

**Addendum No. 3 to the
Stanislaus Regional Water Authority
Regional Surface Water Supply Project
Environmental Impact Report**

(SCH No. 2017022077)

May 2021

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Chapter 1

INTRODUCTION AND BACKGROUND

The Stanislaus Regional Water Authority (SRWA) has prepared this Addendum No. 3 to comply with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.). SRWA is the lead agency under CEQA with respect to the Regional Surface Water Supply Project (the Project).

On August 8, 2018, SRWA certified a Final Environmental Impact Report (EIR¹) (State Clearinghouse No. 2017022077) for the Project in compliance with CEQA. On April 18, 2019, the SRWA Board considered Addendum No. 1 to the EIR to address minor changes to Project construction that were not known or fully described at the time the EIR was prepared. On April 16, 2020, the SRWA Board considered Addendum No. 2 to the EIR to amend the Water Sales Agreement for the Project to include TID's pre-1914 water rights in addition to its post-1914 water rights.

This Addendum No. 3 to the EIR addresses minor changes to Project design and construction that were not known or fully described at the time the EIR was prepared.

As described in Chapter 4, *Findings*, this analysis concludes that no new effects could occur and no new mitigation measures would be required for the minor changes to design and construction. Therefore, this modification is within the scope of the Project covered by the EIR, and no new environmental document is required.

¹ All references to the EIR are to the Final EIR, which includes the Draft EIR, with some modifications, and the responses to comments.

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Chapter 2

CONSIDERATION OF PROJECT CHANGES, CHANGED CIRCUMSTANCES, AND POTENTIALLY SIGNIFICANT NEW INFORMATION

SRWA's consideration of the EIR is presumed to be adequate (*Laurel Heights Improvement Association v. UC Regents* (1993) 6 Cal.4th at p. 1130). That presumption is tempered, however, by changes to a project, changed circumstances, or potentially significant new information (see Title 14 of the California Code of Regulations, Sections 15162[a], 15164[a]–[b]). The following changes related to the Project and SRWA's review and consideration of the Project are considered in this Addendum:

- Shifting of the pipeline alignment from John Fox Road to Fox Road;
- Shifting of the Turlock terminal tank site to the western side of the same parcel;
- Increase in height of the Turlock terminal tank from 30 feet to 40 feet; and
- Addition of radio towers at the Ceres and Turlock terminal tank sites.

SRWA has determined, as set forth below, that these changes do not require preparation of a subsequent EIR or a supplement to the EIR. The purpose of this Addendum No. 3 is to document these modifications to the Project description and impacts and to verify that they will not result in any new or more significant impacts than those that were disclosed in the previously certified EIR.

2.1 Purpose and Objective

The purpose of the proposed modifications to the Surface Water Supply Project (Project modifications) is to provide improved efficiency for Project operations and reduce traffic conflicts during construction activities for the SRWA WTP and Ceres and Turlock finished water transmission pipelines. The objectives of the proposed improvements are as follows:

- Shifting of pipeline alignment to Fox Road – more efficient travel pathway;
- Shifting of Turlock terminal tank site – reduced pipeline length and cost;
- Increase in height of Turlock terminal tank – design clarification; and
- Addition of radio towers at tank sites – operational feature.

2.2 Description of Project Modifications

Project Location

No major changes are proposed to the location of surface water withdrawal or the location of any Project facilities (**Figure 1**). As described in the previously certified EIR, water would be

withdrawn from the Tuolumne River at approximately river mile 26, through an existing infiltration gallery installed by TID in 2003. Minor adjustments to pipeline alignments would remain within the study area boundaries of the EIR, aside from Fox Road and the western side of the Turlock tank parcel.

Project Facilities

As described in Chapter 2, *Project Description*, of the previously certified EIR, the Project consists of the design, construction, operation, maintenance, and management of the following facilities, which will ultimately deliver treated surface water to the Cities of Ceres and Turlock:

Infiltration Gallery and Wet Well: The existing infiltration gallery and wet well will divert surface water from the Tuolumne River to the raw water pump station.

Raw Water Pump Station: The pump station facilities will draw raw (untreated) surface water through the infiltration gallery and wet well, and pump it through a raw water transmission main to a water treatment plant (WTP), and potentially to TID's Ceres Main Canal in the event of an emergency.

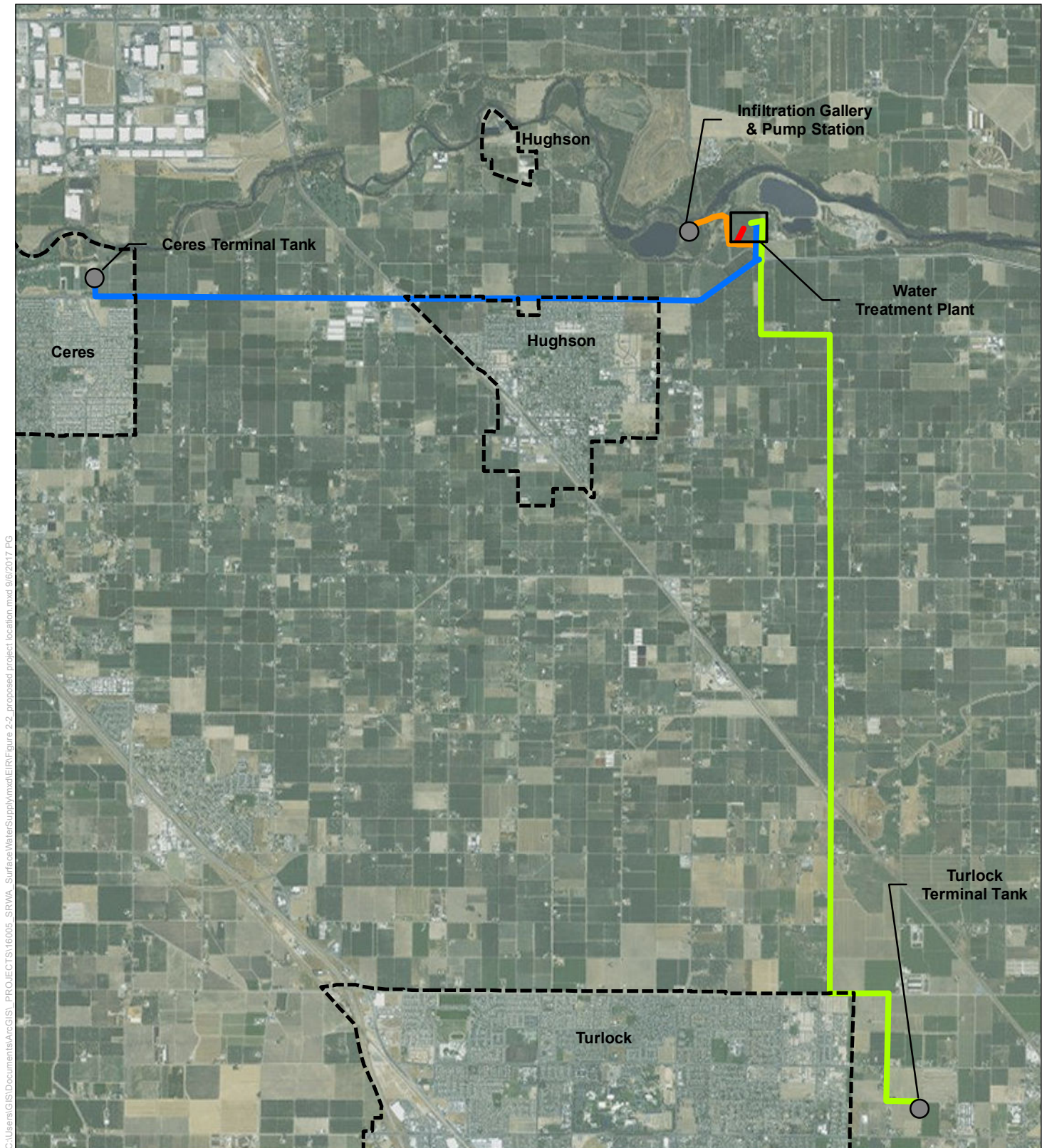
Raw Water Transmission Main: A 60-inch-diameter (estimated) transmission main will convey raw water from the pump station to the WTP, and potentially to TID's Ceres Main Canal in the event of an emergency.

Water Treatment Plant: The WTP will treat surface water to meet state and federal drinking water standards for use by municipal and industrial (M&I) customers in Ceres and Turlock.

Treated Water Transmission Mains: Following treatment, 30- and 42-inch-diameter (estimated) transmission mains will deliver "finished" (i.e., treated) water from the WTP to terminal facilities (i.e., tanks, pipelines, and pump stations) in Ceres and Turlock.

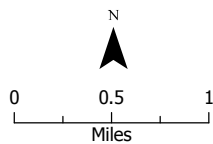
Terminal Facilities: Each city's terminal facilities will consist of storage tanks and a pump station. The Cities will construct pipelines and appurtenant facilities to facilitate distribution of the treated surface water to M&I end users.

Offset Water Facilities: As part of the water sales agreement between SRWA and TID, SRWA will provide groundwater or recycled water (e.g., treated wastewater) to TID to offset a portion of the treated surface water being provided to SRWA M&I customers during certain dry years.



C:\Users\GIS\Documents\ArcGIS\PROJECTS\16005_SRWA_SurfaceWaterSupply\mxd\ER\Figure 2-2_proposed project location.mxd 9/6/2017 PG

BaseMap Sources: Source: Esri, DigitalGlobe, GeoEye, Earthstar



- City Boundaries
- Ceres Finished Water Transmission Main
- Raw Water Transmission Main
- Turlock Finished Water Transmission Main
- WTP pipeline

Figure 1
Proposed Project Location

Surface Water
Supply Project

Project Modifications

Fox Road Pipeline Realignment: The EIR evaluated a pipeline alignment that traveled from the water treatment plant site south on Aldrich Road, east on John Fox Road, and then south on Berkeley Road to East Taylor Road in Turlock. Adjusting the alignment to turn east on Fox Road has been selected as a superior option because the road is wider and construction activities can be conducted more easily. Additional biological and cultural resource surveys have been conducted to address Fox Road.

Westward Shift of Turlock Terminal Tank Site: The City of Turlock has negotiated with the owner of the tank parcel to purchase the entire property, rather than only the eastern third of the parcel. This modification allows the City to shift the terminal facilities closer to North Quincy Avenue (**Figure 2**), reducing pipeline construction costs and avoiding additional costs related to the facilities' proximity to TID's canal on the east. Redesign of the site plan includes a setback and landscape buffer from the adjacent residential property to the west, as well as adjustments to the location of the emergency generator and addition of an enclosure for the generator. Additional biological and cultural resource surveys have been conducted to address the entire property.

Increase in Turlock Tank Height: Upon detailed design of the tank facilities, the City's engineers have determined that the tank would be up to 40 feet tall, rather than 30 feet as described in the EIR.

Radio Towers at Ceres and Turlock Tank Sites: Radio towers at each tank site will allow the terminal facilities to communicate with operators at the water treatment plant. The Turlock tower will be 100 feet tall, and the Ceres tower will be 38 feet tall.

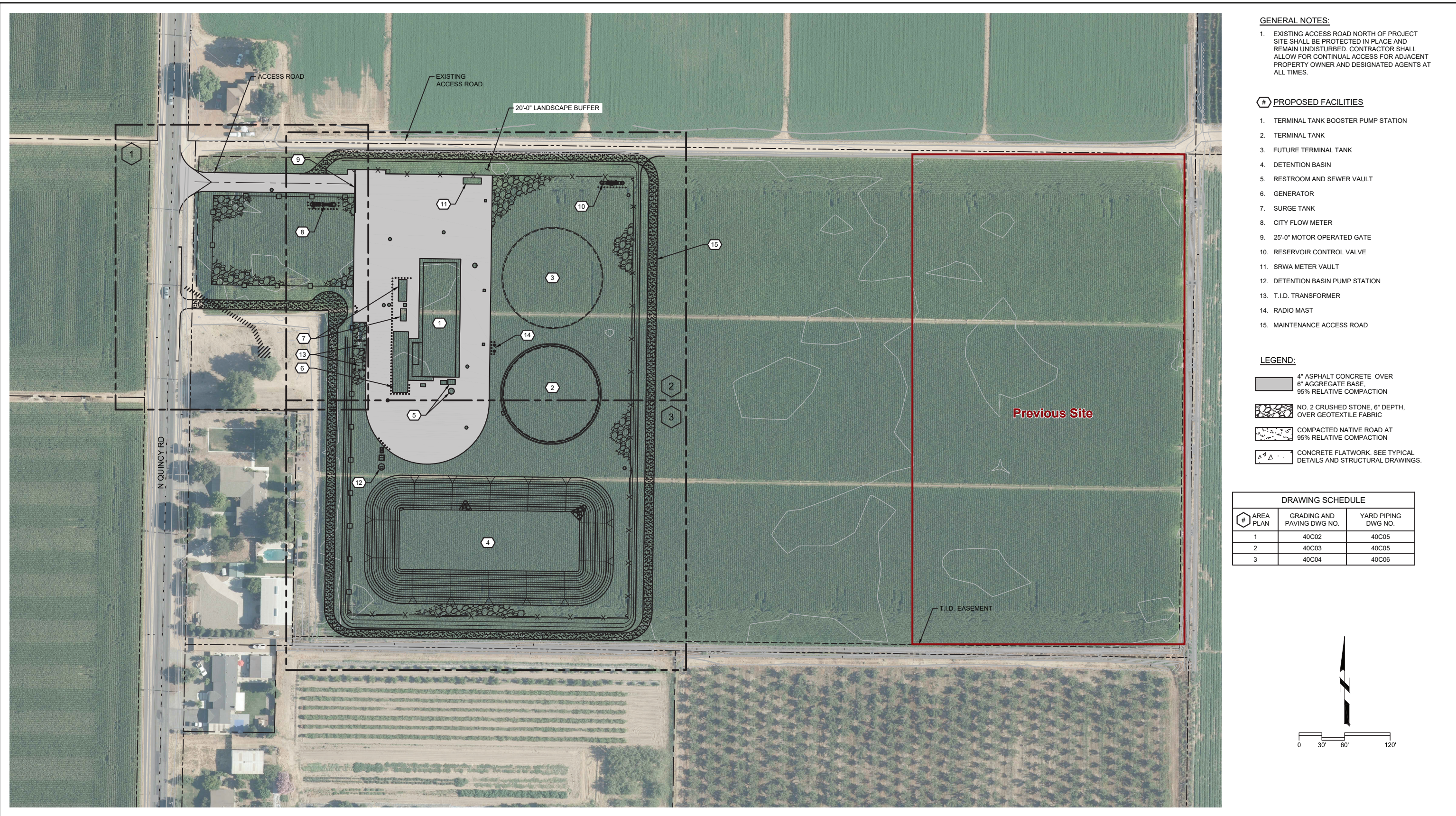
Project Operations

Operation of Project facilities is described in Chapter 2, *Project Description*, of the previously certified EIR. No physical changes to Project operations would be associated with the minor modifications proposed in this Addendum.

2.3 Finding

There would be no significant impact on environmental resources as a result of implementation of the proposed modifications to the Surface Water Supply Project, as demonstrated by the discussion below and detailed analysis presented in Chapter 3, *Evaluation of Environmental Effects*, of this Addendum No. 3.

Realignment of the pipeline from John Fox Road to Fox Road would shift construction-related aesthetic, air quality, noise, and traffic impacts but would result in no new impacts, with implementation of mitigation measures identified in the EIR for construction activities. Shifting the Turlock tank site west would bring the facility nearer to residential properties on North Quincy Avenue; mitigation identified for the site in the EIR would reduce visual, air quality, noise, and traffic impacts to a less-than-significant level. Increasing the height of the Turlock tank would result in no construction-related or operational impacts. Constructing radio towers at the Ceres and Turlock tank sites would have no construction-related or operational impacts.



GENERAL NOTES:

1. EXISTING ACCESS ROAD NORTH OF PROJECT SITE SHALL BE PROTECTED IN PLACE AND REMAIN UNDISTURBED. CONTRACTOR SHALL ALLOW FOR CONTINUAL ACCESS FOR ADJACENT PROPERTY OWNER AND DESIGNATED AGENTS AT ALL TIMES.

PROPOSED FACILITIES

1. TERMINAL TANK BOOSTER PUMP STATION
2. TERMINAL TANK
3. FUTURE TERMINAL TANK
4. DETENTION BASIN
5. RESTROOM AND SEWER VAULT
6. GENERATOR
7. SURGE TANK
8. CITY FLOW METER
9. 25'-0" MOTOR OPERATED GATE
10. RESERVOIR CONTROL VALVE
11. SRWA METER VAULT
12. DETENTION BASIN PUMP STATION
13. T.I.D. TRANSFORMER
14. RADIO MAST
15. MAINTENANCE ACCESS ROAD

LEGEND:

- 4" ASPHALT CONCRETE OVER 6" AGGREGATE BASE, 95% RELATIVE COMPACTION
- NO. 2 CRUSHED STONE, 6" DEPTH, OVER GEOTEXTILE FABRIC
- COMPACTED NATIVE ROAD AT 95% RELATIVE COMPACTION
- CONCRETE FLATWORK. SEE TYPICAL DETAILS AND STRUCTURAL DRAWINGS.

DRAWING SCHEDULE		
#	AREA PLAN	YARD PIPING DWG NO.
1	40C02	40C05
2	40C03	40C05
3	40C04	40C06

Source: Carollo 2021

Similar to the Project, implementation of EIR mitigation measures would minimize construction- and operation-related effects of these proposed modifications. The following EIR mitigation measures would be applicable to the proposed modifications during construction:

- Mitigation Measure AES-1: Implement Maintenance Practices for Construction Staging Areas and Construction Sites
- Mitigation Measure AES-2: Use Design Elements to Provide Visual Screening of Wells, Storage Tanks, Pump Stations, and Other Facilities
- Mitigation Measure AES-4. Use Shielded Lighting if Nighttime Construction Is Necessary
- Mitigation Measure AG-1: Stockpile Soils and Other Excavated Earth Material During Construction in Areas of Prime Farmland (found not feasible by SRWA Board)
- Mitigation Measure AG-2: Replant Undeveloped Areas of Prime Farmland following Construction Where Feasible (found not feasible by SRWA Board)
- Mitigation Measure AQ-1. Prepare Quantitative Analysis of Construction-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions
- Mitigation Measure BIO-5. Minimize Impacts on Nesting Birds with Site Assessments, Surveys, and Avoidance Measures
- Mitigation Measure BIO-6. Conduct Nesting Raptor Surveys and Establish Buffers to Avoid or Minimize Impacts on Swainson's Hawk and White-tailed Kite
- Mitigation Measure BIO-7. Conduct Preconstruction Surveys for Burrowing Owls, and Avoid or Minimize Impacts
- Mitigation Measure CUL-2. Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources
- Mitigation Measure CUL-4. Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code
- Mitigation Measure HAZ-1. Prepare and Implement a Hazardous Materials and Waste Management Plan for Construction and Operation
- Mitigation Measures NOI-1. Limit Nighttime Construction Noise
- Mitigation Measure NOI-2. Prepare Detailed Noise Analysis for Proposed Project Operations
- Mitigation Measure NOI-3. Implement Vibration Reduction Measures
- Mitigation Measure NOI-4. Employ Noise-reducing Construction and Maintenance Practices
- Mitigation Measure TRANS-1. Prepare and Implement a Construction Traffic Management Plan

SRWA finds that the proposed modifications to the Project would not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any previously disclosed potentially significant environmental effects.

Furthermore, to the extent that the potential for such effects could exist, SRWA finds that adherence to and implementation of the conditions of Project approval, as well as adherence to and implementation of the conditions of approval imposed by SRWA through the issuance of the accompanying Mitigation Monitoring and Reporting Program (**Appendix A** of this Addendum No. 3), would avoid or reduce the potential for such effects to below a level of significance. SRWA has determined that the CEQA review is sufficient and does not require preparation of a subsequent EIR.

Chapter 3

EVALUATION OF ENVIRONMENTAL EFFECTS

The following evaluation assesses the environmental impacts of the proposed modifications based on the environmental checklist provided in Appendix G of the CEQA Guidelines. For each environmental topic, the evaluation compares the potential environmental effects that may result from the proposed modifications with the evaluation of such activities that is contained in the EIR. For each checklist question, a discussion is provided of the rationale used to determine the significance level of the environmental impact and whether any new effects beyond what was examined in the EIR could occur. The following determinations are used in the checklist:

- ***“No New Impact”*** is used when the analysis concludes that the proposed modification would not affect the particular environmental resource/issue.
- ***“Less than Significant”*** is used when the analysis determines that no substantial adverse change in the environment would result from the proposed modification and no mitigation is needed.
- ***“Less than Significant with Mitigation.”*** This determination is used for two circumstances: (1) for environmental impacts that have the potential to be significant, but for which implementation of identified mitigation measures from the EIR would reduce the severity of such impacts to a less-than-significant level; and (2) for environmental impacts that are identified in the EIR as significant and unavoidable but to which the proposed modification would not make a substantial additional contribution.
- ***“Potentially Significant”*** is used if the analysis concludes there could be a new substantial adverse effect on the environment that was not previously evaluated in the EIR.

3.1 Aesthetics

Would the project modifications:

- a. **Have a substantial adverse effect on a scenic vista?**
- b. **Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?**
- c. **Substantially degrade the existing visual character or quality of the site and its surroundings?**
- d. **Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?**

Similar to the analysis in the previously certified EIR, none of the proposed modifications would affect scenic vistas or scenic resources.

The Fox Road pipeline realignment would result in temporary changes to visual character during construction, similar to the previously evaluated alignment. Due to the short duration of pipeline construction at this location, the impacts would be less than significant. If nighttime construction were required, **Mitigation Measure AES-4 (Use Shielded Lighting if Nighttime Construction Is Necessary)** would ensure that lighting is shielded and oriented downward and would reduce the impact to a less-than-significant level.

Shifting the Turlock terminal tank site to the western side of the parcel would bring the facilities closer to several residences along North Quincy Avenue. As with the previously evaluated site, **Mitigation Measure AES-1 (Implement Maintenance Practices for Construction Staging Areas and Construction Sites)** and **Mitigation Measure AES-2 (Use Design Elements to Provide Visual Screening of Wells, Storage Tanks, Pump Stations, and Other Facilities)** would ensure that the construction site is maintained, and design elements such as paint, landscaping, and shielded lighting would reduce construction-related and operational impacts on visual character to a less-than-significant level. As indicated in the EIR, lighting at the facility would be downward facing and shielded, avoiding impacts related to light and glare.

Increasing the height of the Turlock tank by 10 feet would not affect scenic vistas or scenic resources. Mitigation Measure AES-2 would reduce aesthetic impacts on sensitive receptors to a less-than-significant level.

Construction of radio towers at the Ceres and Turlock tank sites would add one more industrial feature to the public utility site, which would be mitigated by design features as required in Mitigation Measure AES-2 to a less-than-significant level.

Aesthetic impacts of the proposed modifications would be **less than significant with mitigation**. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.2 Agriculture and Forestry Resources

Would the project modifications:

- 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 (FMMP) of the California Resources Agency, to nonagricultural use?**
- b. **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**
- c. **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in 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))?**

- d. **Result in the loss of forest land or conversion of forest land to non-forest use in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?**
- e. **Involve other changes in the existing environment that, because of their location or nature, could result in a conversion of Farmland to a nonagricultural use?**

Similar to the analysis in the previously certified EIR, the impact of the proposed modifications on zoning for forestland or timberland, loss or conversion of forest land, conversion of Farmland would be less than significant.

The Fox Road pipeline realignment, increasing the height of the Turlock tank, and constructing radio towers at the tank sites would have no impact related to conversion of Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) to nonagricultural use or removal from Williamson Act contract.

Shifting the Turlock terminal tank site to the western side of the parcel would result in conversion of approximately 7 acres of Prime Farmland to nonagricultural uses. This is consistent with the significant and unavoidable impact identified in the previously certified EIR. Unlike the previous site, however, the City intends to continue agricultural production on the remaining two thirds of the parcel. As with the previously evaluated site, **Mitigation Measure AG-1 (Stockpile Soils and Other Excavated Earth Material During Construction in Areas of Prime Farmland)** and **Mitigation Measure AG-2 (Replant Undeveloped Areas of Prime Farmland following Construction Where Feasible)** would reduce the impact but would not fully avoid or compensate for the loss of Prime Farmland.

The City of Turlock requires mitigation only for conversion to residential zoning. Considering LAFCO's Agricultural Preservation Policy (2015) and pursuant to Policy 2.15 in the Stanislaus County General Plan, the County policy requires that agricultural land converted to residential use be replaced at a 1:1 ratio with agricultural land of equal quality in Stanislaus County. Neither the City of Turlock policy nor the County policy is intended to apply to projects other than residential development, and therefore neither requirement applies to SRWA and the proposed project. However, under CEQA, conversion of Prime Farmland to nonagricultural uses would result in a significant impact. Implementation of Mitigation Measures AG-1 and AG-2 would reduce this impact but would not fully avoid or compensate for the loss of Prime Farmland.

Impacts of the proposed modifications on agriculture and forestry resources would be **less than significant with mitigation** because shifting the Turlock tank site would not make a substantial additional contribution to the environmental impacts that are identified in the EIR as significant and unavoidable. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.3 Air Quality

Would the project modifications:

- a. **Conflict with or obstruct implementation of the applicable air quality plan?**

- b. **Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**
- c. **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?**
- d. **Expose sensitive receptors to substantial pollutant concentrations?**
- e. **Create objectionable odors affecting a substantial number of people?**

None of the proposed modifications would result in increased air pollutant emissions during construction or operation of the Project. The Project, including proposed modifications, would follow all federal, state, and San Joaquin Valley Air Pollution Control District regulations and policies related to sources of air pollutants. In addition, construction of the Project would follow local air district regulations for fugitive dust, volatile organic carbons, and oxide of nitrogen emissions. Overall, the Project would potentially generate emissions greater than those accounted for in the applicable air quality plans. Therefore, the Project would potentially obstruct or conflict with applicable air quality plans and would have a significant and unavoidable impact. **Mitigation Measures AQ-1 (Prepare Quantitative Analysis of Construction-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions)** and **Mitigation Measure AQ-2 (Prepare Quantitative Analysis of Operation-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions)** would be implemented for the Turlock tank facility, as with the previously evaluated tank site; the impact would remain significant and unavoidable.

None of the proposed modifications would expose sensitive receptors to substantial pollutant concentrations, with implementation of Mitigation Measures AQ-1 and AQ-2. No new or additional objectionable odors would be created as a result of the proposed modifications.

Impacts of the proposed modifications on air quality would be **less than significant with mitigation** because shifting the Turlock tank site would not make a substantial additional contribution to the environmental impacts that are identified in the EIR as significant and unavoidable. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.4 Biological Resources

Would the project modifications:

- 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 SRWA or USFWS?**
- b. **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS?**

- c. **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including marshes, vernal pools, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means?**
- d. **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**
- e. **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**
- f. **Conflict with the provisions of an adopted habitat conservation plan (HCP); natural community conservation plan; or other approved local, regional, or state HCP?**

Increasing the height of the Turlock tank and construction of radio towers at the Ceres and Turlock tank sites would have no new impact on biological resources. Proposed modifications on Fox Road and the Turlock tank site would have the potential to affect biological resources; each area was investigated as described below, in accordance with mitigation measures identified in the previously certified EIR.

Horizon biologists conducted reconnaissance-level biological surveys of the revised pipeline alignment and terminal tank site on February 5 and April 15, 2021 (**Appendix B**). Habitats encountered were orchard/row crop and developed/barren/ruderal. No special-status plants were observed during the reconnaissance-level surveys, and no special-status plants are anticipated to occur in the project area due to the disturbed nature of the habitat and lack of suitable specific habitat conditions for special-status plants.

Special-status wildlife species that could be present are Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), red-tailed hawks (*B. jamaicensis*), red-shouldered hawk (*B. lineatus*), and American kestrel (*Falco sparverius*). No trees or structures that could provide suitable roosting habitat for special-status bats are proposed for removal as part of the Project. Implementation of **Mitigation Measure BIO-5 (Minimize Impacts on Nesting Birds with Site Assessments, Surveys, and Avoidance Measures)**, **Mitigation Measure BIO-6 (Conduct Nesting Raptor Surveys and Establish Buffers to Avoid or Minimize Impacts on Swainson's Hawk and White-tailed Kite)**, and **Mitigation Measure BIO-7 (Conduct Preconstruction Surveys for Burrowing Owls, and Avoid or Minimize Impacts)** would reduce impacts on special-status wildlife species to a less-than-significant level, as indicated in the EIR.

No riparian or wetland habitat, migratory corridors, or nursery sites would be affected by the proposed modifications. The Project would comply with all local policies protecting biological resources, as specified in the mitigation measures. No adopted HCP applies to the project area.

The impact of the proposed modifications on biological resources would be **less than significant with mitigation**. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.5 Cultural Resources

Would the project modifications:

- a. **Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?**
- b. **Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?**
- c. **Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?**
- d. **Disturb any human remains, including those interred outside of formal cemeteries?**

Increasing the height of the Turlock tank and construction of radio towers at the Ceres and Turlock tank sites would have no new impact on cultural resources. Proposed modifications on Fox Road and the Turlock tank site would have the potential to affect cultural resources; each area was investigated as described below, in accordance with mitigation measures identified in the previously certified EIR.

Pedestrian archaeological surveys of Fox Road and the terminal tank location were conducted by a qualified archaeologist on February 5 and April 15, 2021 (**Appendix C**). The surveys were conducted by walking transects, spaced 10 meters apart, across the entire project area. Although the results of the pedestrian surveys were negative, there remains the possibility that buried archaeological materials could be present without any surface manifestation, or be obscured by vegetation. Implementation of **Mitigation Measure CUL-2 (Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for NRHP/CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources)**, **Mitigation Measure CUL-3 (Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary)**, and **Mitigation Measure CUL-4 (Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code)** would reduce these impacts to a less-than-significant level, as described in the EIR.

No new impact would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.6 Geology, Soils, and Seismicity

Would the project modifications:

- a. **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

- i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**
- ii. **Strong seismic ground shaking?**
- iii. **Seismic-related ground failure, including liquefaction?**
- iv. **Landslides?**
- b. **Result in substantial soil erosion or the loss of topsoil?**
- c. **Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**
- d. **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**
- e. **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?**

The proposed modifications would not differ from the conditions analyzed in the EIR. **No new impact** would result, and no mitigation is required. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.7 Greenhouse Gas Emissions

Would the project modifications:

- a. **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**
- b. **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

None of the proposed modifications would result in increased greenhouse gas emissions during construction or operation of the Project or conflict with regulations to reduce emissions. **Mitigation Measure AQ-1 (Prepare Quantitative Analysis of Construction-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions)** and **Mitigation Measure AQ-2 (Prepare Quantitative Analysis of Operation-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions)** would be implemented for the Turlock tank facility, as with the previously evaluated tank site; the impact would remain significant and unavoidable, as described in Section 3.3, "Air Quality," above.

Impacts of the proposed modifications related to greenhouse gas emissions would be **less than significant with mitigation** because shifting the Turlock tank site would not make a substantial additional contribution to the environmental impacts that are identified in the EIR as significant and unavoidable. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.8 Hazards and Hazardous Materials

Would the proposed modifications:

- a. **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**
- b. **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**
- c. **Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**
- d. **Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?**
- e. **Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport and result in a safety hazard for people residing or working in the study area?**
- f. **Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the study area?**
- g. **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

As part of the Project, construction activities and operation of the proposed modifications would be required to implement **Mitigation Measure HAZ-1 (Prepare and Implement a Hazardous Materials and Waste Management Plan for Construction and Operation)** to ensure that hazardous materials would not be released into the environment and to address the potential for upset and accident conditions. No schools are located within 0.25 mile of the modification sites, and none of the sites is included on a list of hazardous materials sites.

The Ceres tank site is located 0.9 mile southeast of the Modesto City-County Airport and within the airport planning boundary. SRWA and its engineers have coordinated with the Stanislaus County Airport Land Use Commission on the allowable height for the radio tower. The Ceres tank site tower height will be 38 feet.

As described for construction activities throughout the Project area, implementation of **Mitigation Measure TRANS-1 (Prepare and Implement a Construction Traffic**

Management Plan) would reduce the potential for conflicts with emergency response or evacuation plans to a less-than-significant level.

The proposed modifications would not differ from the conditions analyzed in the EIR. Impacts of the proposed modifications would be **less than significant with mitigation**. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.9 Hydrology and Water Quality

Would the project modifications:

- a. Violate any water quality standards or waste discharge requirements?
- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?
- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site?
- e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- f. Otherwise substantially degrade water quality?
- g. Place housing within a 100-year-flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- h. Place within a 100-year-flood hazard area structures that would impede or redirect floodflows?
- i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?
- j. Contribute to inundation by seiche, tsunami, or mudflow?

No aspect of the proposed modifications would differ from the analysis provided in the EIR. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.10 Land Use and Planning

Would the project modifications:

- a. **Physically divide an established community?**
- b. **Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**
- c. **Conflict with any applicable habitat conservation plan or natural community conservation plan?**

No aspect of the proposed modifications would differ from the analysis provided in the EIR. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.11 Mineral Resources

Would the project modifications:

- a. **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
- b. **Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No aspect of the proposed modifications would differ from the analysis provided in the EIR. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.12 Noise

Would the project modification result in:

- a. **Exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?**
- b. **Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**
- c. **A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**
- d. **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

- e. **For a project located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, would the project expose people residing or working in the project site to excessive noise levels?**
- f. **For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels?**

Increasing the height of the Turlock tank and construction of radio towers at the Ceres and Turlock tank sites would have no new impact related to noise. Proposed modifications on Fox Road and the Turlock tank site would have the potential to result in noise impacts; each area was investigated as described below, in accordance with mitigation measures identified in the previously certified EIR.

The pipeline realignment on Fox Road would be subject to implementation of **Mitigation Measure NOI-1 (Limit Nighttime Construction Noise)**; however, construction activities in this area would not result in excessive groundborne vibration levels. Construction activities on Fox Road could result in short-term increases in ambient noise levels, and implementation of **Mitigation Measure NOI-4 (Employ Noise-reducing Construction and Maintenance Practices)** would reduce these impacts but possibly not to a less-than-significant level. The EIR identified this impact as significant and unavoidable.

The Turlock tank site has been redesigned from the site plan depicted in the EIR, in light of its greater proximity to residential uses. An emergency generator (size KD1250-1750) would be installed at the site within a noise-reducing enclosure (SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank); this information is provided in **Appendix D**. The emergency generator at the terminal tank site would be tested for approximately 1-hour periods and for no more than 50 hours per year, in accordance with operating permit conditions.

The modified Turlock tank site would be subject to implementation of **Mitigation Measure NOI-1 (Limit Nighttime Construction Noise)** and **Mitigation Measure NOI-2 (Prepare Detailed Noise Analysis for Proposed Project Operations)** to ensure compliance with the Stanislaus County noise ordinance. In general, the County's allowable exterior noise level standards for residential areas are 50 dBA during daytime hours and 45 dBA during nighttime. Exemptions are provided, however, for various activities (Stanislaus County 10.46.080), including emergency alert signals, special events with permits, trash collection, agricultural activities, residential maintenance activities, and public utilities.

Horizon performed a noise analysis to estimate the ambient noise levels at various distances from the emergency generator. Without additional modifications, operation of the generator without and with noise-reducing enclosures results in noise levels of 97 and 79 A-weighted decibels (dBA), respectively, at a distance of 7 meters (approximately 23 feet), according to the specification sheets shown in Appendix D.

With the proposed sound enclosure, the emergency generator at the terminal tank site would generate noise levels of approximately 60 dBA, the level of a normal conversation, at the nearest residential building. Since the maintenance and testing of the emergency generator is activity performed at the direction of the public utility, it would be exempt from the County's general noise level standard (i.e., daytime noise level of 50 dBA at residential

building). In addition, the noise levels produced by infrequent use of the emergency generator would be similar to those produced by active agricultural operations, which take place periodically in the project area. Therefore, the emergency generator use for brief periods of testing and maintenance activities with a noise level of 60 dBA at the residential building exterior would be permitted under the Stanislaus County Noise Ordinance without additional mitigation.

Construction activities at the Turlock tank site would not include activities that could result in excessive groundborne vibration levels; however, these activities could result in short-term increases in ambient noise levels, and implementation of **Mitigation Measure NOI-4 (Employ Noise-reducing Construction and Maintenance Practices)** would reduce these impacts. However, this measure may not fully reduce construction noise impacts for all sensitive receptors located near individual project features. Thus, because feasible measures to reduce impacts below the threshold may not exist, the EIR found that the Project's temporary impacts related to increases in ambient noise levels would be significant and unavoidable.

Noise impacts of the proposed modifications would be **less than significant with mitigation** because realigning the pipeline on Fox Road and shifting the Turlock tank site would not make a substantial additional contribution to the environmental impacts that are identified in the EIR as significant and unavoidable. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.13 Population and Housing

Would the project modifications:

- a. **Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?**
- b. **Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?**
- c. **Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?**

The proposed modifications would have no effect related to population growth or housing in the project area. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.14 Public Services

Would the project modifications:

- a. **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:

- i. Fire protection?**
- ii. Police protection?**
- iii. Schools?**
- iv. Parks?**
- v. Other public facilities?**

The proposed modifications to the pipeline alignment, location of the Turlock tank, tank height, and radio towers would have no effect related to public services. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.15 Recreation

Would the project modifications:

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**
- b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

The proposed modifications to the pipeline alignment, location of the Turlock tank, tank height, and radio towers would have no effect related to public services. Construction of a radio tower at the Ceres tank site, adjacent to Ceres River Bluff Regional Park, would be consistent with the already-evaluated facilities at the site. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.16 Transportation/Traffic

Would the project modifications:

- a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

- b. **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**
- c. **Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**
- d. **Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**
- e. **Result in inadequate emergency access?**
- f. **Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

Transportation impacts of the proposed modifications to the pipeline alignment, location of the Turlock tank, tank height, and radio towers would be consistent with those evaluated in the EIR. Construction activities would be subject to **Mitigation Measure TRANS-1 (Prepare and Implement a Construction Traffic Management Plan)**. Thus, transportation impacts would be less than significant with mitigation. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.17 Tribal Cultural Resources

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

- a. **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?**
- b. **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

The project modifications would not affect any areas subject to a new AB 52 consultation. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.18 Utilities and Service Systems

Would the project modifications:

- a. **Exceed wastewater treatment requirements of the applicable RWQCB?**
- b. **Require or result in the construction of new water or wastewater treatment facilities or an expansion of existing facilities, the construction of which could cause significant environmental effects?**
- c. **Require or result in the construction of new stormwater drainage facilities or an expansion of existing facilities, the construction of which could cause significant environmental effects?**
- d. **Have sufficient water supplies available to serve the Project from existing entitlements and resources, or would new or expanded entitlements be needed?**
- e. **Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?**
- f. **Be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs?**
- g. **Comply with federal, state, and local statutes and regulations related to solid waste?**

Utility impacts of the proposed modifications to the pipeline alignment, location of the Turlock tank, tank height, and radio towers would be consistent with those evaluated in the EIR. **No new impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

3.19 Mandatory Findings of Significance

- a. **Do the project modifications 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, 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?**
- b. **Do the project modifications have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

c. Do the project modifications have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

As described above, the proposed modifications to the pipeline alignment, location of the Turlock tank, tank height, and radio towers would be consistent with the evaluation in the EIR. **No new cumulative impact** would result. This finding is consistent with the EIR, and the Project would not introduce a new significant effect.

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Chapter 4

FINDINGS

There will be no significant impact on environmental resources as a result of the proposed modifications to project design features, as described in the environmental checklist (Chapter 3, *Environmental Analysis*) and as demonstrated by the analysis throughout this Addendum No. 2.

No changes to the environment would result from implementation of the proposed modifications. Construction and operation of the Project with proposed modification will result in no new significant environmental impacts or impacts more severe than those previously disclosed in the EIR. No new mitigation measures are required to reduce any potentially significant impacts from the proposed modification to a less-than-significant level.

In conclusion, SRWA finds that the proposed modifications will not result in any previously undisclosed, potentially significant effects on the environment and will not substantially increase the severity of any previously disclosed, potentially significant environmental effects. Furthermore, to the extent the potential for such effects exists, SRWA finds that adherence to and implementation of the conditions of Project approval, as well as adherence to and implementation of the conditions of approval imposed by SRWA through the issuance of the previously adopted Mitigation Monitoring and Reporting Program, will avoid or reduce the potential for such effects to below a level of significance. SRWA has determined that the CEQA review is sufficient and the proposed modification will not require preparation of a subsequent EIR.

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Chapter 5
APPENDIX A
MITIGATION MONITORING AND REPORTING PLAN

Appendix A

MITIGATION MONITORING AND REPORTING PLAN

This mitigation monitoring and reporting plan (MMRP) identifies the mitigation measures identified in the Stanislaus Regional Water Authority's (SRWA's) Surface Water Supply Project Addendum No. 3. These measures are identical to those cited in the Surface Water Supply Project Environmental Impact Report (EIR), and this MMRP has retained the numbering from that document for clarity. For each mitigation measure, the MMRP identifies monitoring and reporting actions that shall be carried out and the applicable schedule for monitoring activities. This MMRP also includes a column where responsible parties can check off monitoring and reporting actions as they are completed.

As lead agency, SRWA (for activities involving the infiltration gallery, water treatment plant, and transmission pipelines) and the Cities of Ceres and Turlock (for activities involving their respective terminal tank facilities) will be responsible for ensuring that mitigation measures identified in this EIR are fully implemented. Some mitigation measures would be implemented by the contractor(s) on behalf of SRWA and the Cities. Contract documents for the proposed project will identify the obligations of the contractor, including relevant mitigation measures. SRWA and the Cities will require that the contractor(s) provide them with documentation that the contractor has adequately implemented all contractual obligations, including applicable mitigation measures.

Thus, in the descriptions of the mitigation measures provided in below, while SRWA and the Cities may be specifically referenced in implementing a mitigation measure (i.e., where the measure states "SRWA and the Cities shall"), this is intended to be inclusive of the contractor's role in implementing certain mitigation measures during construction or as part of design.

Acronyms and Abbreviations

APE	area of potential effect
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Cities	the City of Turlock and the City of Ceres
CO ₂ e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
dba	A-weighted decibel
EIR	environmental impact report
GHG	greenhouse gas
HAZCOM	Hazardous Materials Communication
HMWMP	Hazardous Materials and Waste Management Plan
hp	horsepower
MLD	Most Likely Descendent

MMRP	mitigation monitoring and reporting plan
MT	million tons
NAHC	Native American Heritage Commission
NO _x	oxides of nitrogen
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
Pub. Res. Code	Public Resources Code
SJVAPCD	San Joaquin Valley Air Pollution Control District
SRWA	Stanislaus Regional Water Authority
WPT	western pond turtle

References Cited

California Air Resources Board. 2017. Area Designations. Available at: www.arb.ca.gov/desig/changes.htm#summaries. Accessed on April 3, 2017.

San Joaquin Valley Air Pollution Control District. 2017. Ambient Air Quality Standards & Valley Attainment Status Available at: www.valleyair.org/aqinfo/attainment.htm. Accessed on April 3, 2017.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended timing and methodology for Swainson's Hawk nesting surveys in California's Central Valley.

1 **Table A-1.** Mitigation Measures and Implementation Requirements

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<i>Aesthetics</i>			
Mitigation Measure AES-1: Implement Maintenance Practices for Construction Staging Areas and Construction Sites. SRWA and the Cities shall require that the contractor(s) keep construction work areas clean and neat by storing construction materials and equipment at proposed construction staging areas or in areas that are generally shielded from public view (to the extent feasible), and by removing construction debris promptly and at regular intervals.	1. Include maintenance requirements in construction documents 2. Inspect construction sites on a regular basis for compliance	1. During construction 2. During construction	
Mitigation Measure AES-2: Use Design Elements to Provide Visual Screening of Wells, Storage Tanks, Pump Stations, and Other Facilities. SRWA and the Cities shall require that the contractor(s) use design elements to provide visual screening of proposed facilities and to integrate them with the existing visual setting. Such design elements may include, but are not limited to, the following: <ul style="list-style-type: none"> Paint proposed storage tank facilities and water treatment plant or include appropriate concrete admixtures to achieve low-glare, earth-tone colors that blend with the surrounding terrain and visual setting. Wherever feasible, avoid the use of unpainted metallic surfaces and other reflective sources that may cause increased levels of reflectivity. Wherever feasible, install native landscaping and/or fencing to provide screening for views of the pump station, water storage tanks, and wells from public roads and adjacent residences. Use downward-facing, shielded lighting fixtures to avoid spillover light from affecting adjacent properties. 	1. Include screening design requirements in design contract 2. Review design to ensure compliance with requirements 3. Include screening requirements in construction documents	1. During final design 2. During final design 3. During construction	
Mitigation Measure AES-4: Use Shielded Lighting if Nighttime Construction Is Necessary. If nighttime construction is performed, SRWA and the Cities shall require the contractor(s) to use lighting that is shielded and oriented	1. Include lighting requirements in construction documents	1. During construction	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
downward to minimize effects on any nearby receptors. Lighting shall be directed toward active construction areas only, and shall have the minimum brightness necessary to ensure worker safety	2. Inspect construction sites on a regular basis for compliance	2. During construction	
Agriculture and Forestry Resources			
Mitigation Measure AG-1: Stockpile Soils and Other Excavated Earth Material During Construction. SRWA or its contractor(s) shall implement the following measures. Topsoil and other earth material removed from Prime Farmland during construction of the WTP and Turlock terminal tank site shall be stockpiled for later reuse after excavation. Soil shall be stored in a designated area for the entirety of these areas' construction. The stockpiles shall be located in an area where construction activities would not affect agricultural or biological resources. All stockpiled soil shall be covered with tarps at all times to prevent the generation of fugitive dust. Excavated soil will then be backfilled at the sites and restored to an appropriate level of compaction following construction.	1. Include soil stockpiling and reuse requirements in construction documents 2. Inspect construction sites on a regular basis for compliance	1. During construction 2. During construction	
Mitigation Measure AG-2: Replant Undeveloped Areas of Prime Farmland following Construction Where Feasible. SRWA and the Cities shall implement the following measure. Where feasible, following construction in areas of Prime Farmland, SRWA shall distribute stockpiled topsoil and replant agricultural products that are determined to be compatible with the operational and maintenance requirements of the adjacent proposed project facilities.	1. Identify areas feasible for replanting in agricultural production. 2. Replant these areas using stockpiled soils (see MM AG-1).	1. During final project design 2. Following construction	
Air Quality			
Mitigation Measure AQ-1: Prepare Quantitative Analysis of Construction-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions. As the project design is further defined to a level that construction emissions can be estimated and evaluated, and prior to construction, SRWA and the Cities shall prepare a quantitative analysis of construction-related air quality and greenhouse gas (GHG) emissions for the proposed project.	1. Develop quantitative estimate of construction-related emissions using the identified information 2. If emissions would exceed SJVAPCD construction thresholds, work with SJVAPCD to identify appropriate implement measures	1. During final project design 2. During final project design 3. During construction	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<p>The quantitative construction air quality and GHG analysis shall be based on the types, locations, numbers, and operations of equipment to be used; the amount and distance of material to be transported; and worker trips required. In addition, the analysis shall be based on the projected quantity and frequency of vehicle and truck trips, and other activities that generate emissions. The analysis shall determine whether the combined emissions of the quantified construction activities exceed the San Joaquin Valley Air Pollution Control District's (SJVAPCD's) construction-related air quality thresholds (Table 3.3-2) or the 10,000 million tons (MT) of carbon dioxide equivalents (CO₂e) per year threshold for industrial sources.</p> <p>If the analysis determines that construction emissions would exceed the air quality and/or GHG significance thresholds, then SRWA shall identify and implement appropriate mitigation to the extent feasible. As a performance standard, the mitigation measures shall demonstrate that off-road equipment (greater than 50 horsepower [hp]) and material hauling vehicles used during construction (i.e., owned, leased, and subcontracted vehicles) will achieve emission reductions to the extent feasible. Equipment and material hauling vehicles shall achieve at least a project-wide fleet average of 20 percent oxides of nitrogen (NO_x) reduction and 45 percent DPM reduction compared to the most recent California Air Resources Board (CARB) fleet average up to a Tier IV-equivalent engine. Examples of appropriate mitigation may include, but not be limited to, alternative-fueled equipment, phasing of material hauling trips, phasing of construction activities, use of chemical additives or after-market devices to reduce emissions on existing equipment, use of electrically powered equipment, reduction in total equipment hours, use of newer equipment models, use of alternative fuels, engine retrofit technology, adopting a vehicle idling policy requiring all vehicles to adhere to a 5-minute idling policy, and sourcing of material from local sources. Actual emissions efficiency for off-road equipment and motor vehicles shall be at least as efficient as the most recent CARB fleet average for off-road equipment and motor vehicles for the current calendar year.</p>	<p>that will achieve emissions reductions to the extent feasible</p> <p>3. Inspect construction sites on a regular basis to ensure compliance</p>		

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
For GHG emissions, the following measures will be considered and implemented to the extent feasible: implement energy efficiency improvements of pumps through design, construction, and refurbishment methods; investigate and implement opportunities for renewable energy development at the facilities, subject to safety, emergency, and environmental considerations; and implement a construction worker commute strategy to minimize GHG emissions from workers commuting to the site. This may include encouraging use of carpools, vanpools, and public transportation.			
Biological Resources			
<p>Mitigation Measure BIO-5: Minimize Impacts on Nesting Birds with Site Assessments, Surveys, and Avoidance Measures.</p> <p>If vegetation clearing or ground-disturbing activities commence between February 15 and August 31, SRWA or its contractor(s) shall require that a qualified biologist conduct a nesting bird survey within 2 weeks prior to the start of work. If a lapse in project-related work of 2 weeks or longer occurs during this period, another focused survey shall be conducted before project work can be reinitiated.</p> <p>If nesting birds are found, a buffer shall be established around the nest and maintained until the young have fledged. Appropriate buffer widths are 300 feet for non-listed raptors and special-status passerines and 100 feet for non-listed passerines, unless a qualified biologist determines, based on a site-specific evaluation, that a smaller buffer is sufficient to avoid impacts on nesting raptors. Work shall not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival.</p>	<ol style="list-style-type: none"> 1. Retain a qualified biologist 2. Conduct a nesting bird survey within 2 weeks before construction. 3. If a lapse of 2 weeks or longer occurs during construction, conduct another focused survey before construction is reinitiated. 4. If birds are found, establish an appropriate buffer. 5. Monitor nests to determine when construction activities can begin within the buffer. 	<ol style="list-style-type: none"> 1. Before construction 2. Before construction 3. During construction 4. Before and during construction 5. During construction 	
<p>Mitigation Measure BIO-6: Conduct Nesting Raptor Surveys and Establish Buffers to Avoid or Minimize Impacts on Swainson's Hawk and White-tailed Kite.</p> <p>If construction occurs between February 1 and August 31, SRWA or its contractor(s) shall require that a qualified biologist conduct surveys for Swainson's Hawk and White-tailed Kite in accordance with the recommended timing and methodology developed by the Swainson's</p>	<ol style="list-style-type: none"> 1. Retain a qualified biologist 2. Conduct surveys for Swainson's Hawk and White-tailed Kite within a minimum 500-foot radius around construction areas. 3. Establish buffers around active nests. 	<ol style="list-style-type: none"> 1. Before construction 2. Before construction 3. Before construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<p>Hawk Technical Advisory Committee (2000 or most recent). Surveys will cover a minimum 500-foot radius around the construction area. If nesting Swainson's Hawk or White-tailed Kite are detected, buffers shall be established around active nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely affected by construction. Buffers around active nests will be 500 feet unless a qualified biologist determines, based on a site-specific evaluation, that a smaller buffer is sufficient to avoid impacts on nesting raptors. Factors to be considered when determining buffer size include the presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, and baseline levels of noise and human activity. Buffers shall be maintained until a qualified biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for survival.</p>	<p>4. Monitor nests to determine when construction activities can begin within the buffer.</p>	<p>4. During construction</p>	
<p>Mitigation Measure BIO-7: Conduct Preconstruction Surveys for Burrowing Owls and Avoid or Minimize Impacts.</p> <p>SRWA or its contractor(s) shall require that a qualified biologist conduct a preconstruction survey in all accessible areas of suitable Burrowing Owl habitat within 500 feet of construction activity. Surveys shall be conducted within 14 days before the start of construction activity in accordance with protocols established in the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012 or current version). If no Burrowing Owls or signs of Burrowing Owls are detected during the survey, no further mitigation shall be required.</p> <p>If a preconstruction survey detects occupied burrows, a buffer shall be established, within which no ground-disturbing or vegetation removal activity is permissible. In accordance with guidance provided by the California Department of Fish and Wildlife (CDFW), buffers around occupied burrows shall be a minimum of 656 feet (200 meters) during the breeding season (February 1 through August 31), and 160 feet (100 meters) during the non-breeding season, unless a qualified biologist determines, based on a site-specific evaluation, that a smaller buffer is sufficient to avoid impacts on the Burrowing Owl burrow.</p>	<ol style="list-style-type: none"> 1. Retain a qualified biologist 2. Conduct surveys for Burrowing Owls and burrows. 3. Establish buffers around occupied burrows. 4. Monitor burrows to determine when construction activities can begin within the buffer. 5. If burrows are to be relocated, prepare and implement a relocation plan with CDFW approval that includes a monitoring and management plan. 	<ol style="list-style-type: none"> 1. Before construction 2. Before construction 3. Before construction 4. During construction 5. Before and during construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<p>This protected area will remain in effect until the end of the Burrowing Owl nesting season (February 1 through August 31) or until CDFW approves a passive relocation plan. No Burrowing Owls will be relocated from burrows during the Burrowing Owl nesting season.</p> <ul style="list-style-type: none"> If occupied burrows are to be relocated, a passive relocation plan shall be developed by a qualified biologist and approved by CDFW prior to implementation. SRWA shall enhance or create burrows in appropriate habitat at a 1:1 ratio (burrows destroyed to burrows enhanced or created) one week prior to implementation of passive relocation techniques. If burrowing owl habitat enhancement or creation takes place, SRWA shall develop and implement a monitoring and management plan to assess the effectiveness of the mitigation. The plan shall be subject to the approval of CDFW. 			
Cultural Resources			
<p>Mitigation Measure CUL-2: Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.</p> <p>Not all cultural resources are visible on the ground surface. If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts (e.g., glass, ceramics, metal objects, bricks), human remains, or architectural remains, are encountered during proposed project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and SRWA will be contacted. SRWA will engage a qualified archaeologist to evaluate the nature of the finds.</p> <p>All archaeological resources uncovered during construction within the proposed project area of potential effect (APE) shall be evaluated for eligibility for inclusion in the National Register of Historic Places (NRHP) and/or California Register of Historical Resources (CRHR). Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards. If any of the resources meet the eligibility criteria identified in 36 Code of Federal Regulations</p>	<ol style="list-style-type: none"> 1. Retain a qualified archaeologist 2. Halt construction activities in the event any cultural resources are encountered. 3. If cultural resources are uncovered, retain a qualified individual who meets the U.S. Secretary of the Interior's standards to conduct resource evaluations. 4. If uncovered resources meet eligibility criteria, implement mitigation measures consistent with State CEQA Guidelines Section 15126.4(b). 5. If cultural resources are uncovered, mitigation measures will be developed in consultation with SRWA and Native American 	<ol style="list-style-type: none"> 1. Before construction 2. During construction 3. During construction 4. During construction 5. During construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<p>(CFR) Part 60.4, Public Resources Code (Pub. Res. Code) Section 5024.1, or California Environmental Quality Act (CEQA) Guidelines Section 21083.2(g), SRWA will develop and implement mitigation measures in accordance with State CEQA Guidelines Section 15126.4(b) before construction resumes.</p> <p>If the discovered resource is identified as eligible for listing in the NRHP/CRHR and it would be rendered ineligible by the proposed project construction, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a tribal cultural resource. Implementation of any SRWA-approved mitigation is required before resuming any construction activities with the potential to affect identified eligible resources at the site.</p>	tribes before construction resumes.		
<p>Mitigation Measure CUL-4: Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code.</p> <p>If human remains are discovered during construction activities, the requirements of Section 7050.5 of the California Health and Safety Code shall be followed. Potentially damaging excavation shall halt on the proposed project site within a minimum radius of 100 feet of the remains and the County Coroner shall be notified. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). In accordance with the provisions of Pub. Res. Code Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD</p>	<ol style="list-style-type: none"> 1. Retain a qualified archaeologist 2. In the event that human remains are encountered, halt work and contact the County Coroner. 3. If discovered remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination. 4. NAHC shall identify a MLD, upon which this person shall be notified and given at least 48 hours to inspect the site and propose treatment and 	<ol style="list-style-type: none"> 1. Before construction 2. During preparation of plans and specifications 3. During construction 4. During construction 5. During construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. SRWA or its designee shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.	disposition of the remains and any associated grave goods. 5. Cooperation with MLD is required.		
Greenhouse Gas Emissions and Energy Use			
Mitigation Measure AQ-1: Prepare Quantitative Analysis of Construction-related Air Quality and Greenhouse Gas Emissions, and Implement Measures to Cap Emissions. See full description above	1. See above	1. See above	
Hazards and Hazardous Materials			
Mitigation Measure HAZ-1. Prepare and Implement a Hazardous Materials and Waste Management Plan for Construction and Operation. SRWA or its contractor(s) shall prepare and implement a Hazardous Materials and Waste Management Plan (HMWMP). The HMWMP shall specify hazardous materials handling and spill response procedures applicable to construction activities and to operation of the project sites, including the following information: <ul style="list-style-type: none"> ▪ A list of hazardous materials present on site during construction and operation, to be updated as needed along with product Safety Data Sheets and other information regarding storage, application, transportation, and disposal requirements; ▪ A Hazardous Materials Communication (i.e., HAZCOM) Plan; ▪ Assignments and responsibilities of proposed project hazardous materials handling and spill response roles; ▪ Standards for any secondary containment and countermeasures that will be required for any hazardous materials spill; ▪ Spill response procedures based on product and quantity, which shall include materials to be used, location of such materials within the proposed project area, and disposal protocols; and 	1. Develop a HMWMP that contains the required information and protocols. 2. Implement the HMWMP.	1. Before construction 2. During construction and operation	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<ul style="list-style-type: none"> Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction, which will address possible termination of work within the area of suspected contamination, sampling by an Occupational Safety and Health Administration (OSHA)-trained individual, and testing at a certified laboratory. 			
Mitigation Measure TRANS-1. Prepare and Implement a Construction Traffic Management Plan. See full description below	1. See below	1. See below	
Noise			
Mitigation Measure NOI-1. Limit Nighttime Construction Noise. SRWA and its contractor(s) shall ensure that no construction activities are conducted in close proximity to a residence outside the hours of 7:00 a.m.–7:00 p.m. on weekdays and 9:00 a.m.–7:00 p.m. on Saturdays, Sundays, and state or federal holidays unless the project has received a variance or special permit, following procedures outlined in the applicable noise ordinance, to operate outside of these hours.	1. Include mitigation requirements in construction documents. 2. Confirm that construction is taking place within identified hours.	1. During preparation of plans and specifications. 2. During construction.	
Mitigation Measure NOI-2. Prepare Detailed Noise Analysis for Proposed Project Operations. As the proposed project is further designed to a level where operational noise levels can be estimated, and prior to commencing operation, SRWA and/or its contractor(s) shall prepare a noise analysis for proposed project operation. The noise study will identify appropriate measures that can be implemented to reduce noise levels to the relevant Community Noise Equivalent Level (CNEL) exterior noise level required by the applicable jurisdictions (Table 3.11-5 for all project features except those located in Ceres, and Table 3.11-8 for the Ceres terminal tank and possibly offset water facilities), or a 3-decibel (dB) increase if existing levels are above the ambient noise level at the property line. If the analysis demonstrates that significant operational noise impacts are likely to occur, measures shall be implemented to achieve the required noise reduction. Example measures may include, but are not limited to, the following:	1. Conduct a noise study for proposed project operations. 2. Design the project to reduce noise levels below the required limits. 3. Where operations will remain above required limits, implement noise-reducing measures as indicated.	1. During final design 2. During final design 3. During final design	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<ul style="list-style-type: none"> ▪ locating stationary equipment as far as practical from noise-sensitive land uses; ▪ using electrified or otherwise quieter equipment when practical; ▪ using sound-control devices on equipment that are more effective than devices originally provided on the equipment; ▪ installing permanent barriers between noise sources and noise-sensitive land uses, or taking advantage of existing barrier features (terrain and structures) to block sound transmission; ▪ limiting operations and maintenance-related trucking to specific routes, times, or speeds that minimize adverse effects on sensitive land uses such as schools and residential areas; and ▪ using sound attenuation enclosures designed to achieve noise reductions sufficient to comply with City and County standards for noise-generating elements of the operation, when no other feasible control method is available. 			
<p>Mitigation Measure NOI-3. Implement Vibration Reduction Measures.</p> <p>SRWA and/or its contractor(s) shall implement the following vibration-reducing measures during all construction activities, unless specified below, to minimize impacts on nearby sensitive receptors:</p> <ul style="list-style-type: none"> ▪ Ensure proper tuning of vibration-causing equipment. ▪ Use vibration-damping devices to the extent feasible. ▪ Limit use of vibratory equipment to the extent feasible and do not overlap use of multiple pieces of vibratory equipment. Where possible, maintain a distance of 15 feet or more from buildings. ▪ Require contractor(s) to ensure that impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, require use of an exhaust muffler on the compressed air exhaust; this muffler can lower noise levels from the exhaust by 	<ol style="list-style-type: none"> 1. Include mitigation requirements in construction documents. 2. Confirm that contractor(s) implement identified measures. 	<ol style="list-style-type: none"> 1. During preparation of plans and specifications 2. During construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<p>up to about 10 A-weighted decibels (dBA). External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.</p> <ul style="list-style-type: none"> ▪ Use electric stationary equipment (e.g., generators) where feasible. ▪ Implement noise and/or vibration shields, such as sound aprons or temporary enclosures with sound-absorbing material, on or around construction equipment, particularly if construction activities are conducted after 7:00 p.m. For all construction activities occurring within 60 feet of residences at any time of day, install a temporary noise and vibration barrier between the project site and the nearest sensitive receptors. Following the completion of construction activities within that distance, the barrier will be removed. 			
<p>Mitigation Measure NOI-4. Employ Noise-reducing Construction and Maintenance Practices.</p> <p>The following measures shall be implemented by SRWA, the Cities, and/or their contractor(s) to reduce adverse effects from construction and maintenance noise:</p> <ul style="list-style-type: none"> ▪ locating stationary equipment as far as practical from noise-sensitive land uses, ▪ using electrified or otherwise quieter equipment when practical, ▪ using sound-control devices on equipment that are more effective than devices originally provided on the equipment, ▪ using noise-reducing enclosures around noise-generating equipment, ▪ installing temporary barriers between noise sources and noise-sensitive land uses, or taking advantage of existing barrier features (terrain and structures) to block sound transmission, and ▪ limiting construction-related trucking to specific routes, times, and speeds that minimize adverse effects to sensitive receptors. 	<ol style="list-style-type: none"> 1. Include mitigation requirements in construction documents. 2. Confirm that contractor(s) implement identified measures. 	<ol style="list-style-type: none"> 1. During preparation of plans and specifications 2. During construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
Transportation and Traffic			
<p>Mitigation Measure TRANS-1. Prepare and Implement a Construction Traffic Management Plan.</p> <p>SRWA shall require that the contractor(s) prepare and implement a construction traffic management plan to manage traffic flow during construction, reduce potential interference with local emergency response plans, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with Stanislaus County, the City of Ceres, the City of Turlock, and the City of Hughson. SRWA, the Cities, and/or the construction contractor(s) shall ensure that the plan is implemented during construction. The plan shall include, but will not be limited to, the following measures:</p> <ul style="list-style-type: none"> Identify construction truck haul routes and timing to limit conflicts between truck and automobile traffic on nearby roads. The identified routes will be designed to minimize impacts on vehicular and pedestrian traffic, circulation, and safety. Implement comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, warning and detour signs (if required), lane closure procedures (if required), and traffic cones for drivers indicating potential road hazards or detours (if required). Coordinate construction activities to ensure that one lane of traffic in each direction remains open at all times on East Hatch Road and Berkeley Road, unless flaggers or temporary traffic controls are in place, to provide emergency access. Evaluate the need to provide flaggers or temporary traffic control on East Hatch Road and Berkeley Road or at key intersections along the construction route during all or some portion of the construction period. Notify affected adjacent property owners and public safety personnel regarding timing of major deliveries, detours, and lane closures. 	<ol style="list-style-type: none"> SRWA will ensure that the Construction Traffic Management Plan is implemented during construction. Identified haul routes will be recorded in the contract documents. Implement traffic control measures. Evaluate need for traffic control flaggers. Notify adjacent property owners and public safety personnel regarding timing of major deliveries, detours, and lane closures. Develop process for responding and tracking issues related to construction activity. Post 24-hour contact information for the traffic manager on site. Document road pavement conditions for all routes used for construction. 	<ol style="list-style-type: none"> During construction During construction During construction Before and during construction Before construction Before construction Before construction Before and after construction 	

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Completion Date and Initials
<ul style="list-style-type: none"> Develop a process for responding to and tracking issues pertaining to construction activity impacts on traffic, including identification of an on-site traffic manager. Post 24-hour contact information for the traffic manager on all construction sites. Document road pavement conditions for all routes that would be used by construction vehicles before and after project construction. Make provisions to monitor the condition of roads used for haul routes so that any damage or debris attributable to haul trucks can be identified and corrected. Roads damaged by construction vehicles shall be repaired to their preconstruction condition. 			
<i>Tribal Cultural Resources</i>			
Mitigation Measure CUL-2: Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources. See full description above	1. See above	1. See above	
Mitigation Measure CUL-4: Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code. See full description above	1. See above	1. See above	

Tables Cited in MMRP**Table 3.3-2.** Attainment Status of the San Joaquin Valley Air Basin (within Stanislaus County) for the State and Federal Ambient Air Quality Standards

Contaminant	Averaging Time	Concentration	State Standards Attainment Status ¹	Federal Standards Attainment Status ²
Ozone (O ₃)	1-hour	0.09 ppm	N (Severe)	See footnote 3
	8-hour	0.070 ppm	N	
		0.075 ppm		N (Extreme)
Carbon Monoxide (CO)	1-hour	20 ppm	U/A	
		35 ppm		U/A
	8-hour	9.0 ppm	U/A	U/A
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm	A	
		0.100 ppm ⁵		U/A
	Annual arithmetic mean	0.030 ppm	A	
		0.053 ppm		U/A
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	A	
		0.075 ppm		U/A
	24-hour	0.04 ppm	A	
		0.14 ppm		U/A
	Annual arithmetic mean	0.030 ppm		U/A
Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	N	
		150 µg/m ³		A
	Annual arithmetic mean	20 µg/m ³	N	
Fine Particulate Matter (PM _{2.5})	24-hour	35 µg/m ³		N (Moderate)
	Annual arithmetic mean	12 µg/m ³	N	N (Moderate)
Sulfates	24-hour	25 µg/m ³	A	
Lead (Pb) ⁶	30-day average	1.5 µg/m ³	A	
Hydrogen Sulfide (H ₂ S)	1-hour	0.03 ppm	U	
Vinyl Chloride ⁶ (chloroethene)	24-hour	0.010 ppm	A	

Contaminant	Averaging Time	Concentration	State Standards Attainment Status ¹	Federal Standards Attainment Status ²
Visibility-Reducing Particles	8-hour (10:00 to 18:00 PST)	See footnote 4	U	

A – attainment

ppm – parts per million

km – kilometer

N – nonattainment

µg/m³ – micrograms per cubic meterPM₁₀ – particulate matter of

U – unclassified

PST – Pacific Standard Time

aerodynamic radius of 10 microns or less

PM_{2.5} – particulate matter of

aerodynamic radius of 2.5 microns or less

Notes:

¹ California standards for O₃, CO (except Lake Tahoe), SO₂ (1-hour and 24-hour averages), NO₂, PM₁₀, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe CO, Pb, H₂S, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for Pb and the PM_{2.5} and PM₁₀ annual standards), some measurements may be excluded. In particular, measurements are excluded that the California Air Resources Board (CARB) determines would occur an average of less than once per year.

² National standards shown are the “primary standards” designed to protect public health. National air quality standards are set by the U.S. Environmental Protection Agency (USEPA) at levels determined to be protective of public health with an adequate margin of safety. National standards other than for O₃, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour O₃ standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is less than or equal to one. The 8-hour O₃ standard is attained when the 3-year average of the fourth highest daily concentrations is 0.075 ppm (75 parts per billion) or less. The 24-hour PM₁₀ standard is attained when the 3-year average of the ninety-ninth percentile of monitored concentrations is less than 150 µg/m³. The 24-hour PM_{2.5} standard is attained when the 3-year average of ninety-eighth percentiles is less than 35 µg/m³. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM₁₀ is met if the 3-year average falls below the standard at every site. The annual PM_{2.5} standard is met by spatially averaging annual averages across officially designated clusters of sites and then determining whether the 3-year average of these annual averages falls below the standard.

³ The national 1-hour O₃ standard was revoked by USEPA on June 15, 2005. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. However, the attainment status has not yet been updated based on this revised 8-hour standard. It is likely that the region will remain in nonattainment.

⁴ Statewide Visibility-Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per km when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment resulting from regional haze and is equivalent to a 10-mile nominal visual range.

⁵ To attain this standard, the 3-year average of the ninety-eighth percentile of the daily maximum 1-hour average at each monitoring station within an area must not exceed 0.100 ppm (effective January 22, 2010).

⁶ CARB has identified Pb and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined. Although the vinyl chloride CAAQS remains in force, current regulatory efforts are under CARB’s Air Toxics Program.

Sources: SJVAPCD 2017, CARB 2017, USEPA 2017

Chapter 6
APPENDIX B
BIOLOGICAL RESOURCES TECHNICAL MEMO

Memorandum

Date: April 21, 2021
To: Stephen Fremming, City of Turlock
From: Robin Hunter and Debra Lilly, Horizon Water and Environment
Subject: **Turlock Local Facilities Project – Biological Constraints Evaluation**

1. Introduction

Horizon Water and Environment (Horizon) has been providing environmental compliance support for the Stanislaus Regional Water Authority's (SRWA's) Regional Surface Water Supply Project (RSWSP), including construction of the wet well, testing of the infiltration gallery, and design/construction of the water treatment plant. The City of Turlock (City) plans to begin construction of the Turlock Local Facilities (project) component of the RSWSP in the fall of 2021 and continue through early 2023. The City is required to implement monitoring and mitigation measures before, during, and after construction in accordance with the RSWSP's Environmental Impact Report (EIR) and Addenda #1 and #2 to the EIR.

This memorandum provides a characterization of natural resource conditions in the project area. Biological resources and habitat types were identified and characterized to support the completion of the CEQA addendum analysis for Addendum #3 to the RSWSP EIR and to be included in construction contractor bid documents for the Turlock terminal tank site. This memorandum includes the following attachments:

- Attachment A. Terminal Tank Site Photographs
- Attachment B. Special-status Species Lists

2. Location and Setting

The project is located in unincorporated Stanislaus County, with the tank site just outside the boundary of the City of Turlock (**Figure 1**). Site topography is generally flat, with elevations range of approximately 115 feet (35 meters). Photographs of the project site are provided in **Attachment A**.

3. Methods

Biologist Eric Christensen conducted a reconnaissance-level biological survey of the pipeline alignments on February 5, 2021, and biologist Carley Dutra conducted a reconnaissance-level biological survey of the terminal tank site on April 15, 2021.

In addition to reconnaissance-level surveys, protocol-level nesting surveys for Swainson's Hawk (*Buteo swainsoni*) were conducted by Horizon. Surveys were conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's

Hawk Technical Advisory Committee 2000). The Swainson's Hawk protocol identifies five survey periods with the number of surveys recommended for each period. **Table 1** provides an account of the number and dates of the surveys conducted for the project. Surveys were not conducted during periods IV (nest monitoring) and V (post fledging), as these surveys are not required to identify nest sites.

Table 1. Swainson's Hawk Survey Periods and 2021 Survey Dates

Period	Dates	Recommended Number of Surveys	Number of Surveys and Survey Dates
I	January to March 20	1 (optional)	1 February 5
II	March 20 to April 5	3	3 March 24, 29, April 5 (overlap with Period III survey)
III	April 5 to April 20	3	3 (April 5, 7, 15)

The surveys covered suitable Swainson's Hawk nesting habitat within a ½-mile radius of the project area. This area included agricultural areas and orchards, neighborhoods of Turlock, and mature trees along roadways. Figure 1 provides a locality map of the survey area. Surveyors were Carley Dutra (3 surveys), Brian Piontek (1 survey), Robin Hunter (1 survey), and Eric Christensen (1 survey). **Table 2** identifies the personnel conducting each survey.

Table 2. Record of Swainson's Hawk Surveys and Personnel

Survey Date	Survey Phase	Surveyors
2/5/21	I	Christensen
3/24/21	II	Dutra
3/29/21	II	Piontek
4/5/21	II/III	Hunter
4/7/21	III	Dutra
4/15/21	III	Dutra

All surveys were conducted using car survey techniques. The surveyors used high-quality binoculars to watch for avian activity and to observe mature trees along roadways and within residential properties from several angles. Surveys were conducted between sunrise and approximately noon. Climate conditions were considered good for observing raptor nesting activity (i.e., moderate air temperatures, no rain, light to moderate winds, and good visibility).

4. Biological Conditions

Descriptions of biotic habitats in the project area are provided below. The descriptions are based on the reconnaissance-level surveys and a review of existing literature. The potential for special-status species to occur in the project area is also described in this section and, in more detail, in **Attachment B**.

The project is located in a matrix of agricultural and urban uses that includes orchards, row crops, ruderal vegetation, and developed areas. The plant community composition and wildlife species that may occur within the project area are described below.

Habitats

Orchard/Row Crop

Much of the project area is surrounded by agricultural lands, either planted in orchards or row crops or left as fallow lands. Almond (*Prunus dulcis*) orchards are the most common nut tree in the area. Ornamental trees are also present at residences. The understory vegetation that would provide food and cover for wildlife is typically sparse in orchards, limiting the abundance and diversity of wildlife species that may be found there. Species such as the side-blotched lizard (*Uta stansburiana*), pocket gopher (*Thomomys bottae*), squirrel (*Citellus* spp.), and western brush rabbit (*Sylvilagus bachmani*) can occur in this habitat type. American Crow (*Corvus brachyrhynchos*) and Yellow-billed Magpie (*Pica nuttalli*), which forage on nut crops, are often present.

Fallow fields and active row crops are present along the proposed pipeline alignments and in the terminal tank parcel. These areas may support bees required for pollination, along with a low diversity of other wildlife species. Dominant plant species include non-native annual grasses such as ripgut brome (*Bromus diandrus*) and foxtail barley (*Hordeum murinum*) and common forbs such as fiddleneck (*Amsinckia* sp.) and filaree (*Erodium* sp.).

The terminal tank parcel is currently fallow but was planted with corn in past growing seasons. An irrigation ditch demarcates the southern border of the parcel. Dense vegetation at the site limits habitat suitability for Burrowing Owls (*Athene cunicularia*), a California Species of Special Concern. No burrows suitable for Burrowing Owls were detected during the reconnaissance-level survey.

Developed/Barren/Ruderal

Developed land in the project area includes urban areas of Turlock and roads, private residences, and other structures in unincorporated Stanislaus County. Large ornamental trees such as cottonwood (*Populus fremontii*), cedar (*Cedrus* spp.), and redwood (*Sequoia sempervirens*) that serve as residential landscaping may support nesting birds. Large trees in the project area could also provide roosts for western red bat (*Lasius blossevillii*) and hoary bat (*L. cinereus*). Swainson's Hawks were observed perching and nesting in trees and foraging in fields within ½ mile of the project area.

The roadsides and right-of-ways along the pipeline alignments are barren or support ruderal vegetation. Non-native grasses and forbs common in the area include Bermuda grass (*Cynodon dactylon*), ripgut brome, black mustard (*Brassica nigra*), white sweet clover (*Melilotus albus*), wild radish (*Raphanus sativa*), and bull thistle (*Cirsium vulgare*). Ruderal vegetation typically supports a relatively low diversity and

abundance of wildlife species compared to undisturbed habitats. Common bird species expected in these areas include Mourning Dove (*Zenaida macroura*), Western Meadowlark (*Sturnella neglecta*), European Starling (*Sturnus vulgaris*), American Crow, and Brewer's Blackbird (*Euphagus cyanocephalus*). Ruderal areas in the vicinity of the project site do not provide suitable habitat for Burrowing Owl. Other wildlife species that may occur include alligator lizard (*Elgaria multicarinata*), California ground squirrel (*Otospermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), house mouse (*Mus musculus*), and deer mouse (*Peromyscus maniculatus*).

Special-status Species

Special-status species are plant or wildlife species that require special consideration and/or protection or have been federally listed or state listed as rare, threatened, or endangered. The following resources were consulted to identify special-status species with the potential to occur in or near the project area:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Trust Resources Report for the Project area (USFWS 2021a);
- California Natural Diversity Database (CNDDDB) (California Department of Fish and Wildlife [CDFW] 2021) query of all special-status species in the nine U.S. Geological Survey (USGS) quadrangles that contain and surround the project area;
- USFWS critical habitat database (USFWS 2021b); and
- RSWSP Draft EIR (Horizon 2018).

A map depicting special-status species occurrences within a 5-mile radius of the project area is provided in **Figure 2**. These data sources were reviewed to determine the potential for special-status species to occur in the project area. A complete list of special-status plant and wildlife species known to occur in the vicinity of the project area and their potential to occur within the Project area is provided in Attachment B. The potential for each species to occur in the project area was assessed using the following criteria:

None: The area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not Expected: Suitable habitat or key habitat elements might be present but might be of poor quality or isolated from the nearest extant occurrences, and/or the species is not known to occur in the area.

Possible: Suitable habitat or key habitat elements are present that potentially support the species.

Present: Either the species was observed directly or its presence was confirmed by field investigations or previous studies in the area.

Special-status Plants

No special-status plants were observed during the reconnaissance-level surveys, and no special-status plants are anticipated to occur in the project area due to the disturbed nature of the habitat and lack of suitable specific habitat conditions for special-status plants.

Special-status Wildlife

Swainson's Hawk

Two Swainson's Hawk nesting sites and one active territory were observed within the ½-mile survey area. (Figure 1). The nearest nest to project activities is located in a residential backyard at 3270 Brookstone Drive, approximately 350 feet north of project components located on East Monte Vista Avenue. The other confirmed nest location is in the backyard of 1381 Hartwick Avenue, approximately 1,400 feet north-northwest of project components located on East Monte Vista Avenue. A Swainson's Hawk pair was repeatedly observed in the vicinity of the Church of the Nazarene at 2940 North Waring Road. Although no nests were detected, it is anticipated that the pair are nesting nearby, potentially in trees surrounding the residence at 2929 North Waring Road. This location is shown as "Swainson's Hawk Nest Territory" on Figure 1. Due to Swainson's Hawk nest fidelity, it is anticipated that Swainson's Hawks will nest in the vicinity of these locations in 2022, although they may not nest in the exact same trees.

Burrowing Owl

Burrowing Owls generally prefer to inhabit open areas and grasslands with low-growing or grazed vegetation. They may roost in burrow systems created by medium-sized mammals (e.g., ground squirrels) or in artificial sites (e.g., drainpipes, culverts), although they occasionally dig burrows themselves. Burrowing Owls were not detected during biological surveys, and suitable habitat was not present at the terminal tank site or along the pipeline alignment.

White-tailed Kite

White-tailed Kites were not observed during surveys, but suitable habitat for this species is present in the project area. This species may forage in fields near the project area and may nest in mature trees near the project area.

Other Nesting Raptors

Red-tailed Hawks (*Buteo jamaicensis*) were observed perched and/or foraging in the survey area during four of the five Swainson's Hawk surveys. This species is known to readily nest near the project area. An active Red-tailed Hawk nest is shown in Figure 1.

Red-shouldered Hawks (*Buteo lineatus*) were observed during two surveys and an American Kestrel (*Falco sparverius*) in one survey; no nests for these species were detected in the survey area. However, these raptor species have the potential to nest in mature trees in the vicinity of the project.

Special-status Bats

No trees or structures that could provide suitable roosting habitat for special-status bats are proposed for removal as part of the project.

5. Discussion

Mitigation Measures Required by RSWSP EIR

The following mitigation measures from the RSWSP EIR are required during project implementation:

Mitigation Measure BIO-5: Minimize Impacts on Nesting Birds with Site Assessments, Surveys, and Avoidance Measures

If vegetation clearing or ground-disturbing activities commence between February 15 and August 31, SRWA or its contractor(s) shall require that a qualified biologist conduct a nesting bird survey within 2 weeks prior to the start of work. If a lapse in project-related work of 2 weeks or longer occurs during this period, another focused survey shall be conducted before project work can be reinitiated.

If nesting birds are found, a buffer shall be established around the nest and maintained until the young have fledged. Appropriate buffer widths are 300 feet for non-listed raptors and special-status passerines and 100 feet for non-listed passerines, unless a qualified biologist determines, based on a site-specific evaluation, that a smaller buffer is sufficient to avoid impacts on nesting raptors. Work shall not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival.

Mitigation Measure BIO-6: Conduct Nesting Raptor Surveys and Establish Buffers to Avoid or Minimize Impacts on Swainson's Hawk and White-tailed Kite.

If construction occurs between February 1 and August 31, SRWA or its contractor(s) shall require that a qualified biologist conduct surveys no more than 10 days before the start of construction for Swainson's Hawk and White-tailed Kite in accordance with the recommended timing and methodology developed by the Swainson's Hawk Technical Advisory Committee (2000 or most recent). Surveys will cover a minimum ½-mile radius around the construction area. If nesting Swainson's Hawk or White-tailed Kite are detected, buffers shall be established around active nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely affected by construction. Buffers around active nests will be ½ mile unless a qualified biologist determines, based on a site-specific evaluation, that a smaller buffer is sufficient to avoid impacts on nesting raptors. Factors to be considered when determining buffer size include the presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, and baseline levels of noise and human activity. Buffers shall be maintained until a qualified biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for survival.

Special-status Species

Special-status Plants

No special-status plants were observed during surveys and, due to a lack of suitable habitat, no special-status plants are anticipated to occur in the project footprint. For these reasons, project impacts to special-status plants are not anticipated.

Special-status Wildlife

No suitable habitat for special-status bats would be adversely affected by project-related activities. Therefore, no impacts to special-status bats would occur.

Nesting Swainson's Hawk were detected within ½ mile of the project area. If construction activities occur during the 2022 nesting season (February 1 through August 31), there may be potential for take of this species. Mitigation Measure BIO-6 requires that a qualified biologist will conduct surveys for nesting Swainson's Hawks during the nesting season. If Swainson's Hawks are found to be nesting in or near the project area, no-work buffers would be established by the qualified biologist, as described in Mitigation Measure BIO-6, and would be maintained until a qualified biologist determines that the young have fledged and are no longer reliant on the nest or parental care for survival. The size of these buffers would be a maximum of ½ mile but could be smaller based on a site-specific evaluation by the designated biologist. If nesting bird surveys in 2022 determined that project-related activities would risk take of a Swainson's Hawk nest, the City would need to consult with CDFW and attain an Incidental Take Permit (ITP) from CDFW to avoid or minimize impacts to the nest during construction activities.

One way to minimize the risk of adverse impacts on nesting Swainson's Hawks would be to construct the pipeline alignment in the western portion of East Monte Vista Avenue (closest to the known Swainson's Hawk nest locations) outside of the nesting season (i.e., between September 1 and February 14).

Project construction activities that take place during the nesting period (February 15 through August 31) may affect special-status birds or protected raptors. Impacts to nesting birds during the nesting season could result from direct removal of nests or trees or indirect disturbance from noise during construction activities. Under Section 3503.5 of the California Fish and Game Code, it is illegal to destroy any active raptor nest. Birds protected under the Migratory Bird Treaty Act could also nest within the project area. Nesting Red-tailed Hawks were detected during surveys, and other raptor species such as White-tailed Kite and Red-shouldered Hawk have potential to nest in the project area. As described in Mitigation Measure BIO-5, a qualified biologist would conduct surveys for nesting birds and establish buffers around active nests, if detected.

A way to minimize the risk of impacts on other nesting raptor species would be to construct the pipeline alignment in the western portion of East Zeering Road outside of the nesting season, as there is a Red-tailed hawk nesting territory in the vicinity of this work area. In addition, vegetation clearing required for the development of the terminal tank site should be conducted outside of the nesting season to avoid impacts on ground-nesting bird species projected by the Migratory Bird Treaty Act.

Irrigation Ditch

An irrigation ditch is located along the terminal tank parcel's southern boundary. The irrigation ditch would not be considered a Water of the U.S. and would therefore not be subject to U.S. Army Corps of Engineers jurisdiction. The ditch may be subject to Regional Water Quality Control Board (RWQCB) and/or CDFW jurisdiction as Waters of the State. However, the project would not directly affect this irrigation ditch, and therefore would not affect Waters of the State. As such, no coordination with RWQCB or CDFW would be required with regard to this feature.

Sensitive Habitats

As described above, habitats in the vicinity of the project site are limited to orchards, row crops, ruderal vegetation, and developed areas. No impacts to sensitive natural communities would occur.

6. Conclusion and Recommendations

- Swainson's Hawks are nesting within ½ mile of Project components in 2021, and are anticipated to nest within ½ mile in 2022. Other nesting birds are possible in the vicinity of the Project.
- Implementation of Mitigation Measures BIO-5 and BIO-6 is required each year, starting in the 2022 construction season. Surveys will be conducted by qualified biologists, who will coordinate with the City and the City's contractor regarding survey results and buffer distances.
- The City should determine their approach to application for an ITP for Swainson's Hawk.

7. References

California Department of Fish and Wildlife. 2021. California Natural Diversity Database (CNDDB). Online database query. Available at: www.wildlife.ca.gov/Data/CNDDB. Accessed April 19, 2021.

CDFW. See California Department of Fish and Wildlife.

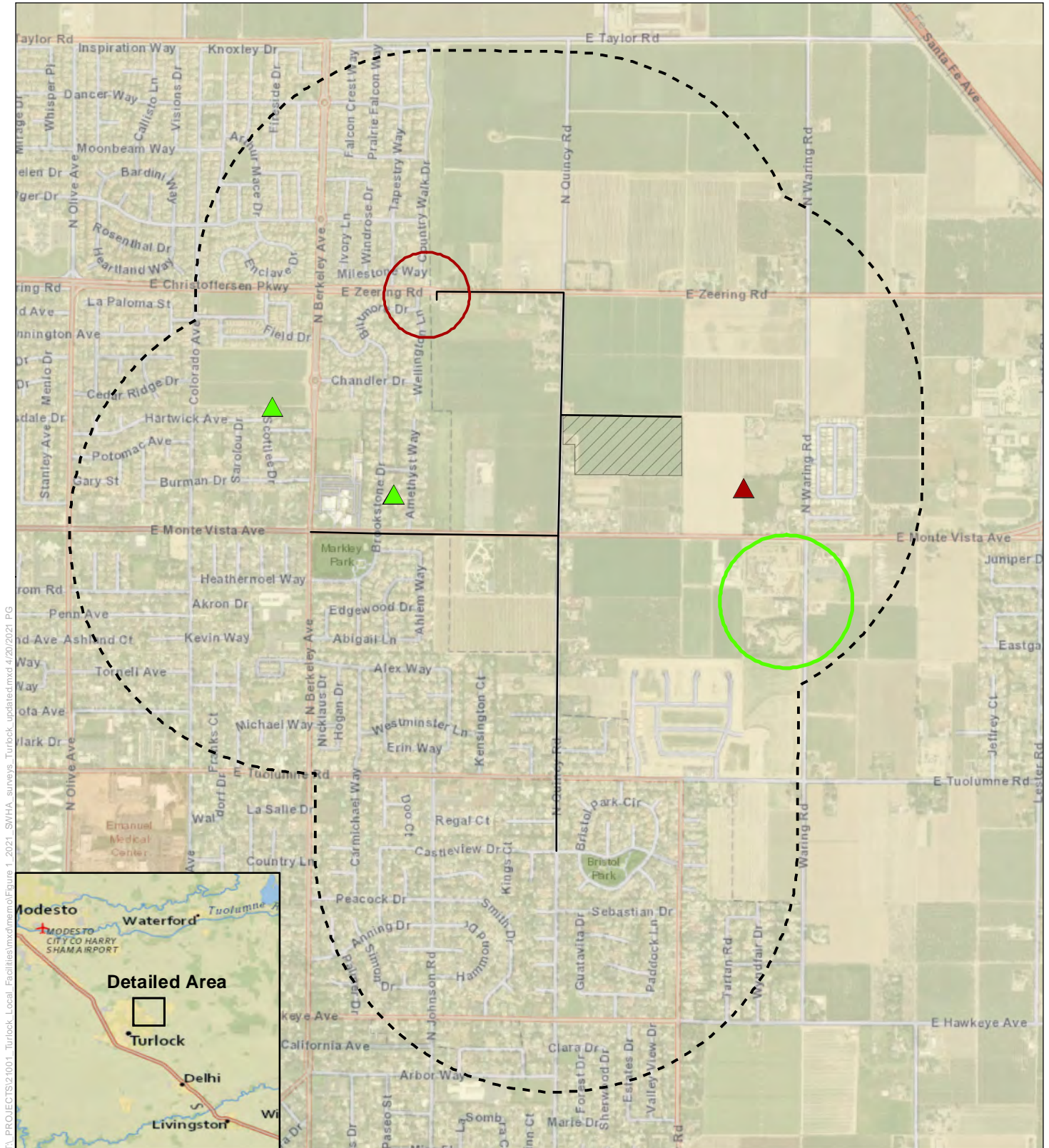
Horizon Water and Environment. 2018. Stanislaus Regional Water Authority Surface Water Supply Project Draft Environmental Impact Report. January.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended timing and methodology for Swainson's Hawk nesting surveys in California's Central Valley.

U.S. Fish and Wildlife Service. 2021a. Sacramento Fish and Wildlife Office. Information for Planning and Conservation Report. Available at: ecos.fws.gov/ipac. Accessed April 19, 2021.

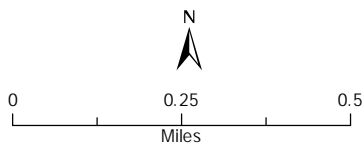
U.S. Fish and Wildlife Service. 2021b. Critical Habitat Database. Critical Habitat Report. Available at: ecos.fws.gov/ecp/report/table/critical-habitat.html. Accessed April 19, 2021.

USFWS. See U.S. Fish and Wildlife Service.



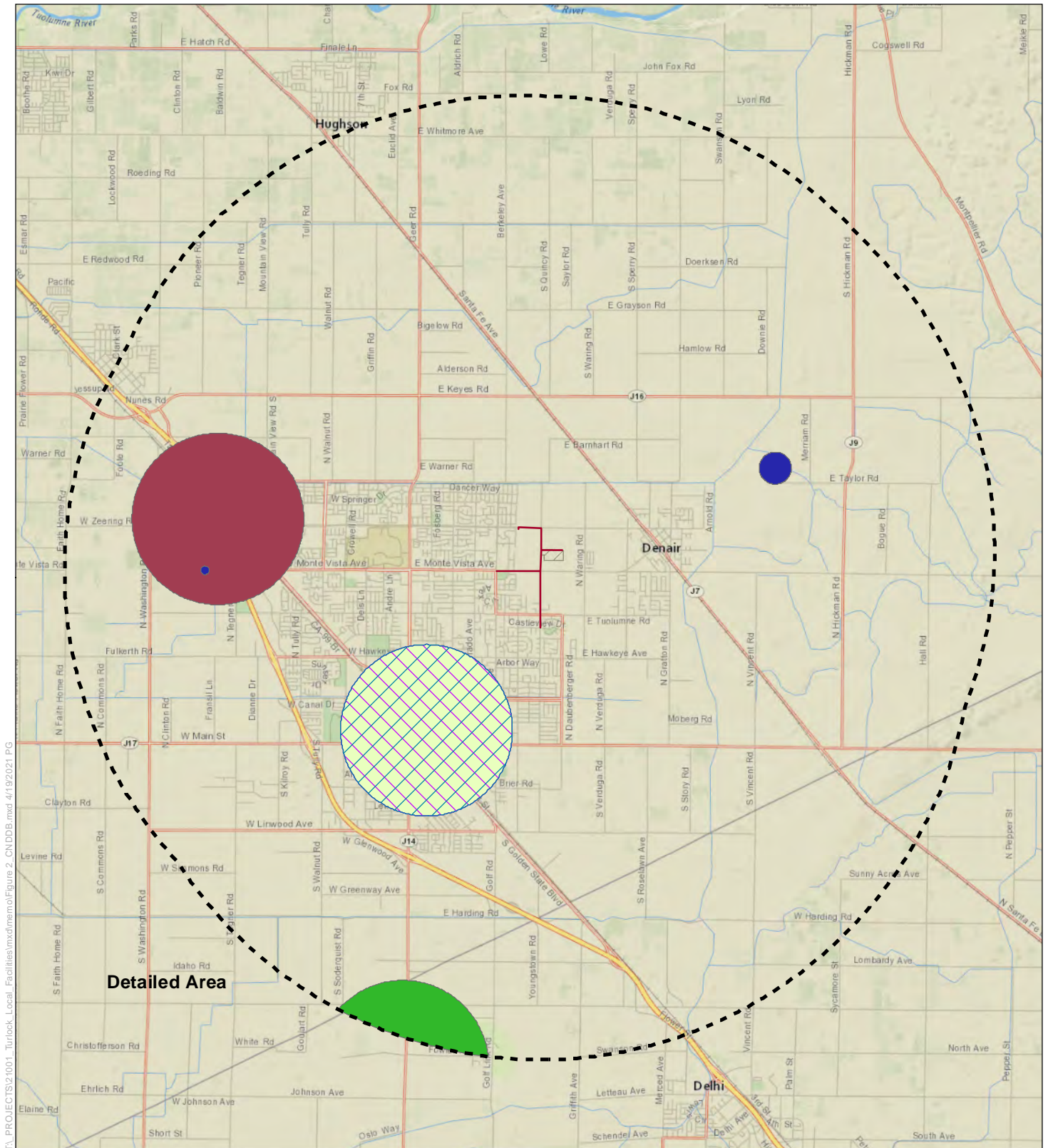
TL PROJECT13/2/1001_Turlock_Local_Facilities\mxd\memoFigure 1_2021_SVHA_surveys_Turlock_updated.mxd 4/20/2021 PG

Basemap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics,



- Turlock Terminal Pipelines
- Tank Parcel
- Swainson's Hawk Survey Area (1/2 mile buffer)
- Nest Structures**
- Swainson's Hawk - active
- Red-tailed Hawk - active
- Swainson's Hawk Nest Territory
- red-tailed Hawk Nest Territory

Figure 1
Project Location and
Swainson's Hawk
Survey Results



T:\PROJECTS\21001_Turlock_Local_Facilities\mxd\memoFigure 2_CNDDB.mxd 4/19/2021 PG

Baseemap Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS,



0 1 2
Miles



- Turlock Terminal Pipelines
- Tank Parcel
- 5-mile Buffer

Special-status Species

- Crotch bumble bee
- Swainson's hawk
- heartscale and subtle orache
- hoary bat
- northern California legless lizard
- tricolored blackbird

Figure 2
Special-status Species
Occurrences within 5 miles
of the Project



Turlock Local
Facilities Project

Attachment A

Terminal Tank Site Photographs

Attachment A. Terminal Tank Site Photographs



Photo No. 1	Date: 2/5/21	
Description: Terminal tank site, facing east from North Quincy Road.		
Photo No. 2	Date: 4/15/21	
Description: Irrigation ditch at the southern border of the terminal tank site, facing east from the western portion of the parcel.		

Attachment A. Tank Parcel Photographs

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Attachment B

Special-status Species Lists



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Riverbank (3712068) OR Waterford (3712067) OR Paulsell (3712066) OR Ceres (3712058) OR Denair (3712057) OR Montpelier (3712056) OR Hatch (3712048) OR Turlock (3712047) OR Cressey (3712046))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
<i>Atriplex subtilis</i> subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branta hutchinsii leucopareia</i> cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Calycadenia hooveri</i> Hoover's calycadenia	PDAST1P040	None	None	G2	S2	1B.3
<i>Castilleja campestris</i> var. <i>succulenta</i> succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
<i>Clarkia rostrata</i> beaked clarkia	PDONA050Y0	None	None	G2G3	S2S3	1B.3
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
<i>Dipodomys heermanni dixonii</i> Merced kangaroo rat	AMAFD03062	None	None	G4T2T3	S2S3	
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Euphorbia hooveri</i> Hoover's spurge	PDEUP0D150	Threatened	None	G1	S1	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G3G4	S4	
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Lytta moesta</i> moestan blister beetle	IICOL4C020	None	None	G2	S2	
<i>Monardella leucocephala</i> Merced monardella	PDLAM180C0	None	None	GX	SX	1A
<i>Mylopharodon conocephalus</i> hardhead	AFCJB25010	None	None	G3	S3	SSC
<i>Neostapfia colusana</i> Colusa grass	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
<i>Orcuttia pilosa</i> hairy Orcutt grass	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
<i>Tuctoria greenei</i> Greene's tuctoria	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 35

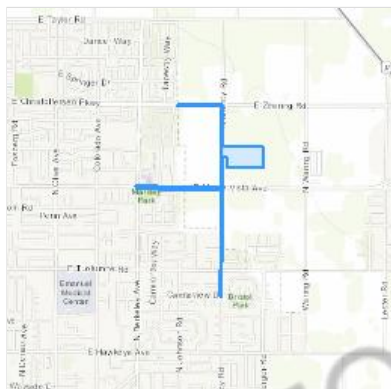
This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list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

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

NAME _____

Turlock Local Facilities Project


Stanislaus County, California



None

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

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

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

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

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

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

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

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

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

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened

California Tiger Salamander *Ambystoma californiense*

Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/2076>

Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME

STATUS

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/2246>

Flowering Plants

NAME

STATUS

San Joaquin Orcutt Grass *Orcuttia inaequalis*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/5506>

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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

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

Additional information can be found using the following links:

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

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

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

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Oak Titmouse *Baeolophus inornatus*

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

<https://ecos.fws.gov/ecp/species/9656>

Breeds Mar 15 to Jul 15

Yellow-billed Magpie *Pica nuttalli*

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

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

Breeds Apr 1 to Jul 31

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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

Survey Effort (|)

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

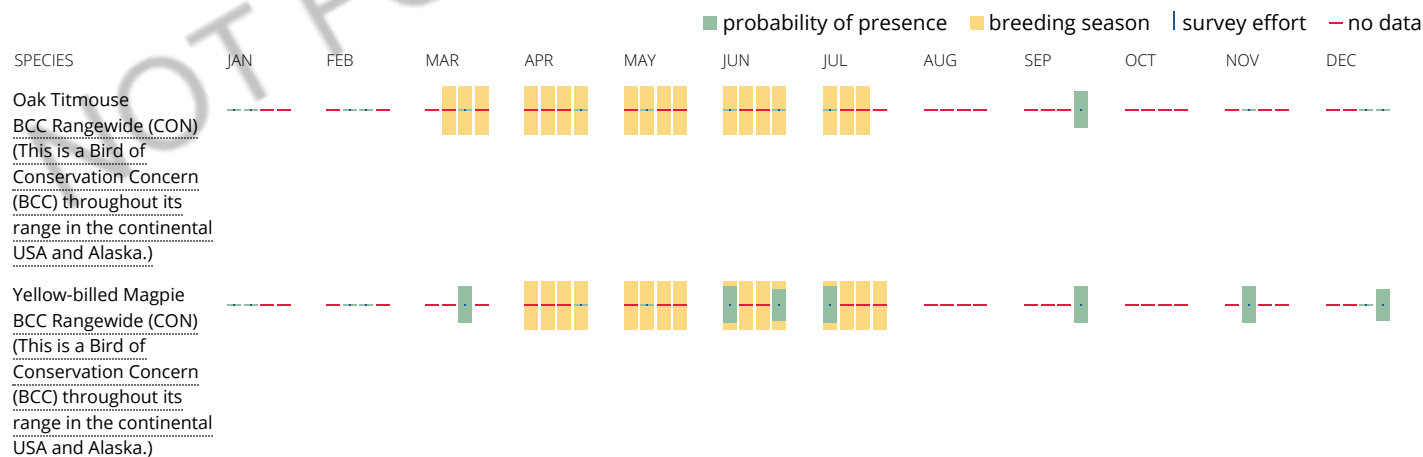
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

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

Survey Timeframe

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



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

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

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

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

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

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

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low

survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Attachment B. Special-status Species Lists

The potential for each species to occur in the Study Area was assessed using the criteria outlined below.

None: the area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not Expected: suitable habitat or key habitat elements might be present but might be of poor quality or isolated from the nearest extant occurrences, and/or the species is not known to occur in the area.

Possible: presence of suitable habitat or key habitat elements that potentially support the species.

Present: the species was either observed directly or its presence was confirmed by field investigations or in previous studies in the area.

Table 1. Special Status Plants

Scientific Name/ Common Name	Federal/State/ CRPR Status*	Habitat Characteristics	Potential to Occur
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	-/-/1B.2	Alkaline soils in alkaline flats, scalds, and alkali seasonal wetlands within chenopod scrub, valley and foothill grassland, and meadow habitats. 1-560 meters. April-October.	None. The project area lacks suitable alkaline habitat for this species.
<i>Atriplex subtilis</i> Subtle orache	-/-/1B.2	In seasonal alkali wetlands or alkali sink scrub within chenopod scrub, alkali meadows, alkali playas, and grassland habitats. 1-835 meters. April-October.	None. The project area lacks suitable alkaline habitat for this species.
<i>Calycadenia hooverii</i> <i>Hoover's calycadenia</i>	-/-/1B.3	On exposed bare, rocky, volcanic soils in cismontane woodland, valley and foothill grassland 700-260 meters. Found on Hornitos sandstones and lone formation.	None. The project area lacks suitable habitat for this species.
<i>Castilleja campestris</i> ssp. <i>succulent</i> succulent owl's-clover	FE/SE/1B.2	Vernal pools, valley and foothill grassland. Moist places, often in acidic soils. 25-750 meters. April-May.	None. The project area lacks suitable vernal pool habitat for this species.
<i>Clarkia rostrata</i> <i>Beaked clarkia</i>	-/-/1B.3	On north facing slopes; sometimes on sandstone. In cismontane woodland, valley and foothill grassland 60-915 meters.	None. The project area lacks suitable habitat for this species.

Scientific Name/ Common Name	Federal/State/ CRPR Status*	Habitat Characteristics	Potential to Occur
<i>Eryngium racemosum</i> Delta button-celery	-/SE/1B.2	Found in seasonally inundated clay depressions within riparian scrub. 3-30 meters. Blooms June through October.	None. The project area lacks suitable habitat for this species.
<i>Euphorbia hooveri</i> Hoover's spurge	FE/ST/1B	Vernal pools on volcanic mudflow or clay substrate. 25-130 meters. Flowers July to September.	None. The project area lacks suitable habitat for this species.
<i>Monardella leucocephala</i> Merced monardella	-/-/1A	Restricted to sandy or subalkaline soils in valley and foothill grasslands and riverbeds.	None. This species is presumed extinct. It is known from 3 historical observations in Stanislaus and Merced counties that have been extirpated (CDFW 2017). The project area lacks suitable habitat for this species
<i>Neostapfia colusana</i> Colusa grass	FT/ST/1B.1	Usually in large, or deep vernal pool bottoms; adobe soils. 5-125 meters. Flowers May to August.	None. The project area lacks suitable habitat for this species.
<i>Orcuttia inaequalis</i> San Joaquin Orcutt Grass	FT/SE/1B.1	Vernal pools. 10-755 meters.	None. The project area lacks suitable habitat for this species.

Scientific Name/ Common Name	Federal/State/ CRPR Status*	Habitat Characteristics	Potential to Occur
<i>Orcuttia pilosa</i> hairy Orcutt grass	FE/ST/1B.1	Vernal pools 25-125 meters. Flowers May to September.	None. The project area lacks suitable habitat for this species.
<i>Puccinellia simplex</i> California alkali grass	-/-/1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernal mesic. Sinks, flats, and lake margins. 1-915 m.	None. The project area lacks suitable habitat for this species.
<i>Tuctoria greenei</i> Greene's tuctoria	FE/SR/1B.1	Clay bottoms of drying vernal pools and lakes in valley grassland. 5-10 meters. Flowers May to September.	None. The project area lacks suitable habitat for this species.

* Abbreviations for Federal and State Species Status:

FE = Federal endangered
 FT = Federal threatened
 SE = State endangered
 ST = State threatened
 SR = State rare

Abbreviations for CRPR (California Rare Plant Rank) Status:

1B = Plants Rare, Threatened, or Endangered in California and Elsewhere
 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
 4 = Plants of Limited Distribution - A Watch List
 0.1 = Seriously Threatened in California
 0.2 = Moderately Threatened in California
 0.3 = Not Very Threatened in California

Table 2. Special Status Animal Species

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
Invertebrates			
<i>Bombus crotchii</i> Crotch bumble bee	--/SC	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Not expected. The project area is within the range of this species. However, the project area provides only marginally suitable habitat for this species.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/--	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	None. The project area lacks suitable habitat for this species.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT/--	Occurs in riparian communities of the Central Valley of California, in exclusive association with its host plant, blue elderberry (<i>Sambucus mexicana</i>). Adult beetles of this subspecies feed and lay eggs on elderberry shrubs. The larvae remain within the elderberry stems until they emerge through exit holes as adults.	None. No suitable elderberry shrubs were detected during surveys.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	None. The project area lacks suitable habitat for this species.
Fish			
<i>Entosphenus tridentate</i> Pacific lamprey	FSC/--	Found throughout California and in tributaries of the San Joaquin River downstream of impassable dams. Requires swift-current, gravel-bottomed areas for spawning with water temperatures of 12-18°C. Ammocoetes need soft sand or mud.	None. The project area lacks suitable habitat for this species.

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
<i>Hypomesus transpacificus</i> Delta smelt	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2 ppt.	None. Project area is out of range of the species.
<i>Mylopharodon conocephalus</i> hardhead	--/SSC	Widely distributed in low to mid-elevation streams in the Sacramento & San Joaquin River tributaries.	None. The project area lacks suitable habitat for this species.
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	--/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined mostly to the Delta and Suisun Bay. Requires flooded vegetation for spawning & foraging for young and may occur in slow moving river section and dead-end sloughs.	None. The project area lacks suitable habitat for this species.
<i>Oncorhynchus mykiss</i> steelhead (Central Valley DPS)	FT/--	Populations spawn in the Sacramento & San Joaquin rivers and their tributaries. The distribution of steelhead in the Central Valley has been significantly reduced in recent years. Require beds of loose, silt-free, coarse gravel for spawning and also need cover, cool water & sufficient dissolved oxygen.	None. The project area lacks suitable habitat for this species.
<i>Oncorhynchus tshawytscha</i> Chinook salmon (Central Valley fall-, late fall-run Evolutionarily Significant Unit (ESU))	FC/SSC	Populations spawn in the Sacramento & San Joaquin rivers and tributaries. Beds of loose, silt-free, coarse gravel are required for spawning. The species also needs cover, cool water & high dissolved oxygen.	None. The project area lacks suitable habitat for this species.
<i>Oncorhynchus tshawytscha</i>	FT/ST	The San Joaquin River Basin is considered Essential Fish Habitat (EFH) for this species. Beds of loose, silt-free, coarse gravel are required for spawning. The	None. The project area lacks suitable habitat for this species.

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
Chinook salmon, Central Valley spring-run ESU		species also needs cover, cool water & high dissolved oxygen.	
<i>Oncorhynchus tshawytscha</i> Chinook Salmon, Spring-run (Nonessential experimental population)	See F&G Code Sections 2080.2-2080.4	Spring-run Chinook Salmon have been reintroduced to the San Joaquin River within an experimental area which extends from Friant Dam downstream to the confluence with the Merced River. Fish of any origin within this area are defined as a nonessential experimental population.	None. The project area lacks suitable habitat for this species.
Amphibians and Reptiles			
<i>Actinemys marmorata</i> western pond turtle	-/CSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	None. The project area lacks suitable habitat for this species.
<i>Ambystoma californiense</i> California tiger salamander	FT/ST	Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	None. The project area lacks suitable breeding habitat, is isolated from potential breeding outside of the site, and the upland habitat is generally unsuitable for this species. The nearest known CNDDDB occurrence is in the Hickman vernal pool complex about 15 miles west.

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
<i>Anniella pulchra</i> Northern California legless lizard	-/CSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Not Expected. The project provides marginally suitable habitat for this species.
<i>Rana draytonii</i> California red-legged frog	FT/SCC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	None. The project area lacks suitable habitat for this species.
<i>Spea hammondi</i> western spadefoot toad	--/CSC	Reproduction requires presence of temporary, shallow pools formed from winter rains. Occurs in grasslands in the Central Valley. Egg laying may occur from late winter through March.	Not Expected. The project area lacks suitable breeding habitat for this species. The nearest known occurrence is in the Hickman vernal pool complex about 15 miles west.
<i>Thamnophis gigas</i> giant garter snake	FT/ST	This is the most aquatic of the garter snakes in California. Prefers freshwater marsh and low gradient streams, but has adapted to drainage canals and irrigation ditches. Habitat consists of (1) adequate water during the snake's active season, (2) emergent herbaceous wetland vegetation for escape and foraging habitat, (3) grassy banks and openings in waterside vegetation for basking, and (4) higher elevation upland habitat for cover and refuge from flooding (USFWS 2012).	None. The project area does not provide suitable freshwater marsh habitat for this species.

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
Birds			
<i>Agelaius tricolor</i> tricolored blackbird	--/ CSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. Nests in dense thickets of cattails (<i>Typha</i> spp.), bulrush (<i>Schoenoplectus</i> spp.), willow (<i>Salix</i> spp.), blackberry (<i>Rubus</i> spp.), wild rose (<i>Rosa californica</i>), and other tall vegetation near fresh water.	Not Expected. Species may nest in silage fields, but most agricultural lands adjacent to project activities are planted in orchards.
<i>Athene cunicularia</i> burrowing owl	--/CSC	Yearlong resident of open, dry annual or perennial grasslands and desert habitats. Requires subterranean burrows for nesting, dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Spermophilus beecheyi</i>). Prefers short vegetation for foraging grounds.	Not expected. Suitable habitat is not present within or adjacent to the project area. There are no known CNDDB occurrences within 5 miles of the site.
<i>Buteo swainsoni</i> Swainson's hawk	--/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Present. Suitable nesting habitat is present within and adjacent to the project area. Open areas within riparian habitat and agricultural areas provide potential foraging habitat. Swainson's hawks were observed nesting within ½ mile of the project area.
<i>Dendroica petechial</i> Yellow warbler	--/CSC	Occupy riparian vegetation near streams or wet meadows. Diet is general and they appear to adapt foraging habits to local vegetation structure.	None. The project area lacks suitable habitat for this species.

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
<i>Elanus leucurus</i> white-tailed kite	--/FP	Nests in rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Possible. Mature ornamental trees provide suitable nesting sites for this species. Ruderal habitats also provide foraging habitat.
Mammals			
<i>Antrozous pallidus</i> pallid bat	--/CSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Not expected. Ruderal habitats with trees provide limited roosting and foraging habitat.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--/CSC	Found throughout California in a wide variety of habitats, including woodlands, forests, chaparral, scrubs, and grasslands. Most common in mesic sites. Roosts on open surfaces in caves, abandoned mines, and buildings. Also uses bridges, rock crevices and hollow trees as roost sites. Roosting sites are limiting. This species is extremely sensitive to human disturbance.	Not expected. Ruderal habitats with trees provide limited roosting and foraging habitat.
<i>Lasiurus blossevillii</i> Western red bat	--/CSC	Cismontane woodland, lower montane coniferous forest, riparian forest and woodlands. Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Not expected. Ruderal habitats with trees provide limited roosting and foraging habitat.

Scientific Name/ Common Name	Federal/State Status*	Habitat Characteristics	Potential to Occur
<i>Taxidea taxus</i> American badger	--/CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents and digs burrows.	Not expected. This species could utilize the open grassland and walnut orchard for foraging, but no substantial or suitable burrows were observed during reconnaissance surveys.

* Abbreviations for Federal and State Species Status:

FE = Federal endangered

FT = Federal threatened

FDL = Federal delisted

SE = State endangered

ST = State threatened

SSC = Species of special concern

FP = State fully protected

References

U.S. Fish and Wildlife Service. 2007. *Pseudobahia bahiaefolia* (Hartweg's golden sunburst) and *P. peirsonii* (San Joaquin adobe sunburst) 5 Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, CA.

APPENDIX C

CULTURAL RESOURCES TECHNICAL MEMO

Memorandum

Project: City of Turlock Surface Water Distribution System Improvements Project – Terminal Tank
Subject: Cultural Resources Inventory
Date: April 20, 2021
To: Stephen Fremming, City of Turlock
From: Janis Offermann, M.A., RPA, Horizon Water and Environment

1 Introduction

Horizon Water and Environment (Horizon) has been providing environmental compliance support for the Stanislaus Regional Water Authority's (SRWA's) Regional Surface Water Supply Project (RSWSP), including construction of the wet well, testing of the infiltration gallery, and design/construction of the water treatment plant. The City of Turlock (City) plans to begin construction of the Turlock Local Facilities (project) component of the RSWSP in the fall of 2021 and continue through early 2023. The project site will contain a water tank, a detention basin, a pump station enclosed in a building, a Turlock Irrigation District transformer, and an emergency generator. The City has determined that the site will be shifted from the eastern portion of the identified parcel to the western portion. As a result, additional cultural resources surveys are needed.

2 Cultural Resources Study

A pedestrian archaeological survey of the proposed terminal tank location was conducted by a qualified archaeologist on April 15, 2021. The survey was conducted by walking transects, spaced 10 meters apart, across the entire project area. Nothing of significance was found on the parcel.

3 Conclusions

Although the results of the pedestrian survey were negative, there remains the possibility that buried archaeological materials could be present without any surface manifestation, or be obscured by dense vegetation. In the event that any prehistoric or historic subsurface cultural resources, including human remains, are discovered during ground disturbing activities, the following mitigation measures identified in the EIR would be implemented.

Mitigation Measure CUL-2. Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for NRHP/CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.

Not all cultural resources are visible on the ground surface. If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts (e.g.,

glass, ceramics, metal objects, bricks), human remains, or architectural remains, are encountered during proposed project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and SRWA will be contacted. SRWA will engage a qualified archaeologist to evaluate the nature of the finds.

All archaeological resources uncovered during construction within the proposed project APE shall be evaluated for eligibility for inclusion in the NRHP/CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards. If any of the resources meet the eligibility criteria identified in 36 CFR Part 60.4, Pub. Res. Code Section 5024.1, or State CEQA Guidelines Section 21083.2(g), SRWA will develop and implement mitigation measures in accordance with State CEQA Guidelines Section 15126.4(b) before construction resumes.

If the discovered resource is identified as eligible for listing in the NRHP/CRHR and it would be rendered ineligible by the proposed project construction, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a tribal cultural resource. Implementation of any SRWA-approved mitigation is required before resuming any construction activities with the potential to affect identified eligible resources at the site.

Mitigation Measure CUL-4. Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code.

If human remains are discovered during construction activities, the requirements of Section 7050.5 of the California Health and Safety Code shall be followed. Potentially damaging excavation shall halt on the proposed project site within a minimum radius of 100 feet of the remains and the County Coroner shall be notified. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). In accordance with the provisions of Pub. Res. Code Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. SRWA or its designee shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.

APPENDIX D

NOISE TECHNICAL MEMO

Memorandum

Date: April 22, 2021

To: Stephen Fremming, City of Turlock

From: Jennifer Schulte, Ph.D., and Debra Lilly, Horizon Water and Environment

Subject: Noise Levels at Turlock Terminal Tank Site

Horizon Water and Environment (Horizon) has been providing environmental compliance support for the Stanislaus Regional Water Authority's (SRWA's) Regional Surface Water Supply Project (RSWSP), including construction of the wet well, testing of the infiltration gallery, and design/construction of the water treatment plant. The City of Turlock (City) plans to begin construction of the Turlock Local Facilities (project) component of the RSWSP in the fall of 2021 and continue through early 2023. The project site will contain a water tank, a detention basin, a pump station enclosed in a building, a Turlock Irrigation District transformer, and an emergency generator. The City has requested that Horizon evaluate the placement and specifications of the emergency generator to ensure consistency with Stanislaus County noise standards.

Background

To put the potential noise levels into context, **Table 1** shows examples of common noise levels.

Table 1. Examples of Common Noise Levels

Source	Noise Level (dBA)
Weakest sound heard by average ear	0
Whisper	30
Normal conversation	60
Ringling telephone	80
Power lawnmower	90
Tractor	96
Hand drill	98
Bulldozer	105
Chain saw	110
Ambulance siren	120
Jet engine at takeoff	140

Source: National Institute of Safety and Health 2018

Information about the proposed generator (size KD1250-1750) and a potential noise-reducing enclosure (SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank) is provided in **Attachment A**. The nearest property line is 129 feet from the location of the emergency generator, and the nearest residential building is 196 feet from the emergency generator. The emergency generator is expected, under non-emergency conditions, to be operated only for routine maintenance and testing periods, which are limited to 50 hours per year and typically last less than 1 hour at any one time.

Emergency Generator Noise Levels

Horizon performed a noise analysis using the information provided on the proposed generator (size KD1250-1750) and a potential noise-reducing enclosure (SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank); this information is provided in **Attachment A**. Without additional modifications, operation of the generator without and with noise-reducing enclosures results in noise levels of 97 and 79 A-weighted decibels (dBA), respectively, at a distance of 7 meters (approximately 23 feet), according to the specification sheets shown in Attachment A. Based on these reference noise levels, Horizon used a simple noise model to estimate the ambient noise levels at various distances from the noise source (generator). This noise model uses a logarithmic sound attenuation over distance, but does not take into account any effects of terrain, vegetation, fences, or structural noise-damping effects.

Table 2 shows the anticipated noise levels at the property line and at the residential building, unenclosed and with a sound enclosure. With the sound enclosure, the noise level at the residential building from the emergency generator would be 60 dBA, similar to a normal conversation (as indicated in Table 1).

Table 2. Maximum Emergency Generator Noise Levels

Noise Receptor Location	Unenclosed Emergency Generator	Sound Enclosed Emergency Generator with Silencer
23 feet from Emergency Generator	97 dBA	79 dBA
Property Line (129 Feet)	82 dBA	64 dBA
Residential Building (196 Feet)	82 dBA	60 dBA

Stanislaus County Noise Ordinances

The project site is located in unincorporated Stanislaus County; thus, the Stanislaus County Noise Ordinance is applicable. The noise ordinance specifies that, for non-exempt activities, exterior noise levels should meet the levels specified in **Table 3** (Stanislaus County Code 10.46.050).

Table 3. Stanislaus County Exterior Noise Level Standards

Designated Noise Zone	Maximum A-weighted Sound Level	
	7:00 a.m. – 9:59 p.m.	10:00 p.m. – 6:59 a.m.
Noise Sensitive	45 dBA	45dBA
Residential	50 dBA	45 dBA
Commercial	60 dBA	55 dBA
Industrial	75 dBA	75 dBA

The noise zones are defined as follows:

1. **Noise Sensitive.** Any public or private school, hospital, church, convalescent home, cemetery, sensitive wildlife habitat, or public library regardless of its location within any land use zoning district.
2. **Residential.** All parcels located within a residential land use zoning district.
3. **Commercial.** All parcels located within a commercial or highway frontage land use zoning district.
4. **Industrial.** All parcels located within an industrial land use zoning district.
5. The noise zone definition of any parcel not located within a residential, commercial, highway frontage, or industrial land use zoning district shall be determined by the director of Stanislaus County planning and community development department, or designee, based on the permitted uses of the land use zoning district in which the parcel is located.

The ordinance allows for instances where the ambient noise level exceeds these noise levels and sets the exterior noise level standard to the existing ambient noise level. Instances such as this include locations near busy roadways and active agricultural operations. Ambient noise levels have not been measured at the site, but agricultural activities take place periodically at locations surrounding the project location.

Construction equipment cannot exceed an average sound level of 75 dBA between 7:00 p.m. and 7:00 a.m. (Stanislaus County 10.46.060 E).

Various exemptions to the noise levels shown in Table 3 have been identified (Stanislaus County 10.46.080). These include emergency alert signals, special events with permits, trash collection, agricultural activities, and residential maintenance activities. Public utilities are also exempt:

- J. **Public Entity or Public Utility Activity.** This chapter shall not apply to construction or maintenance activities performed by or at the direction of any public entity or public utility.

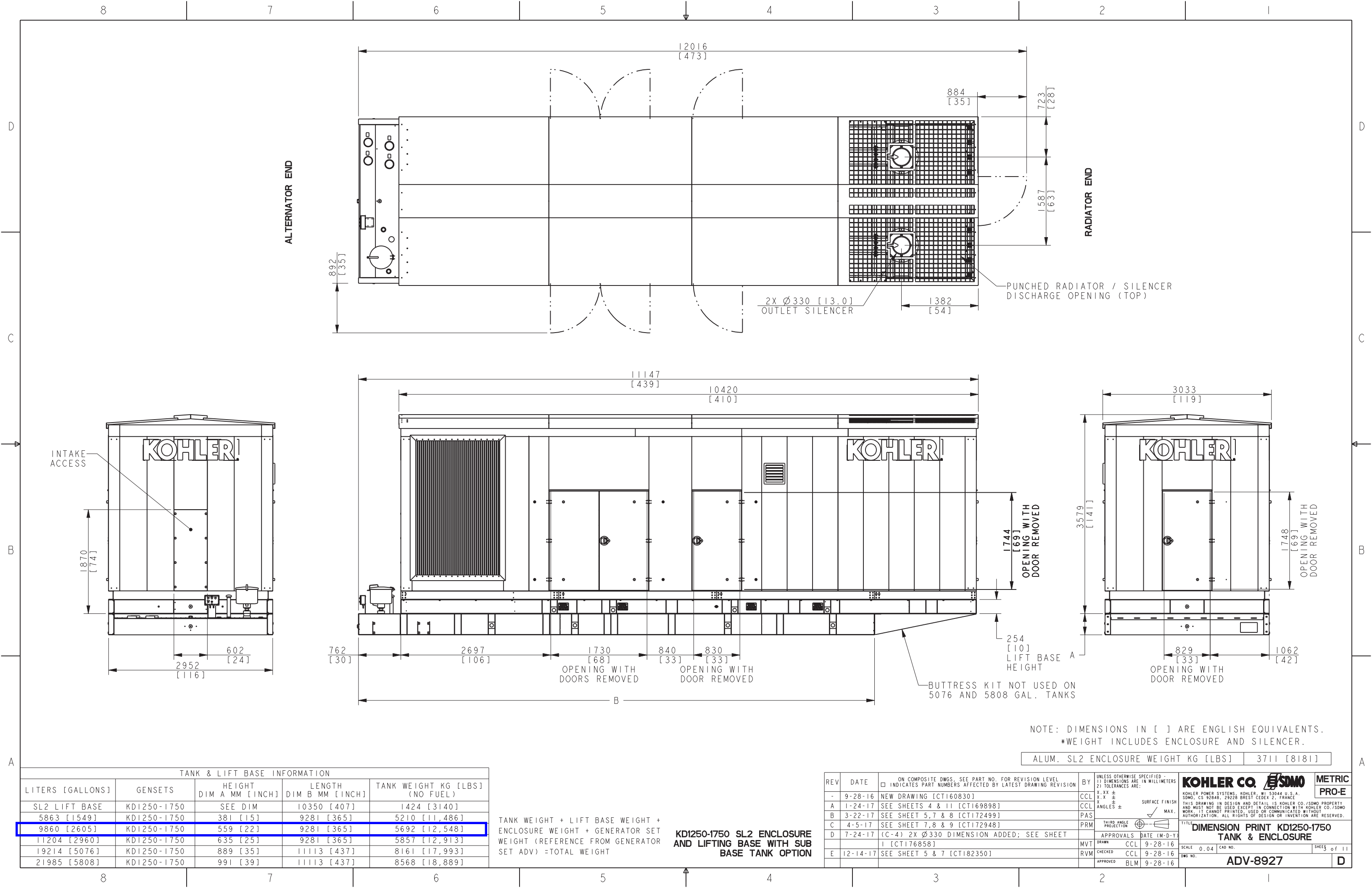
Maintenance testing of the emergency generator for 1-hour periods throughout the year would fall within the scope of the public utility exemption.

Conclusion

The emergency generator at the terminal tank site would be tested for approximately 1-hour periods and for no more than 50 hours per year. With the proposed sound enclosure, the emergency generator at the terminal tank site would generate noise levels of approximately 60 dBA, the level of a normal conversation, at the nearest residential building. Since the maintenance and testing of the emergency generator is activity performed at the direction of the public utility, it would be exempt from the noise level standards shown in Table 3 (i.e., daytime noise level of 50 dBA at residential building). In addition, the noise levels produced by the emergency generator would be similar to those produced by active agricultural operations, which take place periodically in the project area. Therefore, the emergency generator use for brief periods of testing and maintenance activities with a noise level of 60 dBA at the residential building exterior would be permitted under the Stanislaus County Noise Ordinance without additional mitigation required.

Attachment A

Emergency Generator Specifications

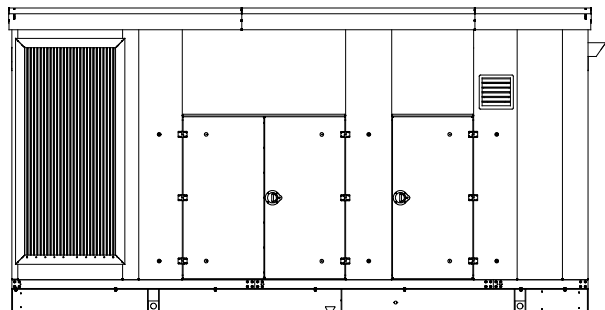


TANK & LIFT BASE INFORMATION				
LITERS [GALLONS]	GENSETS	HEIGHT DIM A MM [INCH]	LENGTH DIM B MM [INCH]	TANK WEIGHT KG [LBS] (NO FUEL)
SL2 LIFT BASE	KD1250-1750	SEE DIM	10350 [407]	1424 [3140]
5863 [1549]	KD1250-1750	381 [15]	9281 [365]	5210 [11,486]
9860 [2605]	KD1250-1750	559 [22]	9281 [365]	5692 [12,548]
11204 [2960]	KD1250-1750	635 [25]	9281 [365]	5857 [12,913]
19214 [5076]	KD1250-1750	889 [35]	11113 [437]	8161 [17,993]
21985 [5808]	KD1250-1750	991 [39]	11113 [437]	8568 [18,889]

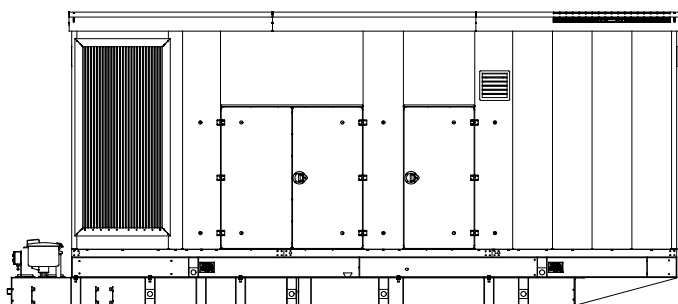
TANK WEIGHT + LIFT BASE WEIGHT +
ENCLOSURE WEIGHT + GENERATOR SET
WEIGHT (REFERENCE FROM GENERATOR
SET ADV) =TOTAL WEIGHT

KD1250-1750 SL2 ENCLOSURE
AND LIFTING BASE WITH SUB
BASE TANK OPTION

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL □ INDICATES PART NUMBERS AFFECTED BY LATEST DRAWING REVISION	BY	UNLESS OTHERWISE SPECIFIED - 1) DIMENSIONS ARE IN MILLIMETERS 2) TOLERANCES ARE: X.XX ± X.X ± X ANGLES ±	APPROVALS	DATE (M-D-Y)	TITLE
-	9-28-16	NEW DRAWING [CTI60830]	CCL				KOHLER CO. /SDMO
A	1-24-17	SEE SHEETS 4 & 11 [CTI69898]	CCL				KOHLER POWER SYSTEMS, KOHLER, WI 53044 U.S.A. SDMO, CS 92848, 29228 BREST CEDEX 2, FRANCE
B	3-22-17	SEE SHEET 5, 7 & 8 [CTI72499]	PAS				THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO./SDMO PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO./SDMO WORK. IT CANNOT BE PRINTED, USED OR COMMUNICATED WITHOUT AUTHORIZATION. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
C	4-5-17	SEE SHEET 7, 8 & 9 [CTI72948]	PRM				DIMENSION PRINT KD1250-1750 TANK & ENCLOSURE
D	7-24-17	(C-4) 2X Ø330 DIMENSION ADDED; SEE SHEET 1 [CTI76858]	MVT				SCALE 0.04 CAD NO. SHEET 3 of 11
E	12-14-17	SEE SHEET 5 & 7 [CTI82350]	RVM				DWG NO. ADV-8927

**Sound Enclosure and
Subbase Fuel Tank Package**

Level 1 Sound Enclosure with Lift Base



Level 2 Sound Enclosure with Subbase Fuel Tank
(shown with optional spill containment)

Enclosure and Subbase Fuel Tank Combinations

Four enclosure configurations are available with the subbase fuel tanks:

- Sound Enclosure Level 1
- Sound Enclosure Level 1, AQMD Ready
- Sound Enclosure Level 2
- Sound Enclosure Level 2, AQMD Ready

Available Approvals and Listings

- ☐ UL 2200 Listing
- ☐ UL142 Listing (fuel tanks)
- ☐ CSA Approval
- ☐ IBC Seismic Certification
- ☐ California OSHPD Approval (KD800- KD1750 models)
- ☐ cUL Listing (fuel tanks only)
- ☐ Hurricane Rated Enclosure - Available on aluminum Sound Level 2 enclosures, KD800- KD1750 models (Impact rated for Large Missile Level E and Wind load rated per Florida Building Code, tested to TAS201-94, TAS202-94 and TAS203-94 standards)

NOTE: Some models may have limited third-party approvals; see your local distributor for details.

**Applicable to the following models:
KD800 - KD2500 (includes KD1250-A)**

Sound Level 1 Enclosure Standard Features

- Internal silencers with flexible exhaust connectors and exhaust elbows.
- Mounts to lift base and optional subbase fuel tank.
- Aluminum construction with six large, hinged, removable doors for easy maintenance.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
- Lockable, flush-mounted door latches.
- Air inlet louvers to reduce rain and snow entry.
- Sloped roof to reduce the buildup of moisture and debris.
- Acoustic insulation that meets UL 94 HF1 flammability classification.
- Sound level 1 enclosure is designed to 150 mph (241 kph) wind load rating.
- Sound level 1 enclosure uses internal silencers, acoustic insulation and acoustic-lined air inlet hoods.

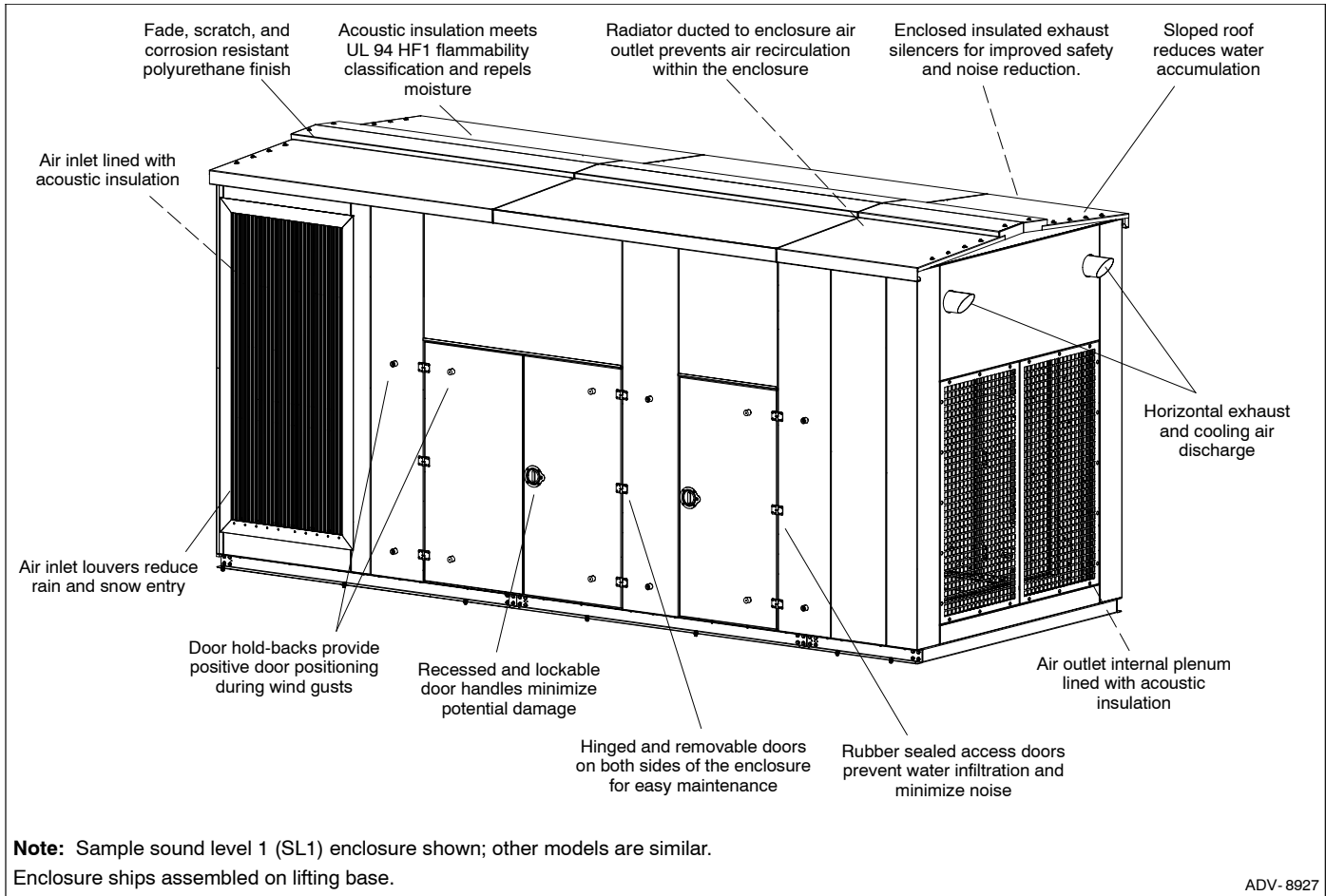
Sound Level 2 Enclosure Standard Features

- Includes all of the sound level 1 enclosure features with the addition of up to 51 mm (2 in.) acoustic insulation material, intake sound baffles, secondary silencers, and vertical air discharge with rain caps.
- Vertical outlet hood with 90 degree angles to redirect air and reduce noise.
- Sound level 2 enclosure is certified to 186 mph (299 kph) wind load rating for KD800- 2500 models.

Subbase Fuel Tank Features

- The fuel tank has a Power Armor Plus™ textured epoxy-based rubberized coating.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have UL-listed emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- The containment tank's construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- The above ground secondary containment subbase fuel tank meets UL 142 requirements.
- State tanks with varying capacities are available. Florida Dept. of Environmental Protection (FDEP) File No. EQ-634 approved.

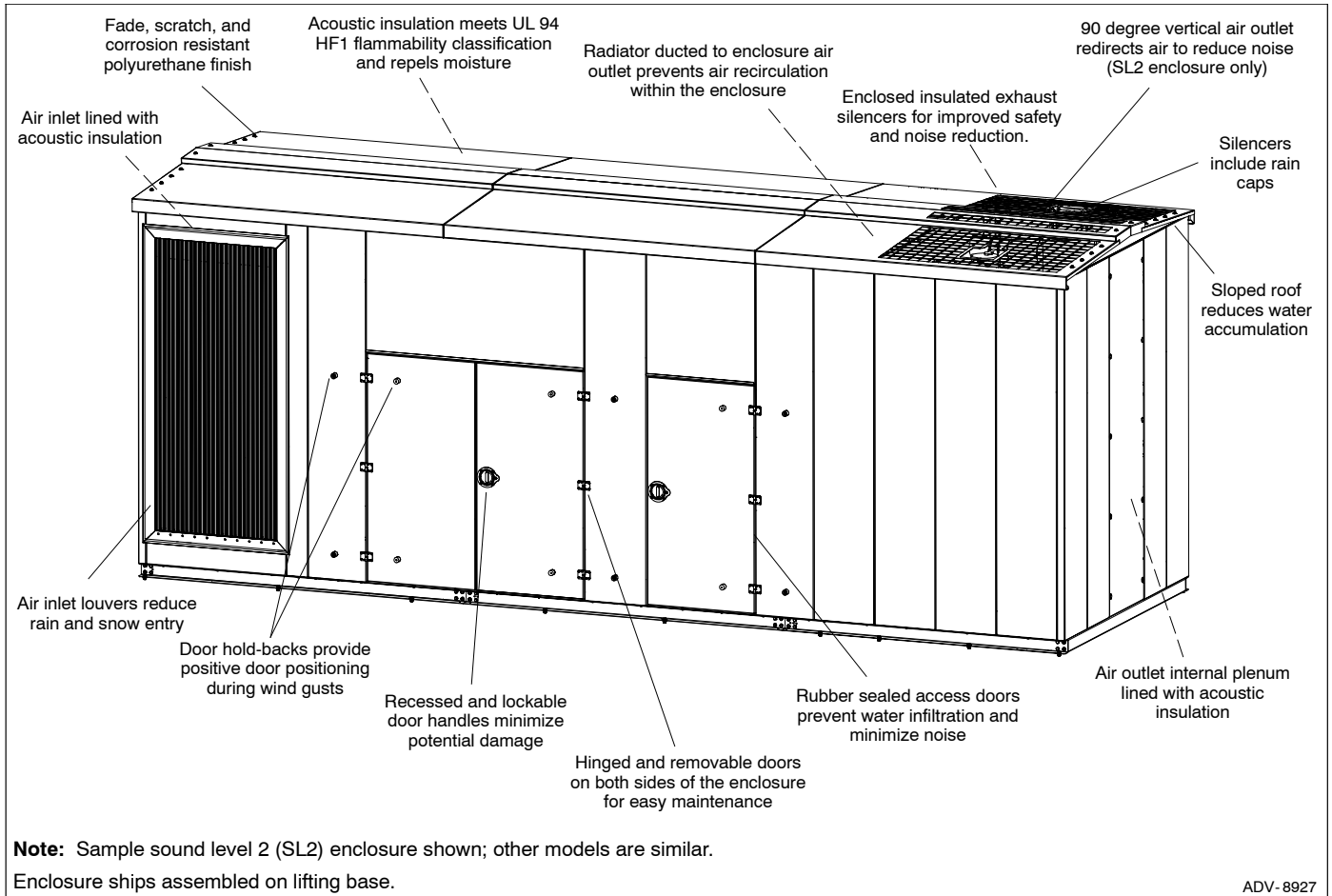
Aluminum Sound Enclosures



Level 1 Sound Enclosure Features

- Heavy-duty formed panels, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to lift base or fuel tank.
- Polyurethane enamel paint. Superior finish, durability, and appearance.
- The enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Internal exhaust silencers offering maximum component life and operator safety.
- **NOTE:** Installing an additional length of exhaust tail pipe may increase backpressure levels. Please refer to the generator set spec sheet for the maximum backpressure value.
- Service access. Multiple personnel doors for easy access to generator set control and servicing of the fuel fill, fuel gauge, oil fill, and battery.
- Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
- Bolted panels facilitate service, future modification upgrades, or field replacement.
- Cooling/combustion air intake. Fixed air intake louvers.
- Sound-attenuating design using critical silencers. Acoustic insulation UL 94 HF1 listed for flame resistance.
- Horizontal air discharge. Sound level 1 (SL1) enclosures use a horizontal design that directs exhaust and cooling air out the end of the enclosure.

Aluminum Sound Enclosures

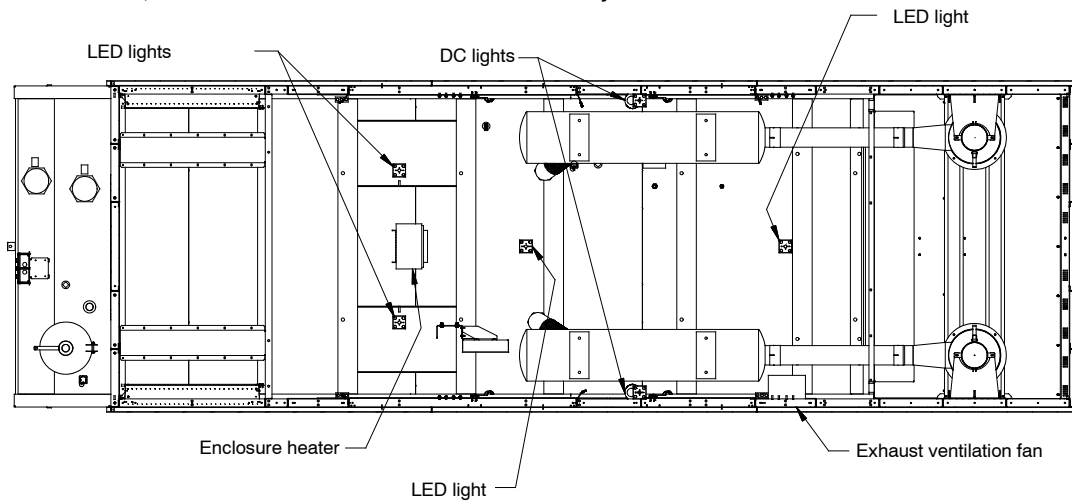


Level 2 Sound Enclosure Features

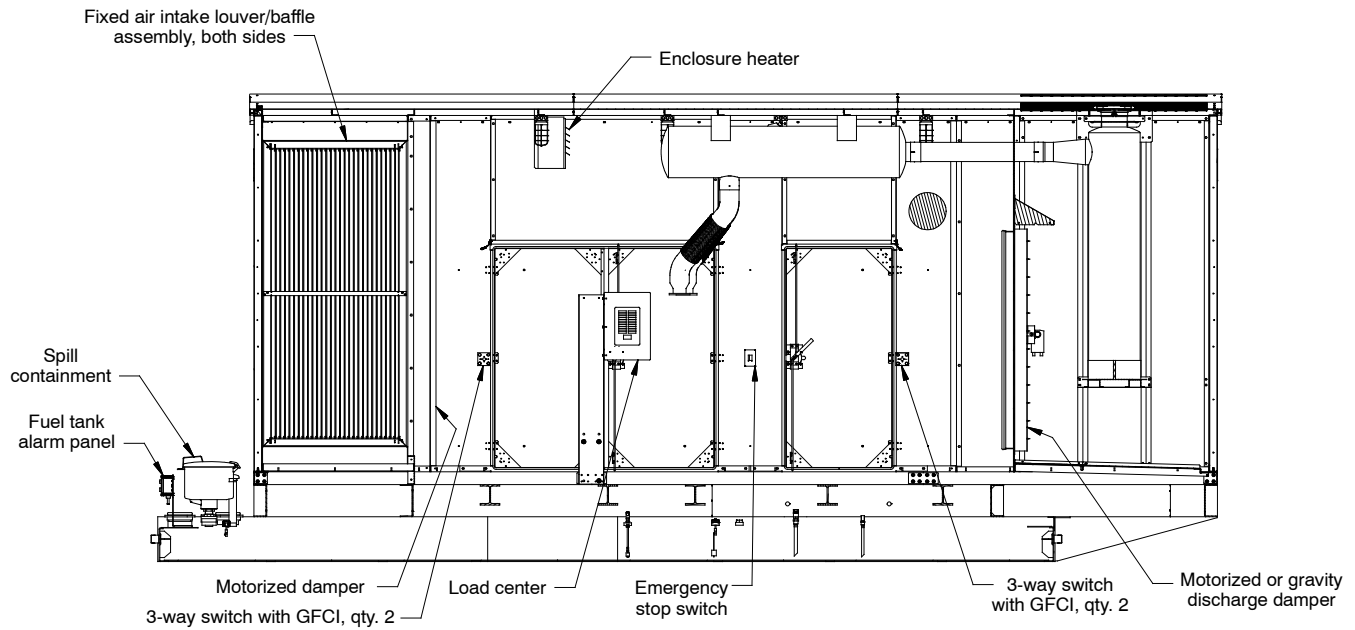
- Heavy-duty formed panels, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to lift base or fuel tank.
- Polyurethane enamel paint. Superior finish, durability, and appearance.
- The enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Internal exhaust silencers offering maximum component life and operator safety.
- Service access. Multiple personnel doors on both sides for easy access to generator set control and servicing of the fuel fill, fuel gauge, oil fill, and battery.
- Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
- Bolted panels facilitate service, future modification upgrades, or field replacement.
- Cooling/combustion air intake. Fixed air intake louvers.
- Sound-attenuating design using additional secondary silencers and up to 51 mm (2 inches) of added acoustic insulation, UL 94 HF1 listed for flame resistance.
- Vertical air discharge. Sound level 2 (SL2) models use a vertical air discharge design that redirects exhaust and cooling air up and above the enclosure to reduce noise.

Aluminum Sound Enclosure Options

Top view of SL2 enclosure, shown with roof removed for illustration only:



Side view of SL2 enclosure, shown with side panels removed for illustration only:



Note: Sample sound level 2 (SL2) enclosure shown; other models are similar.

ADV-8919-5

Aluminum Sound Enclosure Options

Basic Electrical Package (BEP)

Distribution Panel/Load Center. Prewired AC power distribution of all factory-installed features including block heater, two GFCI-protected internal 120-volt service receptacles, internal lighting, and commercial grade wall switches. Single-phase or three-phase load center powered by building source power and protected by a main circuit breaker, rated for 100, 125, or 200 amps as noted, with capacity and circuit positions for future expansion. AC power distribution installed in accordance with NEC and all wiring within EMT thin wall conduit. LED AC lights located within UL-listed fixtures designed for wet locations.

- ☐ BEP, single-phase, 120/208, 60 Hz or 120/240 VAC, 60 Hz. Includes 100 amp electrical panel, two 3-way switches, four LED lights, and two GFCI receptacles.
- ☐ BEP, three-phase, 120/208, 60 Hz or 120/240VAC, 60 Hz. Includes 125 amp electrical panel, two 3-way switches, four LED lights, and two GFCI receptacles.
- ☐ BEP, 200 amp, single-phase, 120/208, 60 Hz or 120/240 VAC, 60 Hz. Includes 200 amp electrical panel, two 3-way switches, four LED lights, and two GFCI receptacles.
- ☐ BEP, 200 amp, three-phase, 120/208, 60 Hz or 120/240VAC, 60 Hz. Includes 200 amp electrical panel, two 3-way switches, four LED lights, and two GFCI receptacles.

DC Light Package

DC Light Package (DLP). Prewired, internal DC light package offering an economical alternative light source within the enclosure, as a complement to the BEP or a source of light when AC power is not available. Battery drain limited with fuse protection and controlled through a 0- 60 minute, spring-wound, no-hold timer. Available in LED.

Electrical Accessories

Wiring Kits. Electrical wiring for accessories. BEP required.

- ☐ Alternator heater wiring (KD1250- 2500 only)
- ☐ Block heater wiring, single-phase
- ☐ Block heater wiring, three-phase
- ☐ Battery charger wiring

Emergency Stop Switch

- ☐ Generator set emergency stop switch, qty. 1.

Stepdown Transformers. 100 amp BEP required, 60 Hz only. KD1250- 2500 only.

- ☐ Single-phase, 120/240 V
- ☐ Three-phase, 120/208 V

Disconnect Switches. Disconnect switch for stepdown transformer. 60 Hz only.

- ☐ Single-phase
- ☐ Three-phase

Enclosure Heater

Heater, 3.7/5 kW Ceiling Mounted. Electrical utility heater prewired to load center internal to enclosure. Rated at 17100 Btu. Includes adjustable louvers offering down flow and horizontal air tuning, built-in thermostat with automatic fan delay controls.

- ☐ Heater kit with 1 heater, single/three phase, 208/240 VAC, 60 Hz. BEP required.
- ☐ Heater kit with 2 heaters, for KD1250- 2500 only, single/three phase, 208/240 VAC, 60 Hz. 200 amp BEP required.

Exhaust Fan

- ☐ Exhaust Ventilation Fan. Mounted inside the enclosure. BEP required.

Motorized Inlet Louvers. 60 Hz only; BEP required.

- ☐ Aluminum construction
- ☐ Insulated aluminum construction
- ☐ Galvanized construction

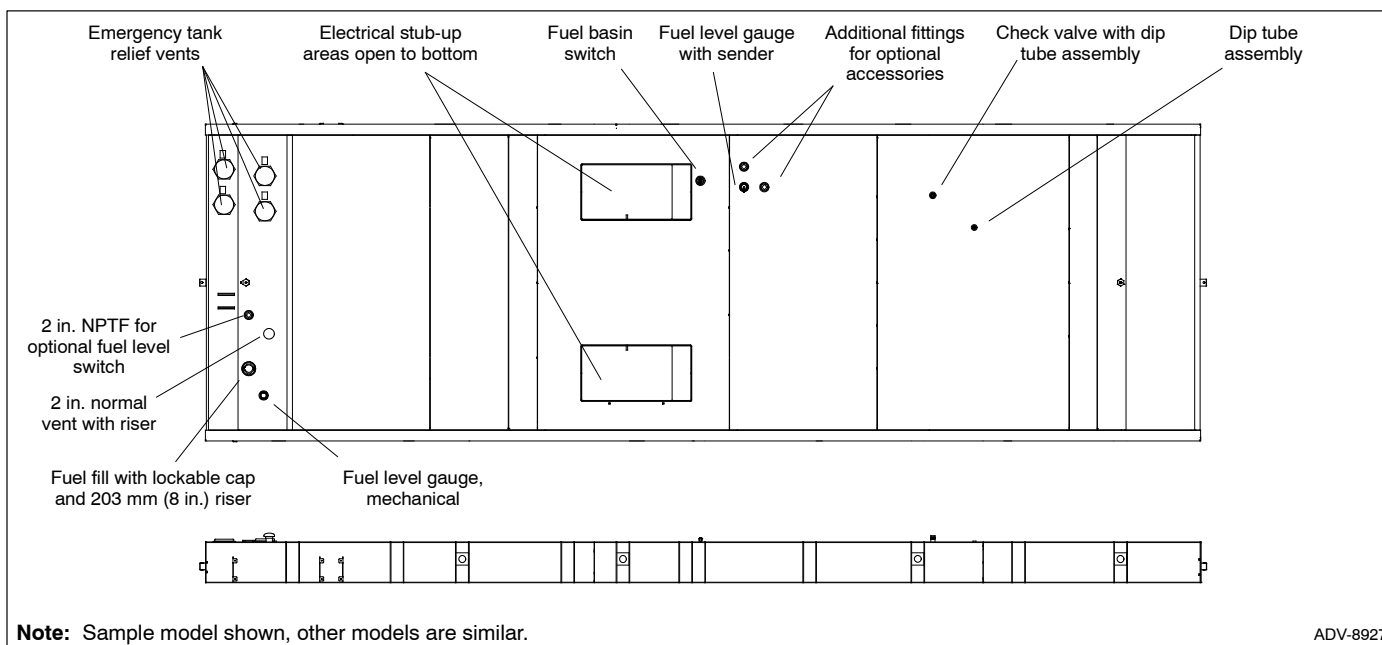
Motorized Outlet Louvers. 60 Hz only; BEP required.

- ☐ Aluminum construction
- ☐ Insulated aluminum construction
- ☐ Galvanized construction

Gravity Air Outlet

- ☐ Aluminum construction

Subbase Fuel Tank



Subbase Fuel Tank Standard Features

- Extended operation. State tanks with various capacities for multiple hour requirements.
- UL listed. Secondary containment generator set base tank meeting UL 142 requirements.
- NFPA compliant. Designed to comply with the installation standards of NFPA 30 and NFPA 37.
- Integral external lift lugs. Enables crane with spreader-bar lifting of the complete package (empty tank, mounted generator set, and enclosure) to ensure safety.
- Emergency pressure relief vents. Vents ensure adequate venting of inner and outer tank under extreme pressure and/or emergency conditions.
- Normal vent with cap. Vent is raised above lockable fuel fill.
- Fuel level gauge with sender.
- Mechanical fuel level gauge.
- Leak detection switch. Annunciates a contained primary tank fuel leak condition at generator set control.
- Electrical stub-up area open to bottom.
- Additional 2 in. NPT fittings for optional accessories.

Subbase Fuel Tank Options

Bottom Clearance

- ☐ I-beams, provide 102 mm (4 in.) of ground clearance (not available with OSHPD or IBC seismic certification)

Emergency Vent Options

- ☐ 127 mm (5 in.), IBC
- ☐ 152.4 mm (6 in.), IBC KD800- 1000 12 hr. tank only

Fuel in Basin Options

- ☐ Fuel in basin switch, Florida Dept. of Environmental Protection (FDEP) File No. EQ-682 approved
- ☐ 100% engine fluid containment

Fuel Supply Options

- ☐ Fire safety valve (installed on fuel supply line)
- ☐ Ball valve (installed on fuel supply line)

Fuel Fill Options

- ☐ Fill pipe extension to within 152 mm (6 in.) of bottom of fuel tank
- ☐ 18.9 L (5 gallon) spill containment
- ☐ 18.9 L (5 gallon) spill containment with 95% shutoff
- ☐ 18.9 L (5 gallon) spill containment fill to within 152 mm (6 in.) of bottom of fuel tank
- ☐ 18.9 L (5 gallon) spill containment, OSHPD/IBC
- ☐ 18.9 L (5 gallon) spill containment with 95% shutoff, OSHPD/IBC
- ☐ 28.4 L (7.5 gallon) spill containment, Florida Dept. of Environmental Protection (FDEP) File No. EQ-345 approved
- ☐ 28.4 L (7.5 gallon) spill containment with 95% shutoff, Florida Dept. of Environmental Protection (FDEP) File No. EQ-345/EQ-257 approved

High Fuel Level Switch

- ☐ High fuel level switch, 24V
- ☐ High fuel level switch, 24V, Florida Dept. of Environmental Protection (FDEP) File No. EQ-682 approved
- ☐ Fuel tank panel, 3 alarm, 24 V
- ☐ Fuel tank panel, 3 alarm, 24 V, Florida Dept. of Environmental Protection (FDEP) File No. EQ-682 approved

Normal Vent Options

- ☐ 3.7 m (12 ft.) above grade (without spill containment)
- ☐ 3.7 m (12 ft.) above grade (with spill containment)

Freestanding Stairs

- ☐ Stairs only, single door access
- ☐ Stairs with platform, single door access
- ☐ Stairs with catwalk, 2 door access, door length only
- ☐ Stairs with catwalk, 2 door access, full length of enclosure

Tank Marking Options

- ☐ Decal, Combustible Liquids - Keep Fire Away (qty. 2)
- ☐ Decal, NFPA 704 identification (qty. 2)
- ☐ Decal, tank number and safe fuel fill height (qty. 2)

Enclosure and Subbase Fuel Tank Specifications

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load (nominal)	Max. Dimensions, mm (in.)			Max. Weight, † kg (lb.)	Fuel Tank Height, mm (in.)	Sound Pressure Level at 60 Hz with Full Load, dB(A) ‡
		Length	Width §	Height			

KD800 SL1 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	6582 (259)	2616 (103)	3350 (132)	10184 (22452)	—	90
3475 (918)	12	7309 (288)		3706 (146)	13772 (30362)	356 (14.0)	
6621 (1749)	24			3934 (155)	14252 (31421)	584 (23.0)	
10573 (2793)	48			4264 (168)	14831 (32698)	914 (36.0)	
15740 (4158)	72	9144 (360)		4366 (172)	16242 (35808)	1016 (40.0)	

KD800 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	7707 (303)	2616 (103)	3350 (132)	10587 (23340)	—	75
3475 (918)	12	8434 (332)		3706 (146)	14175 (31250)	356 (14.0)	
6621 (1749)	24			3934 (155)	14655 (32309)	584 (23.0)	
10573 (2793)	48			4290 (169)	15234 (33586)	915 (36.0)	
15740 (4158)	72	9144 (360)		4366 (172)	16645 (36696)	1016 (40.0)	

KD900 SL1 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	6582 (259)	2616 (103)	3350 (132)	10497 (23343)	—	91
3475 (918)	12	7309 (288)		3706 (146)	14085 (31253)	356 (14.0)	
6621 (1749)	24			3934 (155)	14565 (32312)	584 (23.0)	
12969 (3426)	48	8400 (331)		4293 (169)	16348 (36243)	940 (37.0)	
19381 (5120)	72	11050 (435)		4369 (172)	17527 (38840)	1016 (40.0)	

KD900 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	7707 (303)	2616 (103)	3350 (132)	10900 (24231)	—	75
3475 (918)	12	8434 (332)		3706 (146)	14488 (32141)	356 (14.0)	
6621 (1749)	24			3934 (155)	14968 (33200)	584 (23.0)	
12969 (3426)	48			4290 (169)	16751 (37131)	940 (37.0)	
19381 (5120)	72	11050 (435)		4366 (172)	17930 (39728)	1016 (40.0)	

KD1000 SL1 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	6582 (259)	2616 (103)	3350 (132)	10810 (23833)	—	92
3475 (918)	12	7309 (288)		3706 (146)	14398 (31743)	356 (14.0)	
6621 (1749)	24			3934 (155)	14878 (32802)	584 (23.0)	
12969 (3426)	48	8400 (331)		4290 (169)	16661 (36733)	940 (37.0)	
19381 (5120)	72	11050 (435)		4366 (172)	17840 (39330)	1016 (40.0)	

KD1000 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	7707 (303)	2616 (103)	3353 (132)	11213 (24721)	—	76
3475 (918)	12	8434 (332)		3706 (146)	14801 (32631)	356 (14.0)	
6621 (1749)	24			3934 (155)	15281 (33690)	584 (23.0)	
12969 (3426)	48			4290 (169)	17064 (37621)	940 (37.0)	
19381 (5120)	72	11050 (435)		4366 (172)	18243 (40218)	1016 (40.0)	

KD1250/1500 SL1 Sound Enclosure with Internal Silencers and State Code Subbase Fuel Tank *

Lifting Base	0	8831 (348)	3033 (119)	3579 (141)	17116 (37748)	—	93
5863 (1549)	18/15	9594 (378)		3960 (156)	22326 (49234)	381 (15.0)	
9860 (2605)	30/25			4138 (163)	22808 (50296)	559 (22.0)	
11204 (2960)	34/28			4214 (166)	22973 (50661)	635 (25.0)	
19214 (5076)	58/48	11113 (438)		4468 (176)	25277 (55741)	889 (35.0)	
21985 (5808)	66/55			4570 (180)	25684 (56637)	991 (39.0)	

KD1250/1500 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	10420 (410)	3033 (119)	3579 (141)	18031 (39764)	—	79
5863 (1549)	18/15	11147 (439)		3960 (156)	23241 (51250)	381 (15.0)	
9860 (2605)	30/25			4138 (163)	23723 (52312)	559 (22.0)	
11204 (2960)	34/28			4214 (166)	23888 (52677)	635 (25.0)	
19214 (5076)	58/48			4468 (176)	26192 (57757)	889 (35.0)	
21985 (5808)	66/55			4570 (180)	26599 (58653)	991 (39.0)	

* Data in table is for reference only. Height includes enclosure, lift base, and tank (if equipped). Refer to your authorized Kohler distributor for enclosure and subbase fuel tank specification details.

† Max. weight includes the generator set (wet) with the largest alternator option, enclosure, silencers, lift base, and tank (no fuel).

‡ Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft.). Refer to TIB-114 for details. Enclosed generator set sound data for some models was not available at time of print.

§ An additional 940 mm (37 inches) of clearance on each side for opening and closing the access doors is recommended.

NOTE: If the Est. Fuel Supply Hours column shows more than one number, the numbers represent each model in that range.

Enclosure and Subbase Fuel Tank Specifications, continued

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load (nominal)	Max. Dimensions, mm (in.)			Max. Weight, † kg (lb.)	Fuel Tank Height, mm (in.)	Sound Pressure Level at 60 Hz with Full Load, dB(A) ‡
		Length	Width §	Height			

KD1250-A/1350 SL1 Sound Enclosure with Internal Silencers and State Code Subbase Fuel Tank *

Lifting Base	0	8831 (348)	3033 (119)	3579 (141)	17116 (37748)	—	93
5863 (1549)	18/17	9594 (378)		3960 (156)	22326 (49234)	381 (15.0)	
9860 (2605)	30/29			4138 (163)	22808 (50296)	559 (22.0)	
11204 (2960)	34/32			4214 (166)	22973 (50661)	635 (25.0)	
19214 (5076)	58/56	11113 (438)		4468 (176)	25277 (55741)	889 (35.0)	
21985 (5808)	67/64			4570 (180)	25684 (56637)	991 (39.0)	

KD1250-A/1350 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	10420 (410)	3033 (119)	3579 (141)	18031 (39764)	—	76
5863 (1549)	18/17	11147 (439)		3960 (156)	23241 (51250)	381 (15.0)	
9860 (2605)	30/29			4138 (163)	23723 (52312)	559 (22.0)	
11204 (2960)	34/32			4214 (166)	23888 (52677)	635 (25.0)	
19214 (5076)	58/56			4468 (176)	26192 (57757)	889 (35.0)	
21985 (5808)	67/64			4570 (180)	26599 (58653)	991 (39.0)	

KD1600 SL1 Sound Enclosure with Internal Silencers and State Code Subbase Fuel Tank *

Lifting Base	0	8831 (348)	3033 (119)	3579 (141)	17343 (38248)	—	94
5863 (1549)	14	9594 (378)		3960 (156)	22553 (49734)	381 (15.0)	
9860 (2605)	23			4138 (163)	23035 (50796)	559 (22.0)	
11204 (2960)	26			4214 (166)	23200 (51161)	635 (25.0)	
19214 (5076)	45	11113 (438)		4468 (176)	25504 (56241)	889 (35.0)	
21985 (5808)	52			4570 (180)	25911 (57137)	991 (39.0)	

KD1600 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	10420 (410)	3033 (119)	3579 (141)	18258 (40264)	—	79
5863 (1549)	14	11147 (439)		3960 (156)	23468 (51750)	381 (15.0)	
9860 (2605)	23			4138 (163)	23950 (52812)	559 (22.0)	
11204 (2960)	26			4214 (166)	24115 (53177)	635 (25.0)	
19214 (5076)	45			4468 (176)	26419 (58257)	889 (35.0)	
21985 (5808)	52			4570 (180)	26826 (59153)	991 (39.0)	

KD1750 SL1 Sound Enclosure with Internal Silencers and State Code Subbase Fuel Tank *

Lifting Base	0	8831 (348)	3033 (119)	3579 (141)	17343 (38248)	—	95
5863 (1549)	13	9594 (378)		3960 (156)	22553 (49734)	381 (15.0)	
9860 (2605)	21			4138 (163)	23035 (50796)	559 (22.0)	
11204 (2960)	24			4214 (166)	23200 (51161)	635 (25.0)	
19214 (5076)	42	11113 (438)		4468 (176)	25504 (56241)	889 (35.0)	
21985 (5808)	48			4570 (180)	25911 (57137)	991 (39.0)	

KD1750 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *

Lifting Base	0	10420 (410)	3033 (119)	3579 (141)	18258 (40264)	—	79
5863 (1549)	13	11147 (439)		3960 (156)	23468 (51750)	381 (15.0)	
9860 (2605)	21			4138 (163)	23950 (52812)	559 (22.0)	
11204 (2960)	24			4214 (166)	24115 (53177)	635 (25.0)	
19214 (5076)	42			4468 (176)	26419 (58257)	889 (35.0)	
21985 (5808)	48			4570 (180)	26826 (59153)	991 (39.0)	

* Data in table is for reference only. Height includes enclosure, lift base, and tank (if equipped). Refer to your authorized Kohler distributor for enclosure and subbase fuel tank specification details.

† Max. weight includes the generator set (wet) with the largest alternator option, enclosure, silencers, lift base, and tank (no fuel).

‡ Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft.). Refer to TIB-114 for details. Enclosed generator set sound data for some models was not available at time of print.

§ An additional 940 mm (37 inches) of clearance on each side for opening and closing the access doors is recommended.

NOTE: If the Est. Fuel Supply Hours column shows more than one number, the numbers represent each model in that range.

Enclosure and Subbase Fuel Tank Specifications, continued

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load (nominal)	Max. Dimensions, mm (in.)			Max. Weight, † kg (lb.)	Fuel Tank Height, mm (in.)	Sound Pressure Level at 60 Hz with Full Load, dB(A) ‡
		Length	Width §	Height			
KD2000/2250/2500 SL1 Sound Enclosure with Internal Silencers and State Code Subbase Fuel Tank *							
Lifting Base	0	10774 (424)	3488 (137)	4141 (163)	33073 (72909)	—	90
8577 (2266)	15/14/13	11465 (451)		4522 (178)	40485 (89252)	381 (15)	
14130 (3733)	25/22/22			4700 (185)	41216 (90861)	559 (22)	
16451 (4346)	29/26/25			4776 (188)	41497 (91483)	635 (25)	
KD2000/2250/2500 SL2 Sound Enclosure with Internal Silencer and State Code Subbase Fuel Tank *							
Lifting Base	0	12766 (503)	3488 (137)	4141 (163)	35121 (77426)	—	78
8577 (2266)	15/14/13	13491 (531)		4522 (178)	42533 (93766)	381 (15)	
14130 (3733)	25/22/22			4700 (185)	43264 (95378)	559 (22)	
16451 (4346)	29/26/25			4776 (188)	43545 (95997)	635 (25)	

* Data in table is for reference only. Height includes enclosure, lift base, and tank (if equipped). Refer to your authorized Kohler distributor for enclosure and subbase fuel tank specification details.

† Max. weight includes the generator set (wet) with the largest alternator option, enclosure, silencers, lift base, and tank (no fuel).

‡ Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft.). Refer to TIB-114 for details. Enclosed generator set sound data for some models was not available at time of print.

§ An additional 940 mm (37 inches) of clearance on each side for opening and closing the access doors is recommended.

NOTE: If the Est. Fuel Supply Hours column shows more than one number, the numbers represent each model in that range.



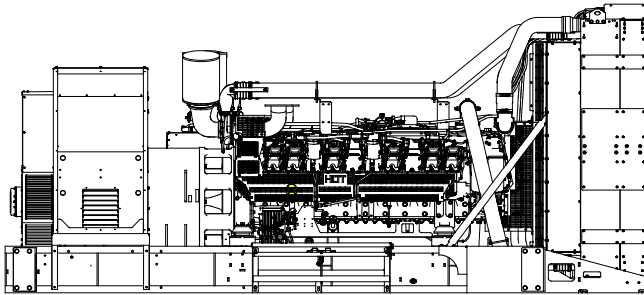
KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the
US and Canada, phone 1-800-544-2444
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KDxxxx designates a generator set with a Tier 2 EPA-Certified engine.
KDxxxx-F designates a 60 Hz generator set with a fuel optimized engine.



Ratings Range

60 Hz

Standby:	kW	1300- 1500
	kVA	1625- 1875
Prime:	kW	1150- 1350
	kVA	1438- 1688

Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A standard three-year or 1000-hour limited warranty for standby applications. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 4.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).

General Specifications

Orderable Generator Model Number	GMKD1500
Manufacturer	Kohler
Engine: model	KD45V20
Alternator Choices	KH03850TO4D KH04590TO4D KH04920TO4D KH05641TO4D KH05740TO4D KH06721TO4D KH06810TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	Wye, 600 V., or 4160 V
Controller	APM603, APM802
Fuel Tank Capacity, L (gal.)	5863- 21985 (1549- 5808)
Fuel Consumption, L/hr (gal./hr) 100% at Standby	401 (105.9)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	371 (98.0)
Emission Level Compliance (KDxxxx)	Tier 2
Open Unit Noise Level @ 7 m dB(A) at Rated Load	97
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

Generator Set Ratings

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH05740TO4D	240/416	3	60	1320/1650	2290	1300/1625	2255	1280/1600	2221	1150/1438	1996
	277/480	3	60	1500/1875	2256	1500/1875	2256	1350/1688	2031	1300/1625	1955
	240/416	3	60	1430/1788	2482	1410/1762	2446	1350/1688	2343	1260/1575	2186
	277/480	3	60	1500/1875	2256	1500/1875	2256	1350/1688	2031	1350/1688	2031
	230/400	3	60	1500/1875	2707	1500/1875	2707	1350/1688	2437	1350/1688	2437
	240/416	3	60	1500/1875	2603	1500/1875	2603	1350/1688	2343	1350/1688	2343
KH05740TO4D	277/480	3	60	1500/1875	2256	1500/1875	2256	1350/1688	2031	1350/1688	2031
	220/380	3	60	1500/1875	2849	1500/1875	2849	1350/1688	2565	1350/1688	2565
	230/400	3	60	1500/1875	2707	1500/1875	2707	1350/1688	2437	1350/1688	2437
	240/416	3	60	1500/1875	2603	1500/1875	2603	1350/1688	2343	1350/1688	2343
	277/480	3	60	1500/1875	2256	1500/1875	2256	1350/1688	2031	1350/1688	2031
	347/600	3	60	1500/1875	1805	1500/1875	1805	1350/1688	1625	1350/1688	1625

RATINGS: All three-phase units are rated at 0.8 power factor. **Standby Ratings:** The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. **Prime Power Ratings:** At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH06810TO4D	220/380	3	60	1500/1875	2849	1500/1875	2849	1350/1688	2565	1350/1662	2565
	230/400	3	60	1500/1875	2707	1500/1875	2707	1350/1688	2437	1350/1688	2437
	240/416	3	60	1500/1875	2603	1500/1875	2603	1350/1688	2343	1350/1688	2343
	277/480	3	60	1500/1875	2256	1500/1875	2256	1350/1688	2031	1350/1688	2031
	347/600	3	60	1500/1875	1805	1500/1875	1805	1350/1688	1625	1350/1662	1625
KH05641TO4D	2400/4160	3	60	1500/1875	261	1500/1875	261	1340/1675	233	1340/1675	233
KH06721TO4D	2400/4160	3	60	1500/1875	261	1500/1875	261	1340/1675	233	1340/1675	233

Engine Specifications	60 Hz
Manufacturer	Kohler
Engine: model	KD45V20
Engine: type	4-Cycle, Turbocharged, Intercooled
Cylinder arrangement	20-V
Displacement, L (cu. in.)	45 (2746)
Bore and stroke, mm (in.)	135 x 157 (5.31 x 6.18)
Compression ratio	15.0:1
Piston speed, m/min. (ft./min.)	565 (1854)
Main bearings: quantity, type	11, Precision Half Shells
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	1654 (2218)
Cylinder head material	Cast Iron
Crankshaft material	Steel
Valve (exhaust) material	Steel
Governor: type, make/model	KODEC Electronic Control
Frequency regulation, no-load to-full load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Lubricating System	60 Hz
Type	Full Pressure
Oil pan capacity with filter (dipstick max. mark), L (qt.) §	165 (174)
Oil pan capacity with filter (initial fill), L (qt.) §	180 (190)
Oil filter: quantity, type §	4, Cartridge
Oil cooler	Water-Cooled
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Fuel System	60 Hz
Fuel supply line, min. ID, mm (in.)	19 (0.75)
Fuel return line, min. ID, mm (in.)	12 (0.5)
Max. fuel flow, Lph (gph)	555 (147)
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	- 30/30 (- 8.8/8.8)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
Fuel filter: quantity, type	1, Primary Engine Filter 1, Fuel/Water Separator
Recommended fuel	#2 Diesel ULSD

Fuel Consumption	60 Hz
Diesel, Lph (gph) at % load	Standby Rating
100%	401 (105.9)
75%	316 (83.5)
50%	222 (58.6)
25%	124 (32.8)
Diesel, Lph (gph) at % load	Prime Rating
100%	371 (98.0)
75%	287 (75.8)
50%	203 (53.6)
25%	119 (31.4)

Radiator System	60 Hz
Ambient temperature, °C (°F)*	50 (122)
Engine jacket water capacity, L (gal.)	143 (37)
Radiator system capacity, including engine, L (gal.)	278 (73.4)
Engine jacket water flow, Lpm (gpm)	2339 (618)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	623 (35429)
Heat rejected to charge air cooler at rated kW, dry exhaust, kW (Btu/min.)	454 (25818)
Charge cooling air inlet temperature at 25°C (77°F) ambient, °C (°F)	229 (444)
Turbocharger boost (abs), bar (psi)	3.45 (50.0)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	1750 (68.9)
Fan, kWm (HP)	70 (93.9)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)
* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).	

Remote Radiator System†	60 Hz
Exhaust manifold type	Dry
Connection sizes:	
Water inlet/outlet, mm (in.)	—
Charge air cooler inlet/outlet (pipe dia. of flange), mm (in.)	—
Static head allowable above engine, kPa (ft. H ₂ O)	70 (23.5)
† Contact your local distributor for cooling system options and specifications based on your specific requirements.	

Exhaust System	60 Hz
Exhaust flow at rated kW, m ³ /min. (cfm)	331 (11689)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	502 (935)
Maximum allowable back pressure, kPa (in. Hg)	8.5 (2.5)
Exh. outlet size at eng. hookup, mm (in.)	See ADV drawing

Electrical System	60 Hz
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	140
Starter motor qty. at starter motor power rating, rated voltage (DC)	Standard: 2 @ 8.4 kW, 24; Redundant (optional): 4 @ 8.4 kW, 24
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each, type (with standard starters)	4, 1110, AGM
Quantity, CCA rating each, type (with optional redundant starters)	8, 1110, AGM
Battery voltage (DC)	12

Air Requirements	60 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)‡	1980 (69923)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m ³ /min. (scfm)‡	1076 (37993)
Combustion air, m ³ /min. (cfm)	119 (4202)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	204 (11772)
Alternator, kW (Btu/min.)	93 (5325)

‡ Air density = 1.20 kg/m³ (0.075 lbm/ft³)

Alternator Specifications	60 Hz
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet Pilot Exciter
Voltage regulator	Solid-State, Volts/Hz
Insulation:	NEMA MG1, UL 1446, Vacuum Pressure Impregnated (VPI)
Material	Class H, Synthetic, Nonhygroscopic
Temperature rise	130°C, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling type	Flexible Disc
Amortisseur windings	Full
Alternator winding type (up to 600 V)	Random Wound
Alternator winding type (above 600 V)	Form Wound
Rotor balancing	125%
Voltage regulation, no-load to full-load	±0.25%
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V	KH03850TO4D
480 V	KH04590TO4D
480 V	KH04920TO4D
480 V	KH05740TO4D
480 V	KH06810TO4D
	5351
	6030
	6509
	6749
	8466

Alternator Standard Features

- The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
- All models are brushless, rotating-field alternators.
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Brushless alternator with brushless pilot exciter for excellent load response.

NOTE: See TIB- 102 Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.

Controllers



APM802 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- 12-inch graphic display with touch screen and menu control provide easy local data access
- Measurements are selectable in metric or English units
- User language is selectable
- Two USB ports allow connection of a flash drive, mouse, or keypad
- Electrical data, mechanical data, and system settings can be saved to a flash drive
- Ethernet port allows connection to a PC type computer or Ethernet switch
- The controller supports Modbus® RTU and TCP protocols
- NFPA 110 Level 1 capability

Refer to G6-152 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.



APM603 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- 7-inch graphic display with touch screen and menu control provides easy local data access
- Measurements are selectable in metric or English units
- Paralleling capability to control up to 8 generators on an isolated bus with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
- Note: Parallel with other APM603 controllers only
- Generator management to turn paralleled generators off and on as required by load demand
- Load management to connect and disconnect loads as required
- Controller supports Modbus® RTU, Modbus® TCP, SNMP and BACnet®
- Integrated voltage regulator with $\pm 0.25\%$ regulation
- Built-in alternator thermal overload protection
- UL-listed overcurrent protective device
- NFPA 110 Level 1 capability

Refer to G6-162 for additional controller features and accessories.

BACnet® is a registered trademark of ASHRAE.

Codes and Standards

- Engine-generator set is designed and manufactured in facilities certified to ISO 9001.
- Generator set meets NEMA MG1, BS5000, ISO, DIN EN, and IEC standards, NFPA 110.
- Engine generator set is tested to ISO 8528-5 for transient response.
- The generator set and its components are prototype-tested, factory-built, and production-tested.

Third-Party Compliance

- Tier 2 EPA-Certified for Stationary Emergency Applications

Available Approvals and Listings

- ☐ California OSHPD Approval
- ☐ CSA Certified
- ☐ IBC Seismic Certification
- ☐ UL 2200 Listing
- ☐ cULus Listing (fuel tanks only)
- ☐ Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)

Warranty Information

- A standard three-year or 1000-hour limited warranty for standby applications. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications.

Available Warranties for Standby Applications

- ☐ 5-Year Basic Limited Warranty
- ☐ 5-Year Comprehensive Limited Warranty
- ☐ 10-Year Major Components Limited Warranty

Standard Features

- Closed Crankcase Ventilation (CCV) Filters
- Customer Connection
- Generator Heater (4160 Volt)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Operation and Installation Literature

Available Options

Circuit Breakers

Type	Rating
<input type="checkbox"/> Magnetic Trip	<input type="checkbox"/> 80%
<input type="checkbox"/> Thermal Magnetic Trip	<input type="checkbox"/> 100%
<input type="checkbox"/> Electronic Trip (LI)	Operation
<input type="checkbox"/> Electronic Trip with Short Time (LSI)	<input type="checkbox"/> Manual
	<input type="checkbox"/> Electrically Operated (for paralleling)

Circuit Breaker Mounting

- ☐ Generator Mounted
- ☐ Remote Mounted
- ☐ Bus Bar (for remote mounted breakers)

Enclosed Remote Mounted Circuit Breakers

- ☐ NEMA 1 (15- 5000 A)
- ☐ NEMA 3R (15- 1200 A)

Engine Type

- ☐ KDxxxx Tier 2 EPA-Certified Engine
- ☐ KDxxxx-F Fuel Optimized Engine

Approvals and Listings

- ☐ California OSHPD Approval
- ☐ CSA Certified
- ☐ IBC Seismic Certification
- ☐ UL 2200 Listing
- ☐ cULus Listing (fuel tanks only)
- ☐ Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)
- ☐ Hurricane Rated Enclosure

Enclosed Unit

- ☐ Sound Level 2 Enclosure/Fuel Tank Package

Open Unit

- ☐ Exhaust Silencer, Critical (kits: PA-361625 qty. 2)
- ☐ Exhaust Silencer, Hospital (kits: PA-361626 qty. 2)
- ☐ Flexible Exhaust Connector, Stainless Steel

Controller

- ☐ Input/Output, Digital
- ☐ Input/Output, Thermocouple (standard on 4160 V)
- ☐ Load Shed (APM802 only)
- ☐ Manual Key Switch
- ☐ Remote Emergency Stop Switch
- ☐ Lockable Emergency Stop Switch
- ☐ Remote Serial Annunciator Panel

Cooling System

- ☐ Block Heater; 9000 W, 208 V, (Select 1 Ph or 3 Ph) *
 - ☐ Block Heater; 9000 W, 240 V, (Select 1 Ph or 3 Ph) *
 - ☐ Block Heater; 9000 W, 380 V, 3 Ph *
 - ☐ Block Heater; 9000 W, 480 V, (Select 1 Ph or 3 Ph) *
- * Required for ambient temperatures below 10°C (50°F).
Block heater kit includes air intake manifold grid heater.
- ☐ Radiator Guard and Duct Flange

Electrical System

- ☐ Battery, AGM (kit with qty. 4)
- ☐ Battery, AGM (kit with qty. 8)
- ☐ Battery Charger
- ☐ Battery Heater; 80 W, 120 V, 1Ph
- ☐ Battery Rack and Cables
- ☐ Generator Heater (up to 600 Volt)
- ☐ Redundant Starters

Fuel System

- ☐ Flexible Fuel Lines
- ☐ Restriction Gauge (for fuel/water separator)

Literature

- ☐ General Maintenance
- ☐ NFPA 110
- ☐ Overhaul
- ☐ Production

Miscellaneous

- ☐ Air Cleaner, Heavy Duty (loose)
- ☐ Air Cleaner Restriction Indicator
- ☐ Alternator Air Filter (will reduce generator set rating by 7%)
- ☐ Automatic Oil Replenishment System
- ☐ Engine Fluids (oil and coolant) Added
- ☐ Rated Power Factor Testing

Electrical Package (Requires Enclosure selection)

- ☐ Basic Electrical Package (select 1 Ph or 3 Ph)
- ☐ Wire Battery Charger (1 Ph)
- ☐ Wire Block Heater (select 1 Ph or 3 Ph)
- ☐ Wire Controller Heater (1 Ph)
- ☐ Wire Generator Heater (1 Ph)

Warranty (Standby Applications only)

- ☐ 5-Year Basic Limited Warranty
- ☐ 5-Year Comprehensive Limited Warranty
- ☐ 10-Year Major Components Limited Warranty

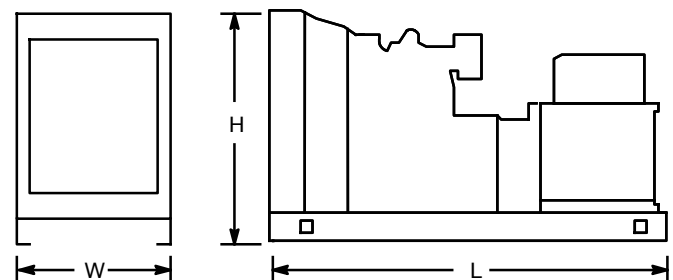
Other

- ☐
- ☐

Dimensions and Weights

Overall Size, max., L x W x H, mm (in.): 5639 x 2184 x 2489
(222.0 x 86.0 x 98.0)

Weight, radiator model, max. wet, kg (lb.): 12896 (28443)



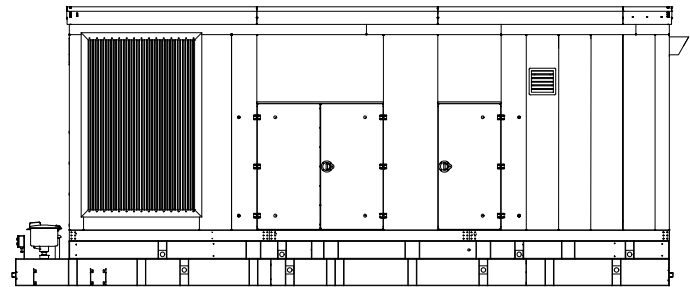
NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the
US and Canada, phone 1-800-544-2444
KOHLERPower.com

Sound Enclosures and Subbase Fuel Tank

Sound Level 1 Enclosure Standard Features

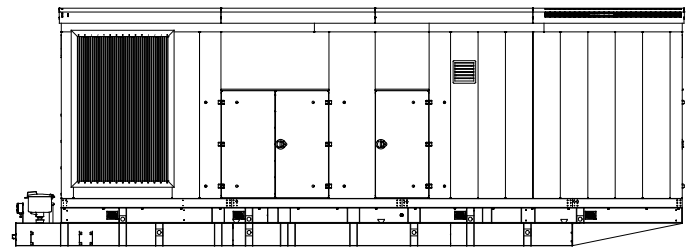
- Lift base or tank-mounted, aluminum construction enclosure with internal-mounted, exhaust silencers.
- Every enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Sound attenuated enclosure that offers noise reduction using acoustic insulation, acoustic-lined air inlets and an acoustic-lined air discharge.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
- Acoustic insulation that meets UL 94 HF1 flammability classification.
- Enclosure has large access doors that are hinged and removable which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Air inlet louvers reduce rain and snow entry.
- High wind bracing, 241 kph (150 mph).



Sound Level 1 Enclosure
(Shown with available spill containment)

Sound Level 2 Enclosure Standard Features

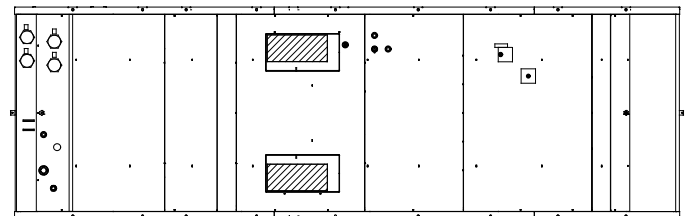
- Includes all of the sound level 1 enclosure features with the addition of up to 51 mm (2 in.) acoustic insulation material, intake sound baffles, vertical air discharge, and secondary silencers.
- Louvered air inlet and vertical outlet hood with 90 degree angles to redirect air and reduce noise.



Sound Level 2 Enclosure
(Shown with available spill containment)

Subbase Fuel Tank Features

- The fuel tank has a Power Armor Plus™ textured epoxy-based rubberized coating.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have UL-listed emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- The containment tank's construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- The above ground secondary containment subbase fuel tank meets UL 142 requirements.
- Features include:
 - Additional fittings for optional accessories (qty. 3)
 - Electrical stub-up area open to bottom
 - Emergency inner and outer tank relief vents
 - Fuel fill with lockable cap and 51 mm (2 in.) riser
 - Fuel leak detection switch
 - Fuel level mechanical gauge
 - Fuel level sender
 - Normal vent
 - Removable engine supply and return diptubes



Subbase Fuel Tank (Top View)

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