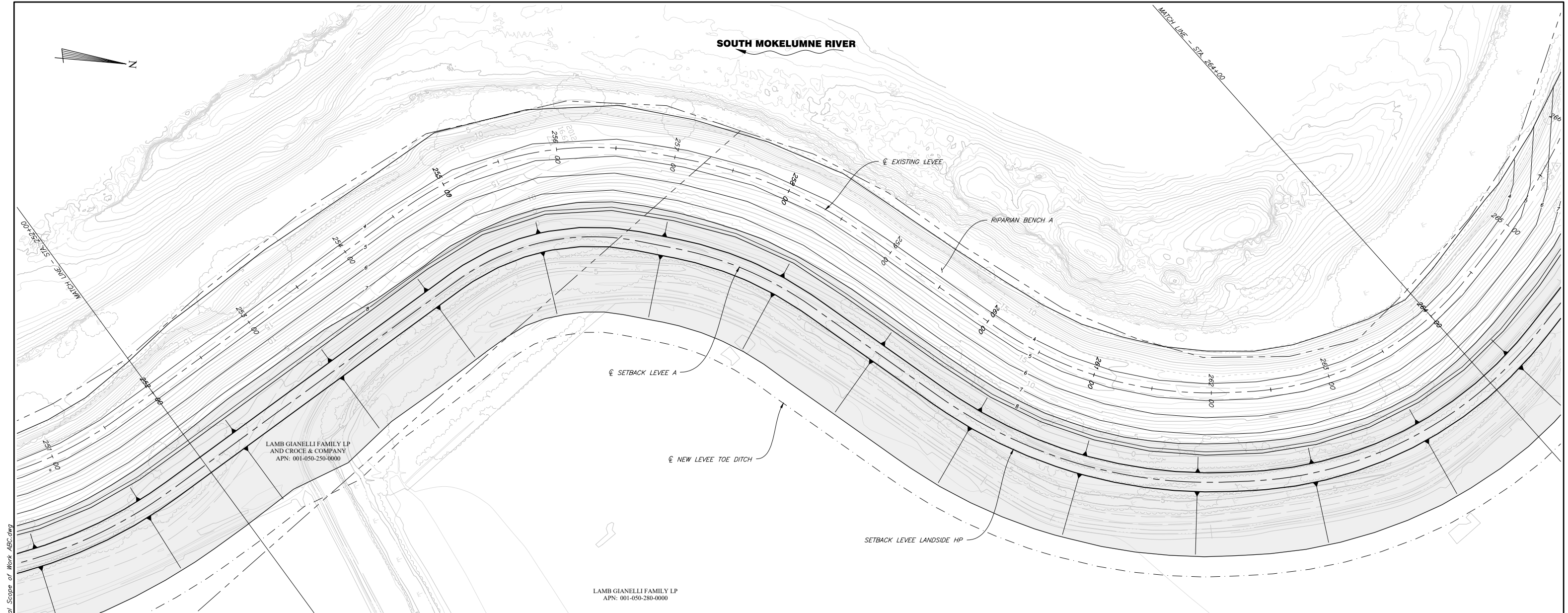
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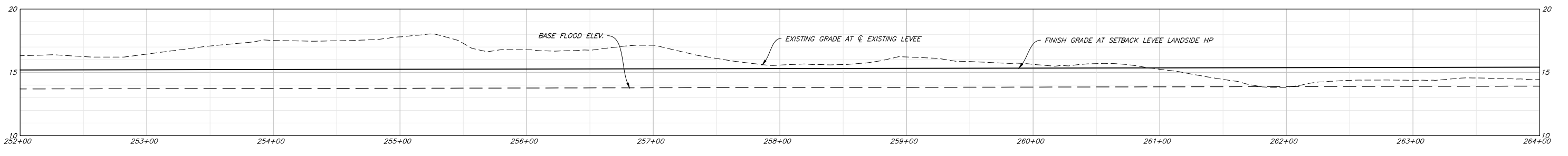
SOUTH MOKELUMNE RIVER SETBACK LEVEE PROJECT

PLAN AND PROFILE
STA. 242+50 TO STA. 252+00

SHEET
3
OF
8
SHEETS



PLAN
0' 20' 40' 80'



PROFILE
VERT. SCALE: 0' 2' 4' 8'
HORIZ. SCALE: 0' 20' 40' 80'

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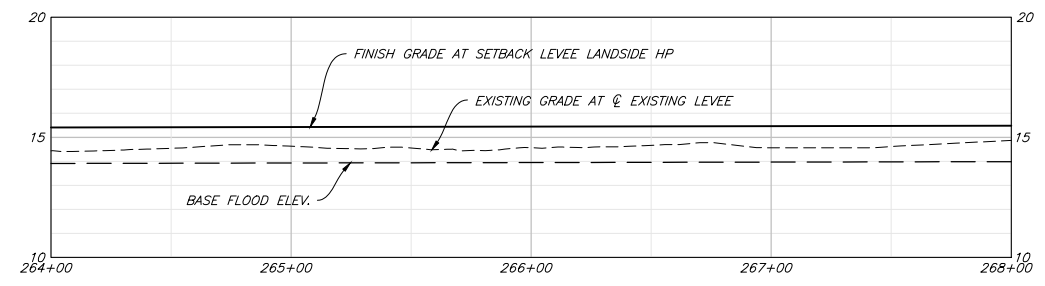
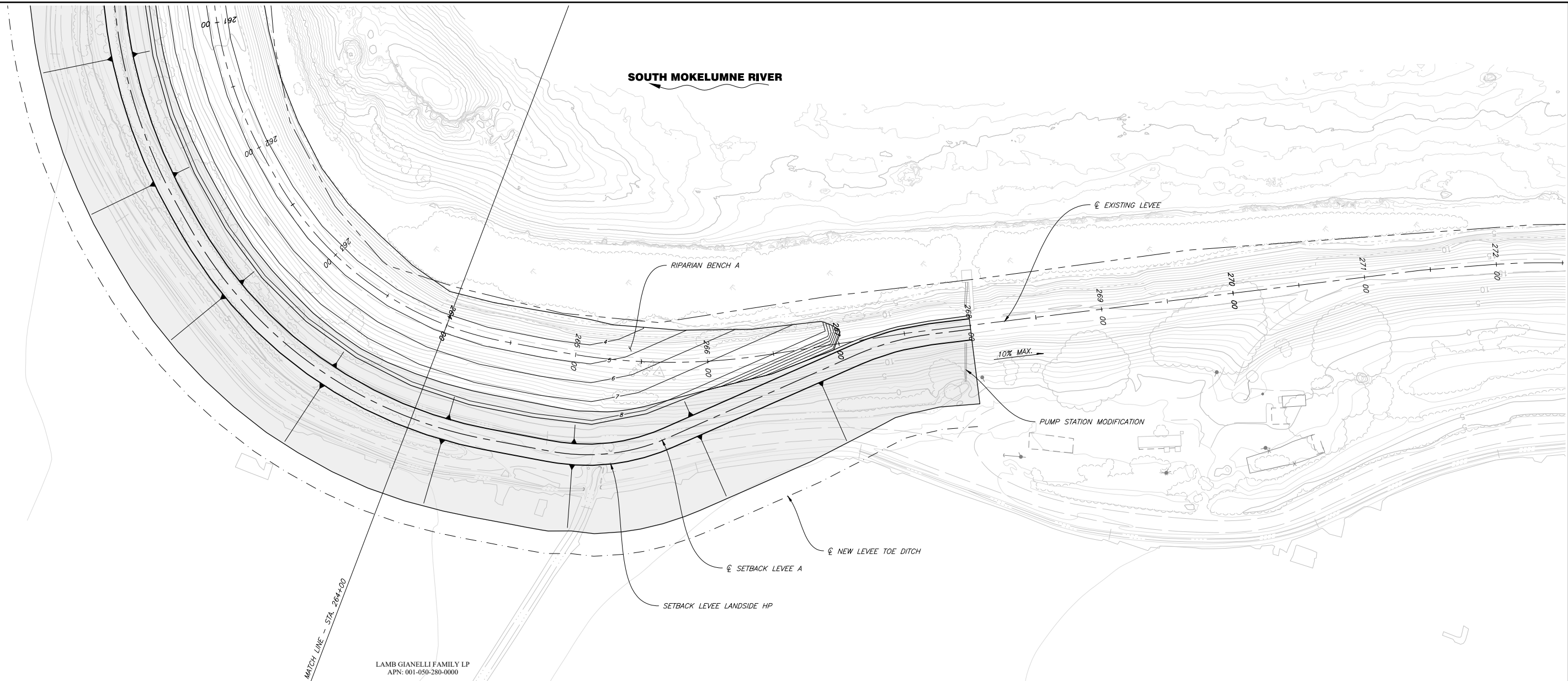
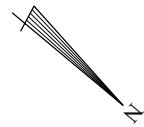
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RECLAMATION DISTRICT NO. 348
SOUTH MOKELUMNE RIVER SETBACK LEVEE PROJECT
PLAN AND PROFILE
STA. 252+00 TO STA. 264+00

SHEET
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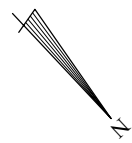
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SOUTH MOKELUMNE RIVER SETBACK LEVEE PROJECT

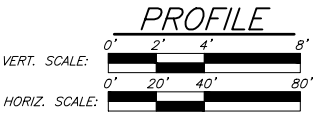
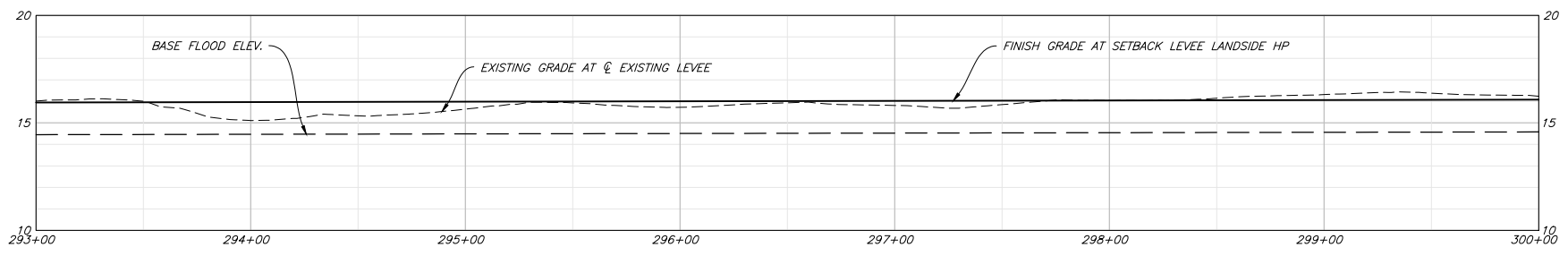
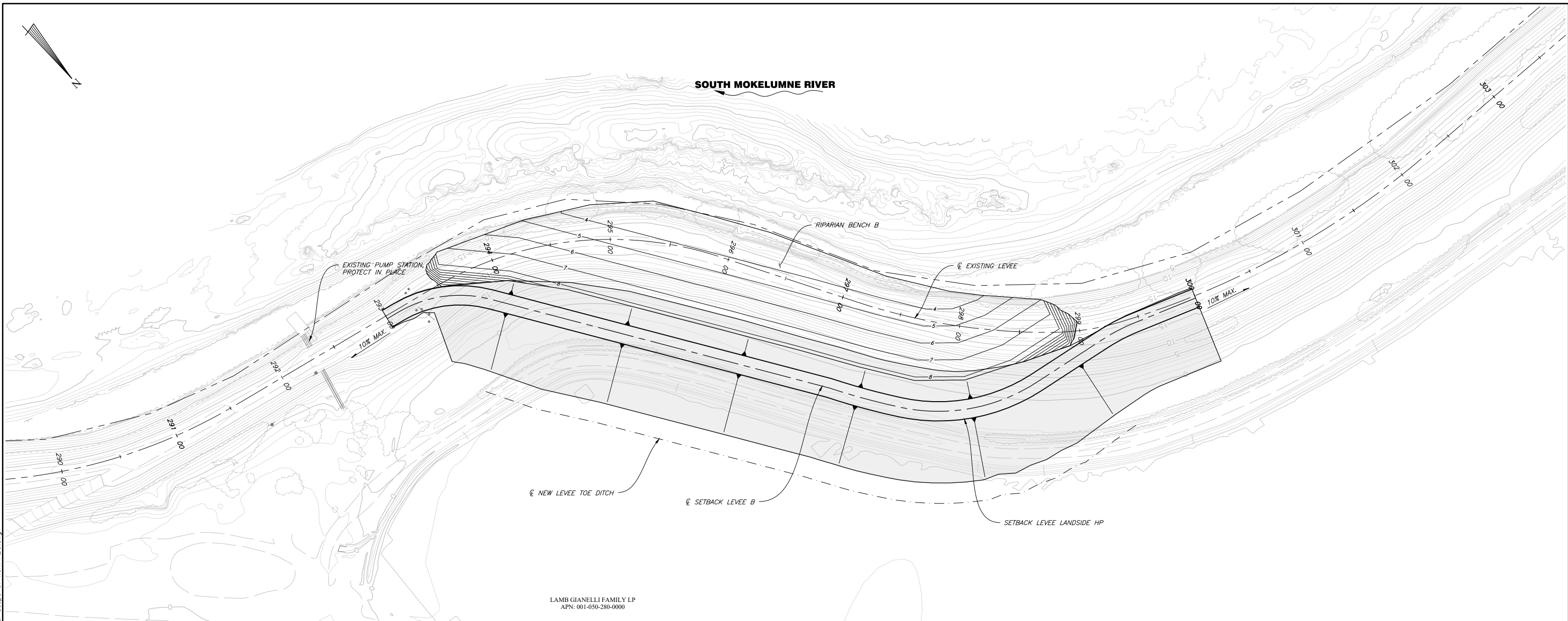
PLAN AND PROFILE
 STA. 264+00 TO STA. 268+00

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SOUTH MOKELUMNE RIVER



NOTES

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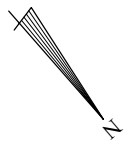
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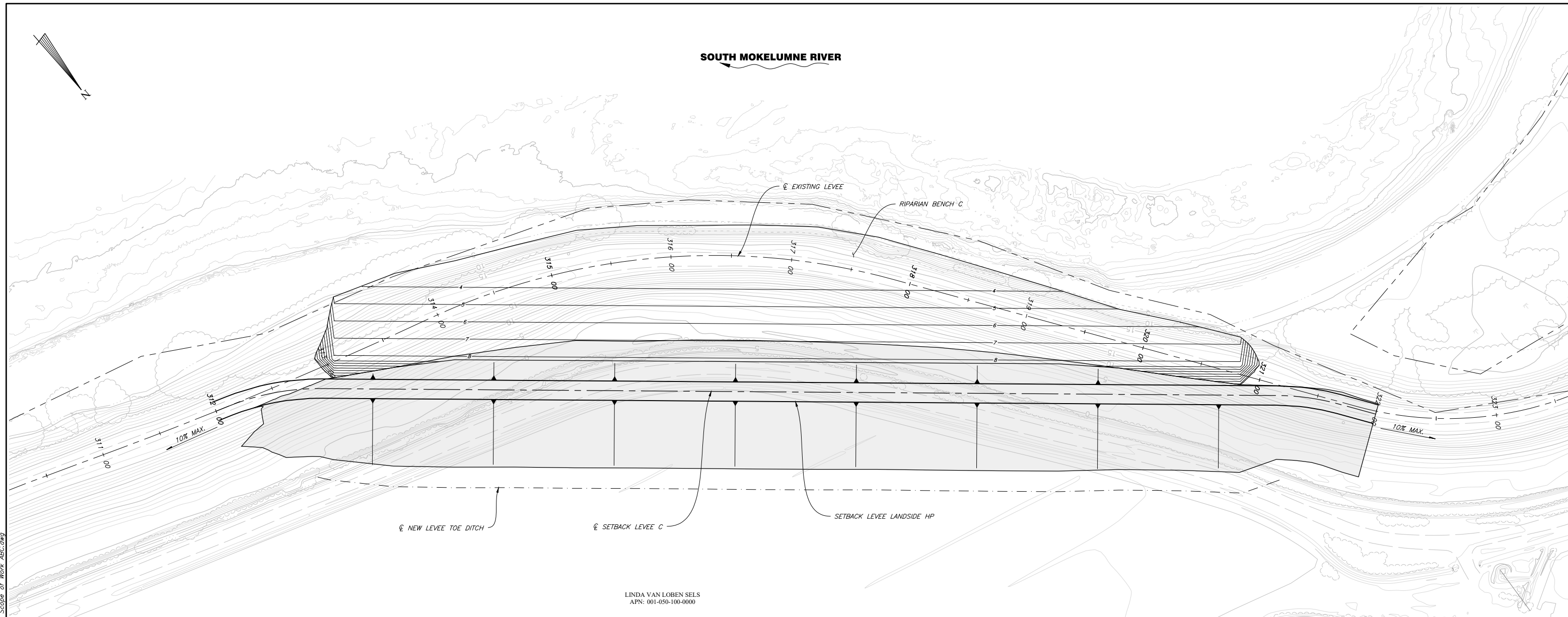


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PLAN AND PROFILE
STA. 293+00 TO STA. 300+00

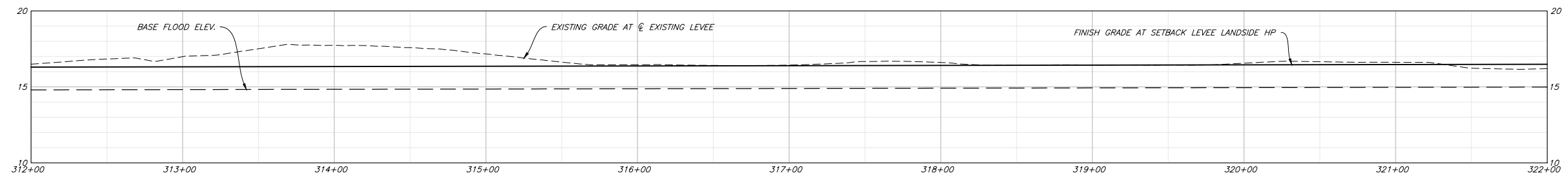
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SOUTH MOKELUMNE RIVER



LINDA VAN LOBEN SELS
APN: 001-050-100-0000



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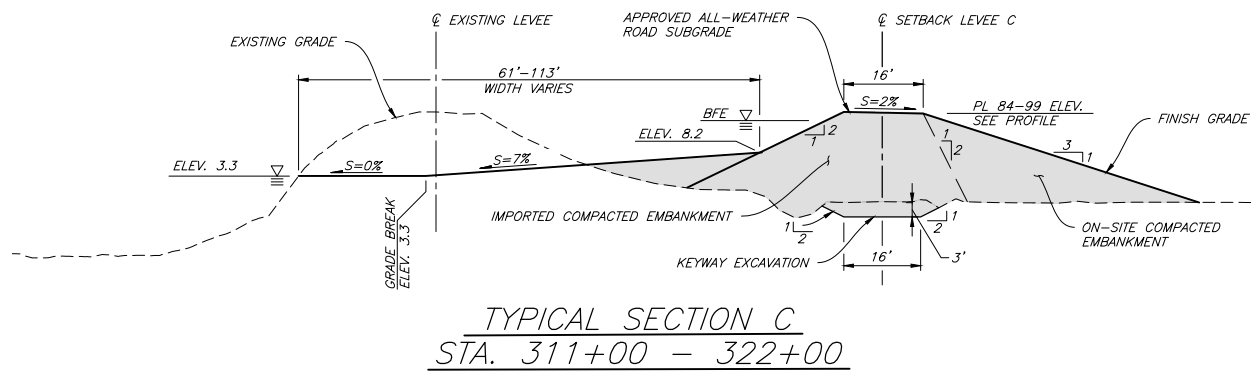
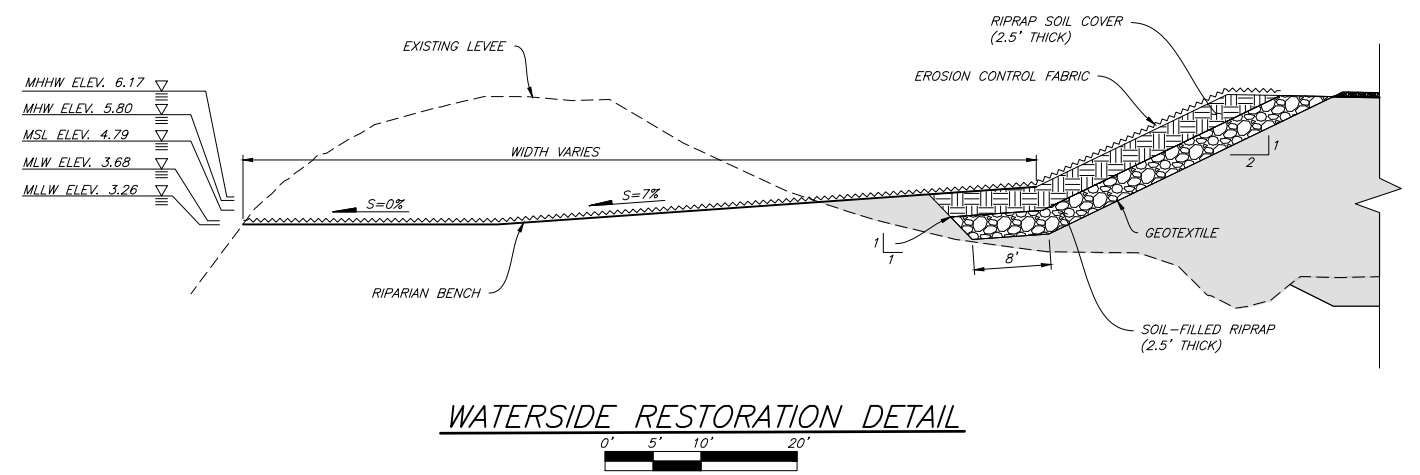
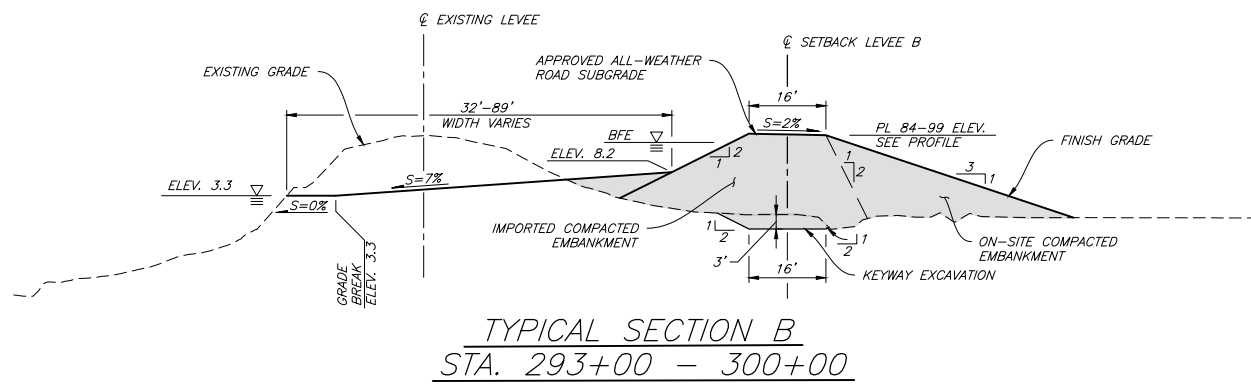
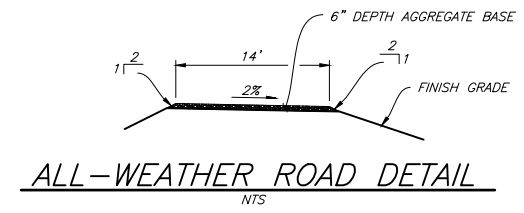
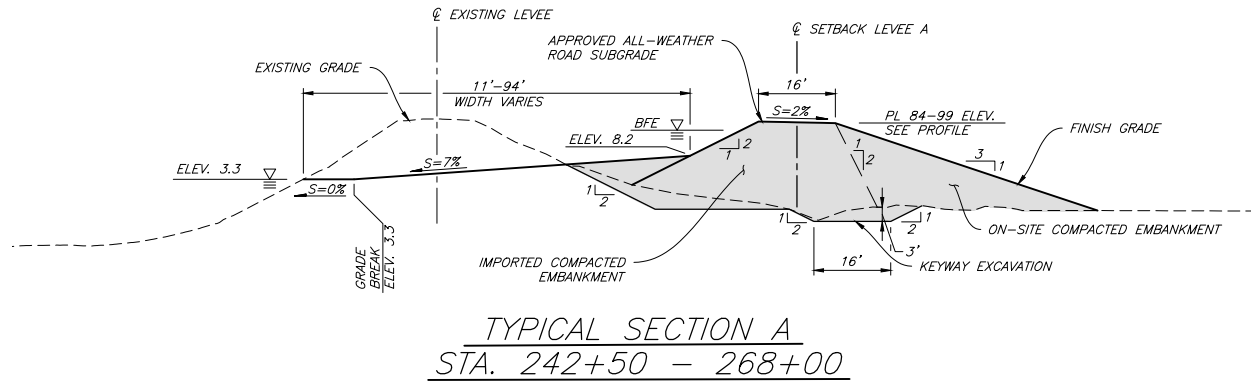
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RECLAMATION DISTRICT NO. 348
SOUTH MOKELUMNE RIVER SETBACK LEVEE PROJECT
PLAN AND PROFILE
STA. 311+00 TO STA. 322+00

SHEET
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TYPICAL SECTIONS

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RECLAMATION DISTRICT NO. 348
SOUTH MOKELUMNE RIVER SETBACK LEVEL PROJECT

TYPICAL SECTIONS
AND DETAILS

SHEET
8
OF
8
SHEETS