GEORGIANA SLOUGH SALMONID MIGRATORY BARRIER

Initial Study/Proposed Mitigated Negative Declaration

Prepared for
California Department of Water Resources

October 2021

Prepared by

ICF ESA

Date: October 1, 2021

To: Responsible and Trustee Agencies, Interested Parties, and Organizations

Subject: **NOTICE OF AVAILABILITY AND INTENT TO ADOPT A PROPOSED MITIGATED NEGATIVE DECLARATION FOR THE GEORGIANA SLOUGH SALMONID MIGRATORY BARRIER PROJECT**

The California Department of Water Resources (DWR) has directed the preparation of an Initial Study (IS) and intends to adopt the proposed Mitigated Negative Declaration (MND) for the Georgiana Slough Salmonid Migratory Barrier (GSSMB) Project (proposed project) in compliance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines.

Project Title: Georgiana Slough Salmonid Migratory Barrier

Lead Agency: DWR

Project Location: The GSSMB project site is situated along the Sacramento River at its junction with Georgiana Slough in the northern Sacramento River–San Joaquin River Delta (Delta), with staging areas at the town of Hood, the Steamboat Slough junction, the Sutter Slough junction, adjacent to the Delta Cross Channel (DCC), and at the Georgiana Slough junction (Point Ranch Property) (see **Figures 1** and **2**).

DWR would construct and operate the Bio-Acoustic Fish Fence™ (BAFF) within the construction footprint (Figure 2). DWR proposes to use the Hood, Sutter Slough, Steamboat Slough, DCC, and Georgiana Slough staging areas each year during the GSSMB. The GSSMB staging area would be the primary staging area where equipment to operate the BAFF would be located. Other staging areas would accommodate monitoring support equipment for tracking tagged fish.

Project Description: The GSSMB would involve the installation and operation of a Bio-Acoustic Fish Fence™ (BAFF) at the Georgiana Slough junction for 8 years starting in late 2022/ early 2023 through 2030. The BAFF would be operated as a behavioral deterrent to prevent juvenile winter-run Chinook salmon and spring-run Chinook salmon from entering Georgiana Slough during emigration (primarily between October 1 through June 1). The GSSMB is intended to reduce impacts of the State Water Project (SWP) and Central Valley Project (CVP) operations by deterring emigrating juvenile salmonid from entering Georgiana Slough and thereafter the central and south Delta, wherein survival is lower relative to remaining in the mainstem Sacramento River. Ongoing fish tagging, releases, and tracking would monitor survival.

Environmental Review Process: DWR has directed preparation of an initial study/proposed mitigated negative declaration (IS/MND) for the proposed project in accordance with the requirements of CEQA and the State CEQA Guidelines. The IS/MND describes the proposed project and provides an assessment of the proposed project's potentially significant adverse impacts on the physical environment. It concludes that the proposed project would not have any significant adverse effects on the environment after adoption and implementation of mitigation measures.

Public Review Period: The IS/MND is being circulated for public review and comment for a review period of 32 days from release of the document to the State Clearinghouse, starting on Friday, October 1, 2021. Written comments must be submitted to and received at the following address no later than close of business (5:00 p.m.) on Monday, November 1, 2021:

Department of Water Resources
Division of Operations and Maintenance
South Delta Branch
PO Box 942836
Sacramento, CA 94236

Email: SDMS.Comment@water.ca.gov

To Review or Obtain a Copy of the Environmental Document:

The IS/MND is available for review online at DWR's website:

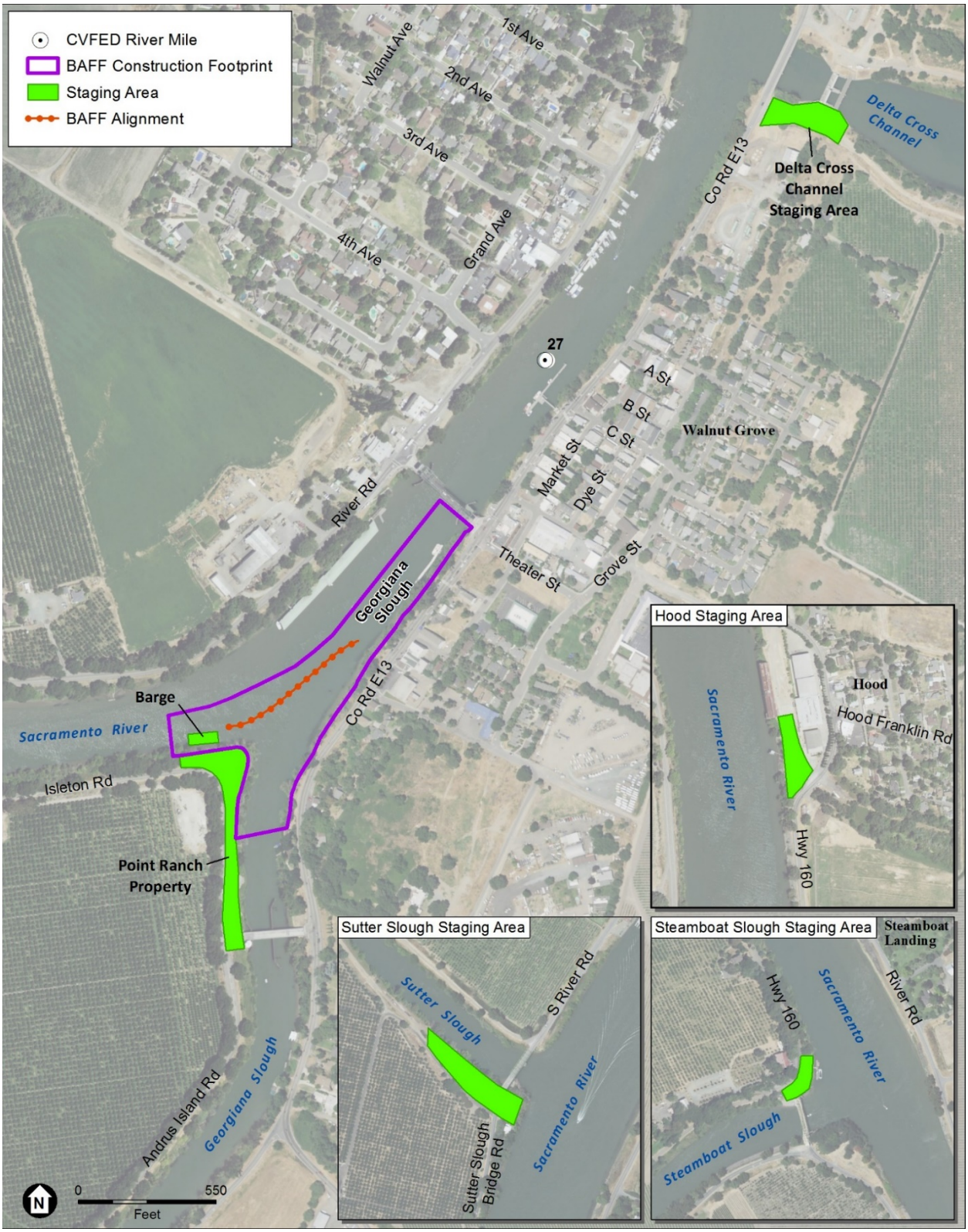
https://water.ca.gov/news/public-notices

A paper copy of the IS/MND is available for review Tuesday-Saturday during normal business hours at:

Sacramento Central Public Library
828 I Street
Sacramento, CA 95814

Source: USGS Topo; AECOM adapted by ESA, 2020

Figure 1
Georgiana Slough Salmonid Migratory Barrier Overview Map



Source: USDA, 2018; AECOM adapted by ESA, 2020

Figure 2
Detailed Map—Georgiana Slough Junction and Staging Areas

PROPOSED MITIGATED NEGATIVE DECLARATION

PROJECT TITLE Georgiana Slough Salmonid Migratory Barrier (GSSMB)

LEAD AGENCY: California Department of Water Resources (DWR)

PROJECT LOCATION: The GSSMB project site is situated along the Sacramento River at its junction with Georgiana Slough in the north Sacramento River–San Joaquin River Delta (Delta), with staging areas at the town of Hood, the Sutter Slough junction, the Steamboat Slough junction, the Georgiana Slough junction (Point Ranch Property), and adjacent to the Delta Cross Channel (DCC) (see **Figure 2-1** and **Figure 2-2**). **Table 2-1** summarizes project locations, from upstream to downstream on the Sacramento River.

DWR would construct and operate a Bio-Acoustic Fish Fence™ (BAFF) within the construction footprint (Figure 2-2). DWR proposes to use the Hood, Sutter Slough, Steamboat Slough, DCC, and Georgiana Slough staging areas each year during the GSSMB. The GSSMB staging area would be the primary staging area where equipment to operate the BAFF would be located. Other staging areas would accommodate monitoring support equipment for tracking tagged fish.

PROJECT DESCRIPTION: The GSSMB would involve the installation and operation of a BAFF at the Georgiana Slough junction for 8 years starting in late 2022/early 2023 through 2030. The BAFF would be operated as a behavioral deterrent to prevent juvenile winter-run Chinook salmon and spring-run Chinook salmon from entering Georgiana Slough during emigration (primarily between October 1 through June 1). The GSSMB is intended to reduce impacts of the State Water Project (SWP) and Central Valley Project (CVP) operations by deterring emigrating juvenile salmonid from entering Georgiana Slough and thereafter the central and south Delta, wherein survival is lower relative to remaining in the mainstem Sacramento River. Ongoing fish tagging, releases, and tracking would monitor survival.

FINDINGS: An initial study/proposed mitigated negative declaration (IS/MND) has been prepared to assess the proposed project's potential effects on the physical environment and the significance of those effects. Based on the analysis conducted in the IS, it is determined that implementing the proposed project would not have any significant adverse effects on the environment with incorporation of the protective environmental measures in the project description and after adoption and implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no effects on mineral resources, population and housing, or public services.

2. The proposed project would have a less-than-significant impact on aesthetics, agriculture and forestry resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, public services, recreation, transportation and traffic, utilities and service systems, and wildfire.

3. The proposed project would have a less-than-significant impact on air quality, biological resources, cultural resources, greenhouse gas emissions, noise, and tribal cultural resources with the adoption and implementation of the mitigation measures proposed in the IS.

4. The proposed project would not have the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

5. The proposed project would not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

6. The proposed project would not have possible environmental effects that are individually limited but cumulatively considerable and contribute to a significant cumulative impact. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

7. The environmental effects of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly.

8. The proposed project incorporates numerous protective environmental measures in its project description, as well as all mitigation measures listed below and described in the IS.

MITIGATION MEASURES: The following mitigation measures will be implemented as part of the project to avoid, minimize, rectify, reduce or eliminate, or compensate for potentially significant environmental impacts. Implementation of these mitigation measures would reduce the potentially significant environmental impacts of the proposed project to less-than-significant levels:

Mitigation Measure AQ-1: Implement SMAQMD Best Management Practices during Construction. The project shall implement the following required best management practices, as applicable:

- Water all exposed surfaces two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that will travel along freeways or major roadways shall be covered.
- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).

- Pave all roadways, driveways, sidewalks, and parking lots as soon as possible. In addition, lay building pads immediately after grading unless seeding or soil binders are used.

- Minimize idling time, either by shutting equipment off when not in use or by reducing the time of idling to 5 minutes (as required by the State airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.

- Maintain all construction equipment in proper working condition according to the manufacturers' specifications. The equipment shall be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Mitigation Measure AQ-2: Use Verified Diesel Emissions Control Strategies. The project shall use off-road diesel construction equipment equipped with the most effective Verified Diesel Emissions Control Strategies available for the engine type. This emissions control requirement will ensure that the mitigated emissions meet the threshold of health risk impacts to off-site sensitive receptors. The best available Verified Diesel Emissions Control Strategies for this project is implementation of Tier 4 engines as certified by the California Air Resources Board (CARB) and EPA. The equipment shall be properly maintained in accordance with the manufacturers' specifications. This maintenance shall be verified through an equipment inventory and certification statement to SMAQMD.

Mitigation Measure AQ-3: Tugboat Engine Requirements. The project shall ensure that the engines for all tugboats used at the project site are model year 2012 or newer.

Mitigation Measure BIO-1: Conduct Pre-construction Survey for Special-status Plants. A focused botanical survey shall be conducted for special-status plant species prior to the commencement of construction activities. Focused botanical surveys shall be conducted in June and July to overlap with the blooming period for all species potentially present. Surveys shall be conducted during low tides.

If any of the non-listed special-status plants are found, they shall be avoided to the extent feasible. If the plants cannot be avoided, DWR shall prepare a mitigation plan prior to the commencement of construction and/or maintenance activities. The mitigation plan shall include the development and implementation of a replanting plan (collection of seeds, revegetation, and management and monitoring of the habitat to ensure success) for any individuals of the species that cannot be avoided.

If Mason's lilaeopsis is found and cannot be avoided, DWR shall request authorization pursuant to the Native Plant Protection Act for incidental take of a rare plant that could result from activities associated with the project.

Mitigation Measure BIO-2: Conduct Pre-construction Survey for Elderberry Shrubs. Prior to the commencement of initial grading, staging area establishment, and project-related equipment installation, a qualified biologist shall conduct pre-construction surveys to ensure that no elderberry shrubs are present.

If any elderberry shrubs with stems measuring 1 inch or greater in diameter are observed within or in the vicinity of the project area, a minimum 20-foot exclusion buffer from the dripline shall be established around the shrubs with high visibility construction fencing; however, a greater buffer area shall be established if feasible. Signs shall be erected on the fencing that states that this area is prohibited from entry because it is a sensitive resource. The high visibility construction fencing shall remain intact throughout completion of construction, operations, and decommissioning. If project activities are located within 165 feet of an elderberry shrub, DWR shall consult with USFWS to determine if additional measures protective of valley elderberry longhorn beetle described in the USFWS 2017 *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* are appropriate and warranted.

Mitigation Measure BIO-3: Conduct Elderberry Shrubs Compliance Inspections and Monitoring, if Applicable. If any elderberry shrubs are present within 165 feet, a qualified biologist approved by the permitting agencies shall conduct elderberry shrub avoidance compliance inspections and monitoring during initial ground disturbance, including the installation of exclusion fencing, and during construction within environmentally sensitive areas as determined by the biologist.

Mitigation Measure BIO-4: **Install Giant Garter Snake Exclusion Fencing.** DWR shall install exclusion fencing around the perimeter of the work areas to prevent giant garter snakes from entering these areas. Pre-construction surveys will be conducted prior to fence installation. The fencing shall extend to the edge of the channel bank, perpendicular to the water line. Small gaps should be placed in the exclusion fencing to facilitate ingress and egress of construction equipment and personnel into the work areas from nearby roadways, however this opening shall be minimized to the maximum extent feasible. The exclusion fencing shall consist of silt fence material. Fences shall be installed to a depth of 6 inches below the ground surface to prevent giant garter snakes from going under the fence. Fences shall be installed before the giant garter snake active season (i.e., May 1) prior to grading and deployment of staging equipment within the staging areas and remain in place until after the barrier and associated equipment and material are completely removed. Prior to the commencement of daily construction activities, the on-site biological monitor shall conduct a morning pre-construction survey to verify that there are no giant garter snakes in the work areas. This survey process shall also include verifying that the fence is in suitable condition. If any repairs are necessary, the monitor shall guide construction personnel in making the necessary repairs. If any giant garter snakes are observed during construction, work shall stop until the giant garter snake moves away from construction zone on its own accord or until it is moved by a qualified biologist with permitting authority to handle giant garter snakes.

Mitigation Measure BIO-5: **Conduct Pre-construction Survey for Western Pond Turtle.** Pre-construction surveys for western pond turtle shall be conducted within 48 hours prior to any ground disturbance activities. If any western pond turtles are observed on land during the pre-construction survey, to avoid potential nests, suitable upland habitat within 100 feet of aquatic habitat shall be flagged and avoided, where feasible. An on-site biological monitor shall be present for any on-land construction activities, to conduct morning surveys before the start of the construction work for the day for western pond turtle within the project site as well as check the conditions of the exclusion fence daily (the same fence as described previously for Mitigation

Measure BIO-4). If any repairs are necessary, the monitor shall guide construction personnel in any making the necessary repairs. If any western pond turtles are observed during construction, work shall stop until the turtle moves away from construction zone on its own accord. If the turtle does not move on its own volition, the monitor may request permission from CDFW to relocate the turtle to suitable aquatic habitat out of harm's way. Vehicles parked overnight on-site shall be checked before they are moved for the presence of western pond turtles that may be taking shelter under the vehicle. To avoid the loss of western pond turtle nests and eggs as a result of construction, DWR shall install exclusion fencing along the landward perimeter of the work areas to minimize the potential for turtles to nest in these areas. The exclusion fencing shall extend down the channel bank. A small gap in the exclusion fencing may be present to facilitate ingress and egress of construction equipment and personnel into the work areas from nearby roadways, however this opening shall be minimized to the maximum extent feasible. The exclusion fencing shall consist of silt fence material. Fences shall be installed to a depth of 6 inches below the ground surface to prevent turtles from going under the fence. Fences shall be installed prior to May 1 and remain in place until after the barrier and associated equipment and material are completely removed.

Mitigation Measure BIO-6: **Implement Nesting Bird Protection Measures.** If needed, DWR shall remove all woody and herbaceous vegetation from the staging areas to the extent possible during the nonbreeding season (September 15–January 31) to minimize effects on nesting birds. During the breeding season, all herbaceous vegetation in the staging areas shall be maintained to a height of 6 inches or less to minimize the potential for nesting.

If any vegetation removal begins during the nesting season (February 1 to September 14), a qualified biologist shall conduct pre-construction surveys prior to vegetation removal or equipment deployment within the staging areas or in-water work. The biologists shall survey a 300-foot buffer around the work areas. The pre-construction surveys shall be conducted within 3 days prior to the commencement of ground-disturbing activities or within the appropriate window for designated species. If construction does not commence within 3 days of the pre-construction surveys, or halts for more than 3 days, additional pre-construction surveys shall be conducted if work is expected to resume during the nesting season.

If any active nests of birds protected under the Fish and Game Code and/or Migratory Bird Treaty Act are located within or in the vicinity of the staging areas or in the vicinity of the in-water work areas, an appropriate buffer zone shall be established around the nests, as determined by the project biologist. The biologist shall mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of the breeding season or until the nest is no longer active. Buffer zones are typically 100 feet for migratory bird nests and 250 feet for raptor nests.

Mitigation Measure BIO-7: **Conduct Surveys for Swainson's Hawks.** Surveys for Swainson's hawks shall be conducted 3 days before construction if construction is to begin during nesting season at and adjacent to all locations to be disturbed by the installation and removal of the barrier and associated operations and maintenance activities to ensure this species is not nesting in these locations. The survey(s) shall occur during the recommended survey periods for the nesting season that coincides with the start of construction activities, in accordance with the Recommended Timing

and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SHTAC 2000). Where legally permitted, the qualified biologist shall conduct surveys for nesting Swainson's hawks within 0.25 mile of the project area. If access to adjacent properties is denied, the biologist shall use binoculars to visually determine whether Swainson's hawk nests are present in the 0.25-mile survey area.

If active Swainson's hawk nests are found within 0.25 mile of project-related activities, the qualified biologist shall report the findings to DWR and CDFW within 1 day after the survey. Should an active nest be present within 0.25 mile of construction and maintenance activities, DWR shall consult with CDFW to establish an appropriate non-disturbance buffer, develop take avoidance measures, determine whether high-visibility construction fencing shall be erected around the buffer zone, and implement a monitoring and reporting program before any project-related activities occur within 0.25 mile of the nest. Should the qualified biologist determine that the construction activities are disturbing the nest, the biologist shall halt construction activities until DWR consults with CDFW. The project activities causing the disturbance shall not resume until CDFW determines that they will not result in abandonment of the nest site. Should the qualified biologist determine that construction activities within the buffer zone have not disturbed the nest, DWR shall continue to monitor the nest until it is fledged or no longer active. DWR shall submit a report to CDFW summarizing the survey results within 30 days after the final monitoring event, and no further avoidance and minimization measures for nesting habitat are recommended.

The qualified biologist shall notify CDFW if the nest or nestlings are abandoned due to project-related activities and the nestlings are still alive to determine the appropriate actions. DWR shall fund the recovery and hacking (controlled release) of the nestlings. If a nest is abandoned and the nestlings do not survive, DWR shall either purchase conservation bank credits or shall develop 0.5 acre of riparian forest and grant permanent conservation easements over that riparian forest and over 25 acres of suitable Swainson's hawk foraging habitat in a location and in a form acceptable to CDFW. These easements shall be provided no later than 12 months after nest abandonment.

Mitigation Measure BIO-8: **Conduct Pre-construction Survey for Special-Status Bats.** Within 48 hours prior to project activities within 100 feet of suitable bat roosting trees (larger than 24 inches in diameter at breast height and trees with deep bark crevices, snags, or holes), a qualified biologist shall conduct a pre-construction survey for special-status bats. If no special-status bats are observed roosting, the qualified biologist shall provide a letter report to DWR for its records, documenting the results of the survey, and no additional measures are recommended. Should project activities halt for more than 14 days, a new survey shall be conducted. All removal of trees that provide suitable bat roosting habitat, including maternity roosts, shall be conducted between August 15 and October 30, or earlier than October 30 if evening temperatures fall below 45 degrees Fahrenheit and/or more than 0.5 inch of rainfall occurs within 24 hours. These dates correspond to a time period when bats would not be caring for non-volant young and have not yet entered torpor. A qualified biologist shall monitor removal/trimming of trees that provide suitable bat roosting habitat. Tree removal/trimming shall occur over two consecutive days. On the first day in the afternoon, limbs and branches shall be removed using chainsaws only. Limbs with cavities, crevice, or deep bark fissures shall be avoided, and only

branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed if needed.

If bats are found in the area where construction-related activities will occur, a minimum 100-foot avoidance buffer shall be established around the roost/maternity area until it is no longer occupied, as determined by a qualified biologist. High-visibility construction fencing shall be installed around the buffer and shall remain in place until bats no longer occupy the tree. The tree shall not be removed or modified and the buffer shall remain in place until a qualified biologist has determined that the bats are no longer occupying the roost. If maternity roosts are found, they shall be avoided until the offspring have volant.

If construction activities must occur within the avoidance buffer, CDFW shall be notified. A qualified biologist shall monitor the work either continuously or periodically, as determined by the biologist. The qualified biologist shall be empowered to stop activities that, in the biologist's opinion, threaten to cause unanticipated and/or unpermitted adverse effects on special-status bats. If construction activities are stopped, the qualified biologist shall consult with CDFW to determine appropriate measures that DWR will implement to avoid adverse effects.

Mitigation Measure BIO-9: Monitor Turbidity Levels During Construction. DWR shall monitor turbidity levels during in-water sediment-disturbing activities. Monitoring shall be conducted by measuring upstream and downstream of the disturbance area to ensure compliance with the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins (Central Valley Regional Water Board 2018).

DWR contractors shall slow or adjust work to ensure that turbidity levels do not exceed those conditions described in the 401 certification issued by the Central Valley Regional Water Board. If slowing or adjusting work to lower turbidity levels is not practical or if thresholds cannot be met, DWR shall consult with the Central Valley Regional Water Board and permitting agencies to determine the most appropriate measures to minimize turbidity impacts to the maximum extent feasible.

Mitigation Measure CUL-1: Conduct Pre-construction Cultural Resources Awareness and Sensitivity Training. Prior to project construction, a qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards (SOI PQS) for Archeology and with expertise in California archaeology, in coordination with culturally affiliated California Native American Tribes, shall develop a Cultural Resources Awareness and Sensitivity Training Program for all construction and field workers involved in project ground-disturbing activities. The program shall include a presentation that covers, at a minimum, the types of cultural resources common to the area, regulatory protections for cultural resources, and the protocol for unanticipated discovery of archaeological resources (see Mitigation Measure CUL-3). Written materials associated with the program shall be provided to project personnel as appropriate. Personnel working in areas of project ground-disturbing activities shall receive the training prior to working in these areas.

Mitigation Measure CUL-2: Conduct Archaeological Subsurface Survey at P-34-000356. Before the start of removal and replacement of the existing power pole, and installation of the new service pole at the Georgiana Slough staging area, a qualified archaeologist, defined as one meeting the SOI PQS for Archeology and with expertise in California archaeology, accompanied by a United Auburn Indian Community compensated Tribal Monitor, shall conduct up to three 4-inch-diameter hand auger excavations to the depth of the proposed ground disturbance within a 10-foot-diameter of each the existing pole and proposed service pole location. Excavated sediments shall be screened through 1/8-inch wire mesh. Any artifacts recovered shall be recorded and returned to the auger units. This effort will clarify the extent of the site and provide context for the monitoring efforts.

Mitigation Measure CUL-3: Conduct Archaeological and Tribal Monitoring at P-34-000356. An archaeologist meeting, or supervised by an archaeologist meeting, the Secretary of the Interior's Professional Qualifications Standards for Archeology, in addition to a United Auburn Indian Community compensated Tribal Monitor shall conduct construction monitoring for all initial project construction activities (equipment mobilization/delivery), utility pole replacement, and service pole installation at the Georgiana Slough staging area. The conduct and work of any Tribal Monitor shall be consistent with the California Native American Heritage Commission (NAHC) *Guidelines for Native American Monitors/Consultants* (NAHC, 2005). If discovery of any potential intact archaeological deposits or human remains is made during monitoring, the procedures set forth in Mitigation Measures CUL-4 and CUL-5 shall be followed. If discovery of any potential tribal cultural resources is made during monitoring, the procedures set forth in Mitigation Measure TRI-2 shall be followed.

Mitigation Measure CUL-4: Unanticipated Discovery Protocol for Native American or Historic-era Archaeological Resources. If Native American or historic-era archaeological resources are encountered during project construction or operation, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. DWR and its qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology and with expertise in California archaeology, shall be immediately informed of the discovery. The qualified archaeologist shall inspect the discovery. Native American archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include building or structure footings and walls, and deposits of metal, glass, and/or ceramic refuse. If the qualified archaeologist determines that the resource is or is potentially Native American in origin, culturally affiliated California Native American Tribes shall be contacted to assess the find and determine whether it is potentially a tribal cultural resource.

If DWR determines, based on recommendations from the qualified archaeologist and culturally affiliated California Native American Tribes, if the resource is Native American, that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5), or a tribal cultural resource (as defined in Public Resources Code Section 21074), the resource

shall be avoided if feasible. Avoidance means that no activities associated with the project that may impact cultural resources shall occur within the boundaries of the resource or any defined buffer zones. DWR shall determine whether avoidance is feasible considering factors such as the nature of the find, project design, costs, and other considerations.

If avoidance is not feasible, DWR shall consult with its qualified archaeologist, culturally affiliated California Native American Tribes, if the resource is Native American, and other appropriate interested parties to determine treatment measures to minimize or mitigate any potential impacts to the resource pursuant to Public Resources Code Section 21083.2 and CEQA Guidelines Section 15126.4.

Any treatment measures implemented shall be documented in a professional-level technical report (e.g., Archaeological Testing Results Report, Archaeological Data Recovery Report, Ethnographic Report), authored by a qualified archaeologist, to be filed with the California Historical Resources Information System (CHRIS). Project construction work at the location of the find may commence upon completion of the approved treatment and authorization by DWR. Work may proceed in other parts of the project area while the mitigation is being carried out.

If, during project implementation, DWR determines that portions of the CEQA Area of Potential Effects (C-APE) may be sensitive for archaeological resources or tribal cultural resources, DWR may authorize construction monitoring of these locations by an archaeologist and Tribal Monitor. Any monitoring by a Tribal Monitor shall be done under agreements between DWR and culturally affiliated California Native American Tribes.

Mitigation Measure CUL-5: Unanticipated Discovery Protocol for Submerged Cultural Resources. If a shipwreck, and associated artifacts, or other cultural resource on or in the tide and submerged lands of California is encountered during project development or operation, Mitigation Measure CUL-4 shall be implemented, in addition to the following:

- DWR shall initiate consultation with California State Lands Commission (SLC) staff within 2 business days of the discovery.
- Per Public Resources Code Section 6313(c), any submerged cultural resource remaining in State waters for more than 50 years is presumed to be archaeologically or historically significant.
- The qualified archaeologist assessing the find shall have expertise in maritime archaeology if the find is a maritime archaeological resource.
- DWR shall consult with the SLC regarding assessment of the find and development of any treatment measures to minimize or mitigate potential impacts on the resource, pursuant to Public Resources Code Section 21083.2 and CEQA Guidelines Section 15126.4.
- DWR shall submit to the SLC any report prepared for the resource as part of the assessment of the find and implementation of treatment measures to minimize or mitigate potential impacts.

Mitigation Measure CUL-6: Unanticipated Discovery Protocol for Human Remains. If human remains are uncovered during project construction, all work shall immediately halt within 100 feet of the find and the Sacramento County Coroner shall be contacted to evaluate the remains and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the County Coroner determines that the remains are Native American, the County shall contact the California Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5(c) and Public Resources Code Section 5097.98. Per Public Resources Code Section 5097.98, DWR shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until DWR has discussed and conferred with the most likely descendant (MLD) regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the MLD is not responsive in the given amount of time, DWR may request that United Auburn Indian Community treat and reinter the human remains with the appropriate dignity and cultural protocols.

Mitigation Measure GHG-1: Implement DWR Greenhouse Gas Emissions Reduction Plan Best Management Practices for Construction Practices. The following GGERP BMPs shall be implemented as part of construction activities associated with the project, as applicable.

- Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high-efficiency technologies are appropriate and feasible for the project or specific elements of the project.
- Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.
- Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.
- Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.
- Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.
- Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an Air Quality Control Plan prior to commencement of construction.

- Implement a tire inflation program on the jobsite to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and every 2 weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an Air Quality Management Plan prior to commencement of construction.

- Develop a project-specific ride share program to encourage carpools and shuttle vans for construction worker commutes.

- Reduce electricity use in temporary construction offices by using high-efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air, conditioners, heaters, and other equipment each day at close of business.

- For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box type trailer is used for hauling, a SmartWay certified truck will be used to the maximum extent feasible.

- Develop a project-specific construction debris recycling and diversion program to achieve a documented 50 percent diversion of construction waste.

- Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution minimize, to the extent possible, uses of public roadways that would increase traffic congestion.

Mitigation Measure NOI-1: Employ Noise-Reducing Practices. DWR shall employ noise-reducing practices during construction and operation. Measures that will be used to limit noise include the following:

- Provide written notification of heavy construction activities to all sensitive receptors located near to the project site and heavy construction activities, or within 350 feet of such activities. Notification will include anticipated dates and hours when construction and operation activities are anticipated to occur, and contact information, including a daytime telephone number, for the project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will be included in the notification.

- Locate fixed/stationary equipment (e.g., generators, compressors) as far as possible from noise-sensitive receptors.

- Shut off all motorized construction equipment when not in use.

- Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.

- Prohibit gasoline or diesel engines from having unmuffled exhaust.

Mitigation Measure TRI-1: Conduct Pre-construction Tribal Cultural Resources Awareness and Sensitivity Training. Prior to project construction, DWR, in coordination with culturally affiliated California Native American Tribes, shall develop a Tribal Cultural Resources Awareness and Sensitivity Training Program for all construction and field workers involved in project ground-disturbing activities. The training program developed shall include a presentation and awareness brochure that covers, at minimum, the types of potential tribal cultural resources (TCRs) common to the area, consequences of violating State laws and regulations, regulatory protections for TCRs, and the protocol for unanticipated discovery of potential TCRs. Written materials associated with the program shall be provided to project personnel as appropriate. Personnel assigned to work in areas of project ground-disturbing activities shall receive the training before starting work within P-34-000356.

Mitigation Measure TRI-2: Unanticipated Discovery Protocol for Tribal Cultural Resources. If potential tribal cultural resources (TCRs) are encountered during project construction or operation, all activity within 100 feet of the find shall cease, the find shall be flagged for avoidance, and DWR shall be immediately informed of the discovery. DWR shall then contact California Native American Tribes with potential cultural affiliation with the potential TCR to determine whether the resource is a TCR. If DWR, in consultation with relevant California Native American Tribes, determines that the resource qualifies as a TCR, DWR shall consult with relevant California Native American Tribes to determine appropriate treatment of the TCR. Treatment measures may include the following:

- Avoidance and preservation of the resource in place, including, but not limited to:
    - Planning and construction to avoid the resource and protect the cultural and natural context.
    - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protecting the cultural character and integrity of the resource.
    - Protecting the traditional use of the resource.
    - Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with cultural appropriate management criteria for the purposes of preserving or utilizing the resource or place.

Any treatment measures implemented shall be documented and work may proceed in other parts of the project area while the mitigation is being carried out.

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Figures

Tables

Acronyms and Other Abbreviations

Acronym or Abbreviation	Definition
2D	two-dimensional
3D	three-dimensional
Action	Reasonable and Prudent Alternative Action IV.1.3
ADCP	Acoustic Doppler Current Profiler
APE	Area of Potential Effects
B.P.	Before Present
BAFF	Bio-Acoustic Fish Fence™
Basin Plan	*Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins*
BMP	best management practice
BO	biological opinion
C-APE	CEQA Area of Potential Effects
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
California Register	California Register of Historical Resources
CalOES	Governor's Office of Emergency Services
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CEQA Guide	*Guide to Air Quality Assessment in Sacramento County*
CESA	California Endangered Species Act
CFD	Courtland Fire Department
cfm	cubic feet per minute
cfs	cubic feet per second
CGS	California Geological Survey
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent

Acronym or Abbreviation	Definition
Cortese List	Cortese List Data Resources
CRPR	California Rare Plant Rank
CVP	Central Valley Project
CWA	Clean Water Act
dB	decibel(s)
dBA	A-weighted decibel(s)
DCC	Delta Cross Channel
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
Delta	Sacramento–San Joaquin Delta
DIDSON	Dual-Frequency Identification Sonar
DOC	California Department of Conservation
DPC	Delta Protection Commission
DPM	diesel particulate matter
DPS	Distinct Population Segment
DSC	Delta Stewardship Council
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EAT	Enhanced Acoustic Telemetry
EPA	U.S. Environmental protection Agency
ESA	Environmental Science Associates
ESU	Evolutionarily Significant Unit
FESA	federal Endangered Species Act
FFGS	floating fish guidance structure
FHSZ	fire hazard severity zone
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FR	*Federal Register*
gamma-HCH	gamma hexachlorocyclohexane
GEI	GEI Consultants, Inc.
GGERP	*Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan*
GHG	greenhouse gas
GSSMB	Georgiana Slough Salmonid Migratory Barrier
HAZMAT	hazardous materials
HCP	habitat conservation plan
HMMP	Hazardous Materials Management Program
HRA	health risk assessment
Hz	Hertz
IS	initial study

Acronym or Abbreviation	Definition
ITP	Incidental Take Permit
L_{dn}	day-night average sound level
LED	light-emitting diode
L_{eq}	equivalent sound level
L_{max}	maximum sound level
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MIL	modulated intense light
MND	mitigated negative declaration
MT	metric ton(s)
$MTCO_2e$	metric tons of carbon dioxide equivalent
NAAQS	national ambient air quality standards
NAHC	California Native American Heritage Commission
National Register	National Register of Historic Places
NCIC	North Central Information Center
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
Non-VHFHSZ	Non-Very High Fire Hazard Severity Zone
NO_X	oxides of nitrogen
NWIC	Northwest Information Center
OEHHA	Office of Environmental Health Hazard Assessment
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
PM_{10}	particulate matter 10 microns or less in diameter
PPU	Preserve Planning Unit
PPV	peak particle velocity
proposed project	Georgiana Slough Salmonid Migratory Barrier Project
RBDD	Red Bluff Diversion Dam
Reclamation	U.S. Bureau of Reclamation
Regional Water Board	Regional Water Quality Control Board
RMS	root mean square
ROG	reactive organic gases
RPA	Reasonable and Prudent Alternative
SCSD	Sacramento County Sheriff's Department
SEL	sound exposure level
SLC	California State Lands Commission
SLF	(NAHC) Sacred Lands File
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide

Acronym or Abbreviation	Definition
SPA	Special Planning Area
SR	State Route
SSHCP	South Sacramento Habitat Conservation Plan
State Water Board	State Water Resources Control Board
SVAB	Sacramento Valley Air Basin
SWP	State Water Project
TAC	toxic air contaminant
TCR	tribal cultural resource
TMDL	total maximum daily load
UAIC	United Auburn Indian Community of the Auburn Rancheria
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VdB	vibration decibel(s)
VHFHSZ	Very High Fire Hazard Severity Zone
WGFD	Walnut Grove Fire District

CHAPTER 1
Introduction

1.1 Background and Purpose

Under the federal Endangered Species Act (FESA), the National Marine Fisheries Service (NMFS) issued the 2009 *Biological and Conference Opinion for the Long-Term Operations of the Central Valley Project and State Water Project for Chinook Salmon (*Oncorhynchus tshawytscha*), Steelhead (*O. mykiss*), and Green Sturgeon (*Acipenser medirostris*)* (BiOp; NMFS 2009). Reasonable and Prudent Alternative (RPA) Action IV.1.3 of the BiOp required the California Department of Water Resources (DWR) and/or U.S. Bureau of Reclamation (Reclamation) to consider engineering solutions to reduce the diversion of juvenile salmonids from the Sacramento River into the interior and south Sacramento–San Joaquin Delta (Delta).

In response to the RPA, DWR investigated engineering alternatives to reduce the diversion of juvenile salmonids into the interior Delta. In 2009 and 2010, DWR evaluated a non-physical barrier using Bio-Acoustic Fish Fence™ (BAFF) technology at the Head of Old River. In 2011 and 2012, DWR tested the BAFF technology at the divergence of Georgiana Slough and the Sacramento River. During the 2011/2012 BAFF study, DWR determined that the probability for emigrating juvenile salmonids to be entrained into Georgiana Slough was significantly reduced if the BAFF were operational and if the juvenile salmonids were distributed more toward the right bank of the Sacramento River opposite Georgiana Slough. Based on these results, DWR conducted an additional study in 2014 utilizing a Floating Fish Guidance Structure (FFGS), which is a much simpler technology than the BAFF and focuses on guiding fish toward the right bank. The FFGS was installed on the Sacramento River just upstream of the confluence with Georgiana Slough. DWR determined that the FFGS was efficient at guiding the emigrating juvenile Chinook Salmon toward the right bank within a specific Sacramento River flow range.

In 2019, Reclamation prepared National Environmental Policy Act (NEPA) compliance documentation (Environmental Impact Statement [EIS]) and completed FESA reinitiation of consultation with the U.S. Fish and Wildlife Service (USFWS) and NMFS on the long-term reoperation of the State Water Project (SWP) and Central Valley Project (CVP). BiOps for the project were issued by USFWS and NMFS on October 21, 2019 and the Final EIS was published on December 19, 2019, and Record of Decision on February 19, 2020. The NMFS BiOp described the 2009 RPA Action IV.1.3 (Consider Engineering Solutions to Further Reduce Diversion of Emigrating Juvenile Salmonids to the Interior and Southern Delta, and Reduce Exposure to CVP and SWP Export Facilities (including Georgiana Slough Non-Physical Barrier)) as part of the environmental baseline, and recommended its continuation as a conservation measure, as follows (pp. 823 of NMFS BiOp):

> *…Reclamation and DWR should support the following physical and non-physical barrier projects…*
>
> *ii. Non-physical exclusion barrier at Georgiana Slough consistent with DWR's prior pilot study results.*

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW) issued the 2020 *Incidental Take Permit for Long-term Operation of the State Water Project* (SWP ITP; CDFW 2020). SWP Incidental Take Permit (ITP) minimization measure 8.9.1 includes a requirement for construction and operation of a migratory barrier at Georgiana Slough. The construction and operation of the migratory barrier is required to occur within three years of the effective date of the SWP ITP, i.e., March 31, 2020.

Based on results from the previous BAFF and FFGS studies, and in response to the 2019 NMFS BiOp conservation measure and 2020 CDFW SWP ITP minimization measure, DWR proposes the Georgiana Slough Salmonid Migratory Barrier Project (GSSMB; proposed project). The GSSMB would occur over two phases; the first phase would include planning and design, and construction (anticipated to occur from summer 2022 through early 2023) and the first year of operation, ending on June 30, 2023. The second phase would begin July 1, 2023 and continue through June 30, 2030, with operations occurring in the winter and spring periods (when listed salmonids are present in the Sacramento River) of each year. Specific details regarding proposed operations of the BAFF would be developed in coordination with CDFW, NMFS, and USFWS. DWR considers the use of a BAFF at Georgiana Slough as complying with SWP ITP minimization measure 8.9.1.

Similar to the 2011/2012 BAFF study and 2014 FFGS study, the anticipated GSSMB benefits include:

1. Reducing impacts of the SWP and CVP operations by deterring emigrating juvenile salmonid from entering Georgiana Slough and thereafter the central and south Delta, wherein survival is lower relative to remaining in the mainstem Sacramento River, improving survival to Chipps Island;
2. Maintaining SWP compliance with FESA and CESA; and
3. Maintaining existing through-Delta water conveyance with reduced impacts on juvenile salmonids by reducing the number of juvenile salmonids from entering the central and south Delta.

1.2 Previous Studies

The migration of juvenile salmonids from the Sacramento River into the interior Delta through pathways such as Georgiana Slough and the Delta Cross Channel (DCC) has been shown to contribute to greater mortality relative to remaining in the Sacramento River (Brandes and McLain 2001; Perry 2010; Perry et al. 2010; Perry et al. 2012; Singer et al. 2013; Perry et al. 2018). To identify potential engineering approaches to reduce the percentage of the juvenile salmonids that migrate from the Sacramento River into Georgiana Slough, DWR operated a

BAFF in 2011 and 2012 and FFGS in 2014 to assess the effectiveness of non-physical and physical barriers as a method for guiding downstream migrating juvenile salmonids. The experimental design of the tests included the use of acoustic tagged juvenile Chinook Salmon (2011, 2012, and 2014) and yearling steelhead (2012), released upstream of the barrier when they were on and when they were off, to determine effectiveness.

During the 2011 study, the BAFF reduced the percentage of juvenile late fall-run Chinook Salmon passing into Georgiana Slough from 22.1 percent (BAFF Off) to 7.4 percent (BAFF On), a reduction of approximately two-thirds of the fish that would have been entrained (DWR 2012). Analysis of the 2012 study data showed that the percentage of juvenile Chinook Salmon migrating into Georgiana Slough was reduced from 24.1 percent (BAFF Off) to 11.4 percent (BAFF On), approximately one-half less (DWR 2015).

In 2012, this technology was tested on steelhead in addition to late fall-run Chinook Salmon, a total of 23.4 percent of the steelhead were entrained into Georgiana Slough when the BAFF was off compared to 10.5 percent when the BAFF was on, representing a 12.9 percentage point overall reduction in steelhead entrainment into Georgiana Slough (DWR 2015). These findings demonstrated that an integrated multi-sensory (light, sound, air bubbles) non-physical barrier was able to significantly reduce juvenile salmonid entrainment into Georgiana Slough similarly for both steelhead and Chinook Salmon.

During the 2014 study, the FFGS reduced the percentage of juvenile salmon passing into Georgiana Slough during a subset of environmental conditions, with the FFGS effectiveness being highly dependent upon discharge, fish cross-stream position, and time of day (Romine et al. 2016). Under intermediate Sacramento River discharge conditions (8,794 – 12,394 cubic feet per second [cfs] upstream of the junction with Georgiana Slough and the DCC), the percentage of juvenile salmon passing into Georgiana Slough was 21.2 percent (FFGS Off) compared to 13.5 percent (FFGS On), a reduction of approximately one-third of the fish that would have been entrained. Under higher Sacramento River discharge conditions (12,395 – 21,083 cfs), the percentage of juvenile salmon passing into Georgiana Slough increased by around one-half, from 11.7 percent for FFGS Off compared to 17.3 percent for FFGS On. Under lower Sacramento River discharge conditions (4,344 – 8,793 cfs), entrainment differences were negligible. These findings show that a FFGS reduced juvenile salmonid entrainment but only during intermediate discharge; overall, there was little difference in entrainment between FFGS Off and FFGS On. It was suggested that the complex hydrodynamics of the Georgiana Slough junction might require dynamic operation of the FFGS for success (e.g., moving the FFGS toward the bank to avoid turbulence and increased entrainment during high discharge) (DWR 2016).

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CHAPTER 2
Project Description

2.1 Project Location

The GSSMB project site is situated along the Sacramento River at its junction with Georgiana Slough in the north Delta, with staging areas at the town of Hood, Sutter Slough junction, Steamboat Slough junction, the Georgiana Slough junction (Point Ranch Property), and adjacent to the DCC (see **Figure 2-1** and **Figure 2-2**). **Table 2-1** summarizes project locations, from upstream to downstream on the Sacramento River.

TABLE 2-1
SUMMARY OF PROJECT LOCATIONS

Area Name	Starting and Ending Sacramento River Mile*	Nearest Town or Community	GSSMB Activity	Description of Staging Area(s)
Sacramento	59	Sacramento	Study fish release	A possible study fish release site is located at a developed portion of the Sacramento River waterfront (City dock platform under the Tower Bridge).
Hood	–	Hood	Staging only	Possible staging area, approximately 1.8 acres, located on the left bank in Hood west of SR 160. Herein referred to as the "Hood staging area." An existing warehouse may also be leased at this location.
Sutter Slough	34.1 to 34.3	Paintersville	Staging only	Possible staging area, approximately 1.8 acres, on the left bank of Sutter Slough (does not include the Sutter Slough Bridge). Herein referred to as the "Sutter Slough staging area."
Steamboat Slough	31.8 to 32.9	Paintersville	Staging and study fish release	Possible staging area and study fish release site, approximately 0.46 acre, on the right bank of Steamboat Slough (does not include the Steamboat Slough Bridge). Herein referred to as the "Steamboat Slough staging area."
DCC	27.0 to 27.2	Locke	Staging only	Possible staging area, approximately 0.9 acre, located on the Sacramento River left bank, south of the DCC. Herein referred to as the "DCC staging area."
Georgiana Slough	26.4 to 26.7	Walnut Grove	BAFF and study fish release	One potential land-based staging area/area for utilities access (known as the Point Ranch Property), approximately 1.7 acre, is located at a point on the confluence of the Sacramento River and Georgiana Slough. If access to the Point Ranch Property is not available, a barge/flexi-floats with a diesel generator(s) to supply power necessary to operate the BAFF would be located on the water adjacent to the Georgiana Slough project site. On the Sacramento River, DWR would use barges and docks along the left bank. A possible study fish release site is located approximately 2 miles downstream of the BAFF location and junction with the Sacramento River.

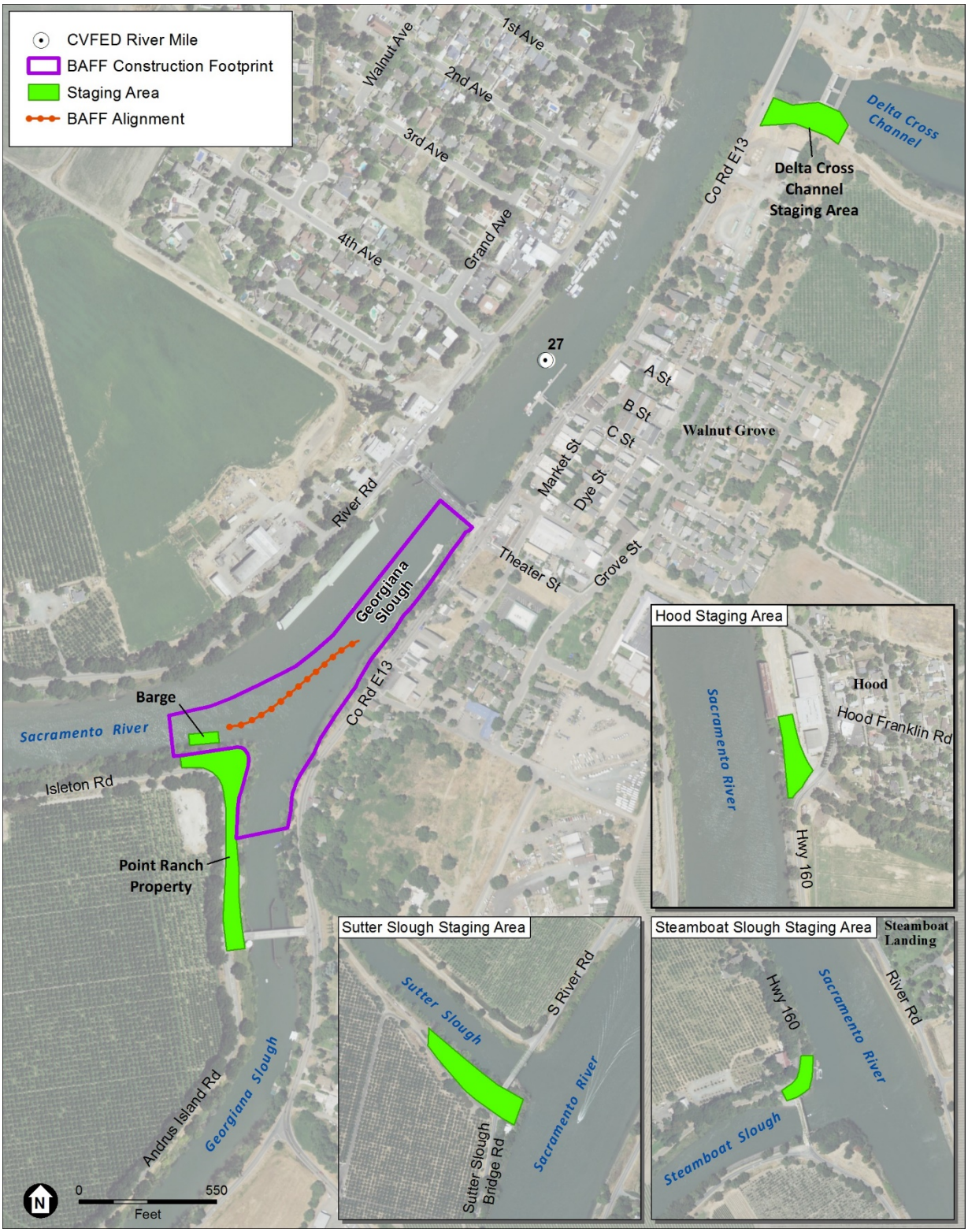
NOTES: BAFF = Bio-Acoustic Fish Fence™; DCC = Delta Cross Channel; DWR = California Department of Water Resources; GSSMB = Georgiana Slough Salmonid Migratory Barrier; SR = State Route.

* The river miles were obtained by using the Clarksburg, Courtland, and Isleton U.S. Geological Survey 7.5-Minute Quadrangles.

Source: Data provided by DWR in 2019

Source: USGS Topo; AECOM adapted by ESA, 2020

Figure 2-1
Georgiana Slough Salmonid Migratory Barrier Overview Map



Source: USDA, 2018; AECOM adapted by ESA, 2020

Figure 2-2
Detailed Map—Georgiana Slough Junction and Staging Areas

DWR would construct and operate the BAFF within a small portion of the construction footprint. DWR proposes to use the Hood, Sutter Slough, Steamboat Slough, DCC, and Georgiana Slough staging areas each year during the GSSMB.

2.2 Project Overview

The GSSMB builds on the 2011 and 2012 BAFF and 2014 FFGS studies; however, under the proposed project, the BAFF would seasonally operate from late 2022/early 2023 through 2030 at the Georgiana Slough junction. Similar to previous studies, the BAFF is being operated as a behavioral deterrent to prevent Sacramento River juvenile salmonids from entering Georgiana Slough during emigration; specific details regarding BAFF operations will be developed in coordination with CDFW, NMFS, and USFWS.

DWR proposes the following for the proposed project:

- Bio-Acoustic Fish Fence (BAFF): The BAFF would be constructed each year in the Sacramento River at Georgiana Slough and would be operated during the winter and spring periods (operations plan would be developed in coordination with CDFW, NMFS, and USFWS). Up to 31 steel piles (up to 24-inch-diameter) and four concrete pier blocks (up to 24-inch-diameter) would be installed. Piles associated with the BAFF would be retained throughout the project, with removal at the end of the project period (2030).

- Navigation Aids: Up to 40 concrete anchor blocks would be used for navigation aids, such as buoys and signs at the Sacramento River/Georgiana Slough junction when the BAFF is installed.

- Fish Tracking and other Data Collection Monitoring Equipment: Acoustic telemetry hydrophones/receivers and up to 18 steel piles at the Georgiana Slough junction (up to 24-inch-diameter) would be used to attach equipment for hydroacoustic and hydrodynamic barrier operational monitoring.

- Study Fish: DWR would tag and release up to 7,500 hatchery-reared juvenile late fall-run Chinook Salmon and steelhead per year. DWR may also capture, tag, and release up to 200 predatory fish per year by hook and line sampling.

- Study Fish Release Locations: DWR would release acoustic tagged juvenile Chinook Salmon and/or steelhead at one or more sites per year. The proposed fish release sites include the Sacramento River near the City of Sacramento, just downstream of Steamboat Slough, and in Georgiana Slough approximately 2 miles downstream of its junction with the Sacramento River (Figure 2-5). The City of Sacramento release site would be located at a developed portion of the Sacramento River waterfront (City dock platform under the Tower Bridge); the Steamboat Slough release site would be located at the staging area; and the Georgiana Slough release site would be located at an existing public fishing access location with developed parking lot.

- Barrier Construction and Operation Window: To limit the potential for impacts on listed fishes, marine construction, which is defined as pile driving and the installation of anchors and pier blocks, would occur between August 1 and October 31 of each year, where feasible. It is anticipated that the BAFF would be installed in winter/spring (conditions permitting) and be operational during the winter and spring periods each year. Specific details regarding proposed operations of the BAFF would be developed in coordination with CDFW, NMFS,

and USFWS. The barrier components would be removed in spring (specific dates to be determined based on operations plan development). Mobilization and demobilization, both land- and water-based, would occur within 15 days prior to and after each activity. Supporting infrastructure, including piles, would remain in place throughout the year during the duration of the project (late 2022/early 2023 through 2030).

- Dolphin Structures: DWR proposes to remove the two dolphin structures (three piles each) that were installed at the Georgiana Slough junction as part of the 2014 FFGS study. Current authorization (SPK-2013-00815) of the existing dolphin structures at Georgiana Slough by the U.S. Army Corps of Engineers (USACE) includes retention and removal by March 17, 2022. DWR would request an amendment to the retention and removal period to the initiation of in-water work associated with the GSSMB in 2022.

- Staging Area Improvements: To prepare, install, and operate the BAFF, DWR may conduct improvements, such as adding gravel and grading at the staging areas. To provide electricity to the potential Point Ranch Property staging area (adjacent to Georgiana Slough), DWR may install a new power pole. The new power pole would replace an existing pole located on the Point Property in an existing disturbed area that is clear of vegetation and other sensitive resources. Power pole replacement would also occur on the land side of the levee southwest of the Point Ranch Property within an existing easement.

- Barrier Removal and Site Restoration: As described above, to limit the potential for impacts on listed fishes, marine construction (i.e., removal of piles), would also occur between August and October of each year, where feasible. The BAFF components would be removed as early as May. Supporting infrastructure, including piles, would be removed at the completion of the project. Piles would be removed utilizing a vibratory hammer to unseat the pile and/or by cutting the pile below the substrate line (i.e., bed of river). All equipment would be removed from staging areas and the sites would be restored to prior existing conditions.

2.3 Project Schedule

DWR would construct and operate components of the GSSMB, starting in late 2022/early 2023 and ending in 2030. The annual construction/operation/removal period is anticipated to begin July 1 and end June 30 (see **Table 2-2**).

Marine (i.e., in-water) construction is anticipated to take up to 30 days and would occur between August 1 and October 31 to avoid or minimize the potential for listed fish impacts. Barrier and project/data collection equipment (e.g., fish tagging station, hydrophones) installation (i.e., installation activities other than marine construction) is also anticipated to take up to 30 days (specific dates to be determined based on operations plan development). The BAFF is anticipated to be operational during winter and spring periods (specific dates to be determined based on operations plan development), the main period of occurrence of listed wild juvenile salmonids in the project area.

Removal consists of two separate activities: (1) removal of the barrier components and project/ data collection equipment, and (2) removal of the piles and remaining supporting infrastructure. DWR would remove the barrier and project/data collection equipment, including the concrete anchor blocks after each operational period (specific dates to be determined based on operations plan development). DWR may remove the piles associated with the BAFF to reposition the alignment as necessary in future years (see Section 2.4.5, *Scientific and BAFF Supporting Structure Summary*, and Table 2-4 for the maximum number of piles that may be retained).

Because removal of the piles may require use of a vibratory hammer, DWR would complete this activity within or as close to August-October to the maximum extent practicable.

Table 2-2 summarizes a typical operation/construction period.

TABLE 2-2
TYPICAL ANNUAL CONSTRUCTION/OPERATION PERIOD

Activity[1]	Year 1 Aug.	Year 1 Sept.	Year 1 Oct.	Year 1 Nov.	Year 1 Dec.	Year 1 Jan.	Year 1 Feb.	Year 1 Mar.	Year 1 Apr.	Year 1 May	Year 1 June	Year 2[6] July	Year 2[6] Aug.	Year 2[6] Oct.
Marine Construction[2]	■	■	■										■	■
BAFF Installation[3]	▒	▒	▒	▒	■	■	▒	▒					▒	▒
Operation[4]				▒	■	■	■	■	■	■				
Removal[5]									▒	▒	▒		■	■

NOTES:
Black = The optimal period for an activity to be conducted.
Gray = DWR may conduct an activity during this period due to extraneous factors (e.g., hydraulic conditions, acquisition of materials and equipment), as close to the optimal period as possible.

1 Mobilization and demobilization of equipment and personnel is required for all phases of the GSSMB. Mobilization and demobilization, both land- and water-based, would occur within 15 working days prior to and after each activity, including marine construction, BAFF installation, operation, and removal.
2 Marine construction includes pile driving and installation of anchor and pier blocks. These activities would be conducted between August and September.
3 Barrier installation includes installation of the BAFF, limited to installation of the barrier components except the support piles, which would be installed during marine construction.
4 Operation includes the BAFF being activated for testing or continuous operation.
5 Removal of the BAFF components would occur between April and October after each operational period. Removal of piles would occur within or as close to August-October to the maximum extent practicable. Piles may be retained, depending on the BAFF configuration, and all piles would be removed at the end of the 2030 season.
6 Year 2 would continue beyond October as shown in Year 1.

Source: Data provided by DWR in 2019

2.4 Project Components

2.4.1 Non-Physical Barrier Technology

The GSSMB consists of a BAFF that would be installed, operated, and monitored from late 2022/ early 2023 through 2030 at Georgiana Slough. Similar to the previous studies, the BAFF is being implemented and monitored for its effectiveness as a behavioral deterrent to prevent emigrating wild juvenile salmonids in the Sacramento River from entering Georgiana Slough (DWR 2016; Romine et al. 2016).

Bio-Acoustic Fish Fence (BAFF)

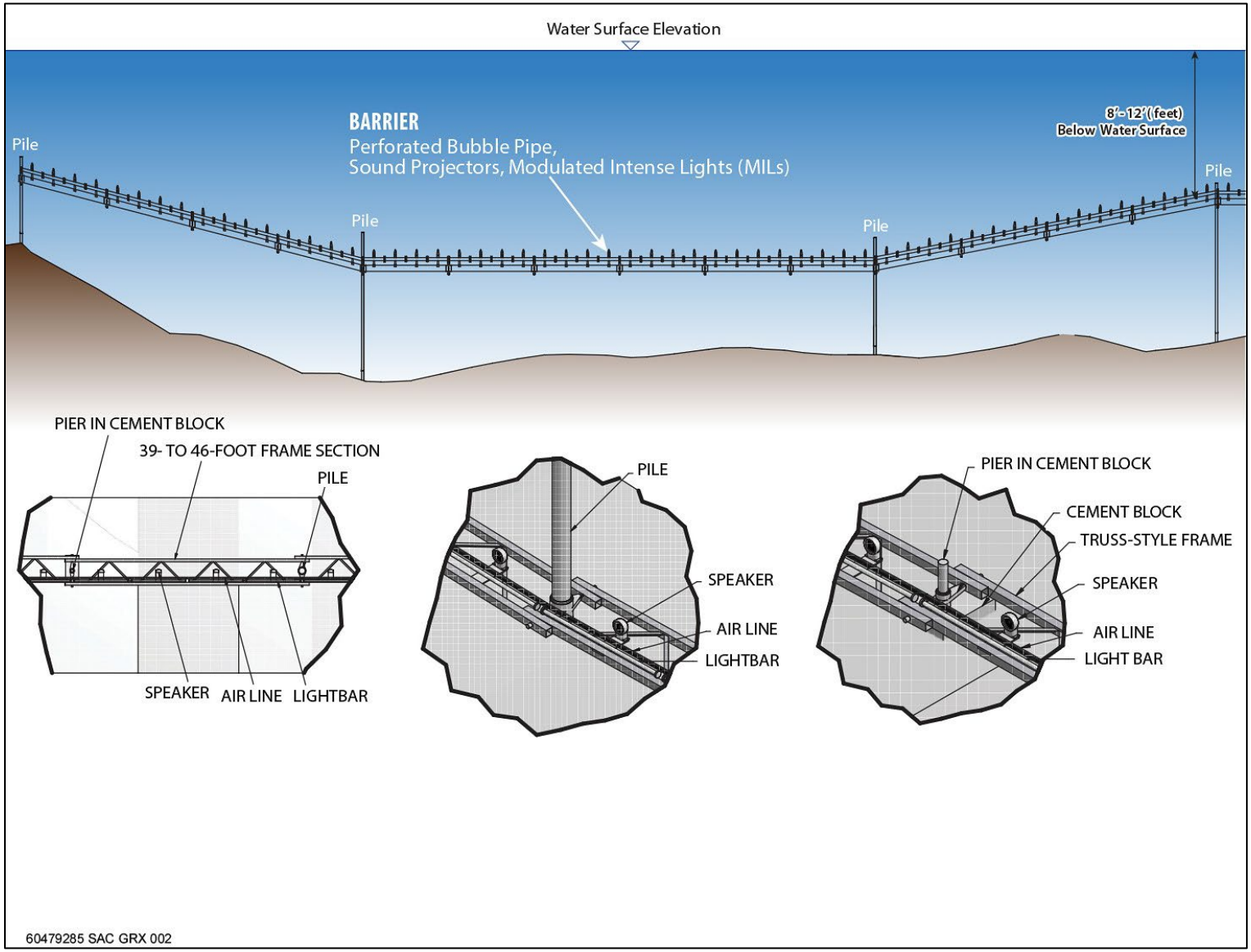
The BAFF is a multi-stimulus fish barrier that combines high-intensity light-emitting diode (LED) modulated intense lights (MILs), an air bubble "curtain," and sound emitted at frequencies and levels that are repellent to Chinook Salmon (Bowen et al. 2012; Bowen and Bark 2012). The sound system and MIL flash rate can be tuned to known sensitivities of various fish species. Investigations have indicated that the most effective acoustic deterrents for multiple fish species fall within the sound frequency range of 5 to 600 hertz (Hz) (Bowen and Bark 2012), and the

BAFF would be operated at this frequency range consistent with previous installations in the area (e.g., Perry et al. 2014). Studies with Chinook Salmon and Delta Smelt have shown that when the sound and strobe light flash rate were tuned according to these species' sensitivities, the barrier was particularly effective as a deterrent for juvenile Chinook Salmon (Bowen et al. 2008). Based on these studies, it has been hypothesized that the sound is the deterrent. Sound has been shown to be an effective deterrent for numerous fishes (Putland and Mensinger 2019). The BAFF sound is trapped by refraction within the bubble curtain, producing a sharply defined sound field that fish do not detect until within a few meters of the barrier. The flashing MILs are aligned such that the light beam projects onto the bubble curtain. This helps identify the bubbles so that the source of the sound can be determined by the fish. The narrow, vertical MIL beam minimizes light saturation within the experimental area. As described in Section 1.2, *Previous Studies*, installation of a BAFF at the divergence of the Sacramento River and Georgiana Slough was shown to be effective at deterring juvenile salmonid entry into Georgiana Slough (DWR 2012, 2015; Perry et al. 2014).

The BAFF, installed at the divergence of the Sacramento River and Georgiana Slough, would be up to 1,240 feet long, comprising up to 31 separate 40-foot frame sections. Each frame section would have approximately six sound projectors, 12 MILs, and a perforated "bubble" pipe (**Figure 2-3**). The bubble pipe would be positioned along each frame below and upstream of the sound projectors. A bubble curtain would be created by passing compressed air into the perforated pipe. Air flow rate would typically be 1.38 cubic feet per minute (cfm) per linear foot length of barrier. The MILs would be powered from an "accumulator" positioned on each frame section. A mounting plate would be attached to the support tray to house the accumulators. The junction of each frame section can pivot with the adjacent section, and where needed each frame section would be supported at either end with a piling or support column to a pier block. The frame sections would be adjusted vertically at the pile attachments to adjust for the uneven riverbed contour. The sections would be positioned along the barrier line such that its effectiveness would be optimized. In the main portion of the channel, this is approximately 12 feet from the channel bottom. The top of the frame sections would be at least 6 feet below the water surface elevation at low tide. The barrier frame would be supported by up to 31 piles (up to 24-inch-diameter) in the riverbed. Up to four concrete pier blocks (up to 24-inch-diameter) (see **Figure 2-4**) would be situated in shallow water to ensure the system remains in alignment.

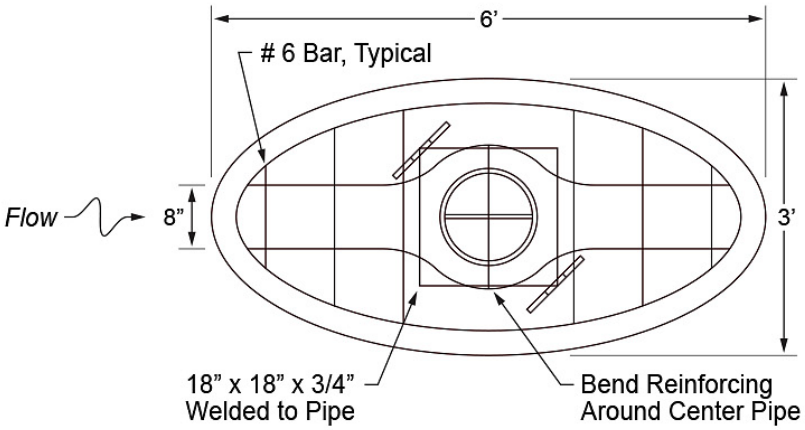
2.4.2 Study Fish

Each year, up to 7,500 juvenile salmon and/or steelhead would be tagged and released upstream of the BAFF; the actual number of fish released may vary depending on refinements to the project objectives and associated statistical power requirements. DWR may release fish at one or more of the fish release sites per year. The proposed fish release sites include the City of Sacramento (downstream of the Tower Bridge), downstream of Steamboat Slough junction, and in Georgiana Slough downstream of the Sacramento River junction (see **Figure 2-5**). A study plan will be developed in 2021, in coordination with the operations plan, prior to installation and operation of the barrier.

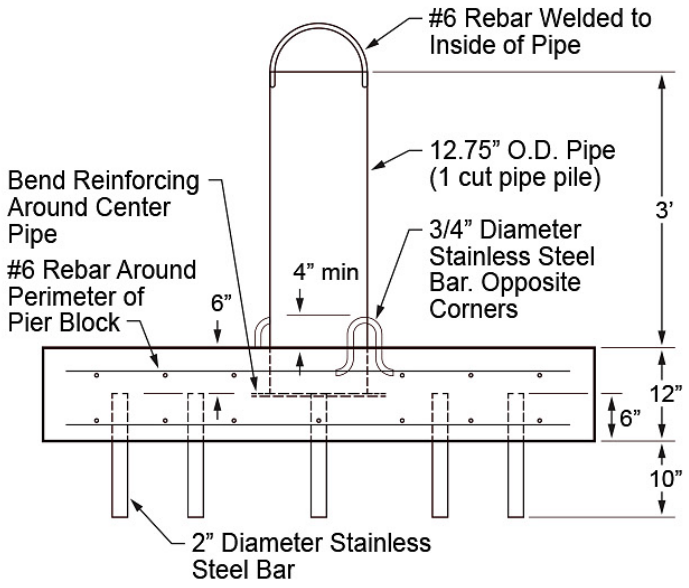


Source: Data provided by DWR in 2019

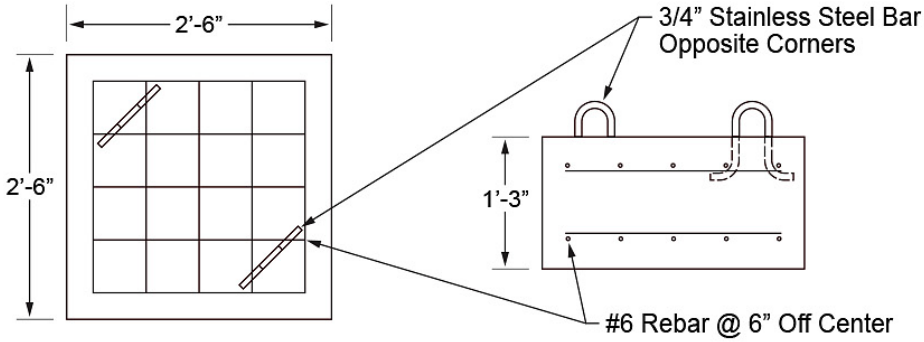
Figure 2-3
Conceptual Design of the Bio-Acoustic Fish Fence



Plan - Pier Block



Elevation - Pier Block

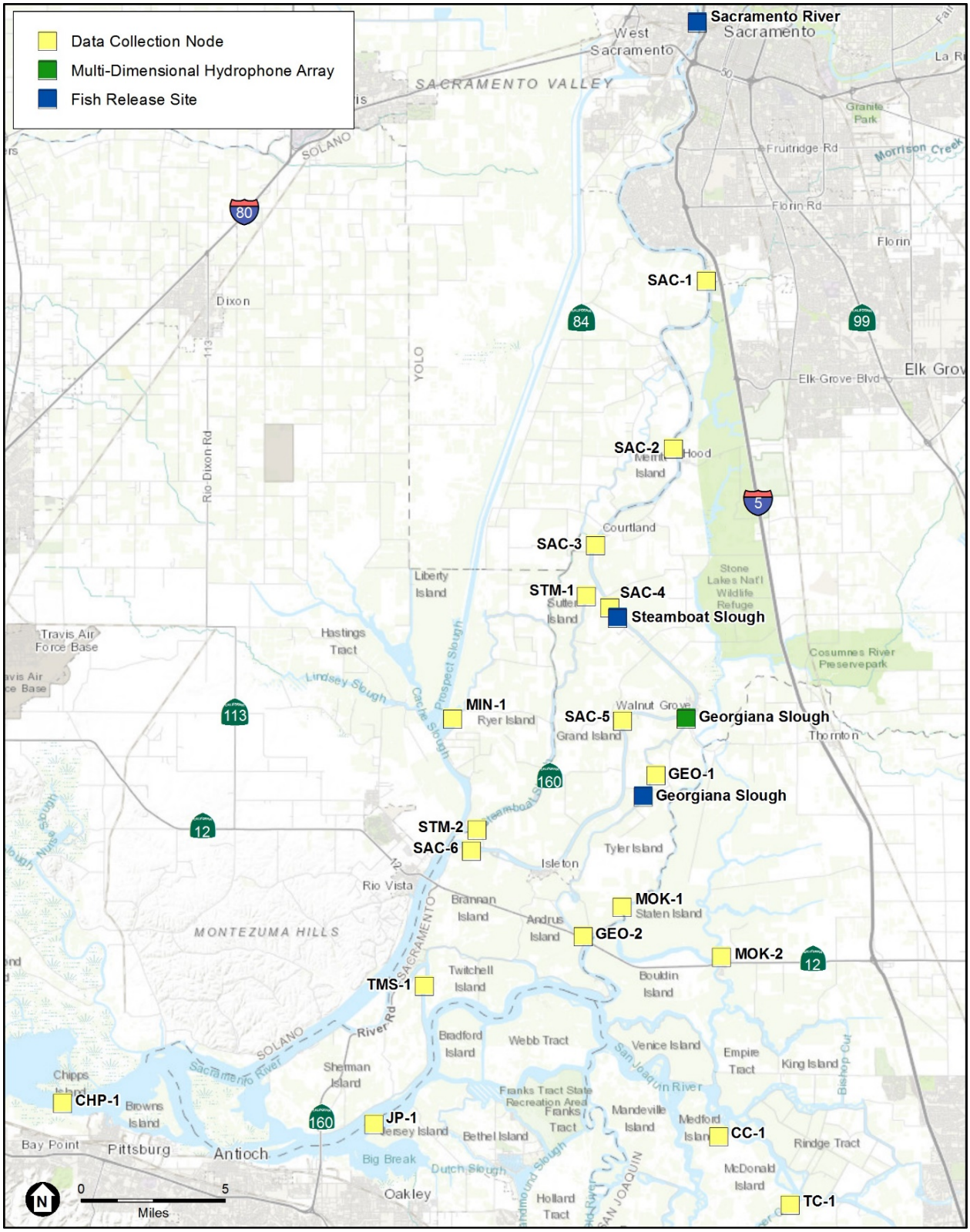


Plan - Anchor Block ***Elevation - Anchor Block***

60479285 SAC GRX 005

Source: Data provided by DWR in 2019

Figure 2-4
Typical Concrete Blocks



Source: USGS Topo; AECOM adapted by ESA, 2020

Figure 2-5
Potential Fish Release Locations, Multi-dimensional Arrays, and Data Collection Nodes

Similar to the 2011, 2012, and 2014 studies, juvenile late fall–run Chinook Salmon produced at the USFWS' Coleman National Fish Hatchery are proposed to be the primary species used in GSSMB. If study fish are not available at Coleman National Fish Hatchery, other State or federal hatcheries would be used. Groups of Chinook Salmon would be loaded into a tank for transport to the fish tagging location(s) as frequently as daily. The transport tank would be filled with water from the hatchery and aerated using oxygen and fine bubble diffusers during transport. Upon arrival at the tagging location(s), source fish would be transferred to the fish tagging station. During fish tagging activities in 2011, 2012, and 2014, water was pumped from the river into flow-through live cars, which were used to temporarily hold fish as they were being processed for tagging. The pump used for the tagging live car was a 1/6 horsepower submersible unit with a screened inlet and maximum pumping rate of 24 gallons per minute. The same tagging live car pump procedure used in 2011, 2012, and 2014 is being proposed for GSSMB.

Additionally, predatory fish (e.g., Striped Bass [*Morone saxatilis*], catfish [*Ameiurus* and *Ictalurus* spp.], Smallmouth Bass [*Micropterus dolomieu*], Largemouth Bass [*Micropterus salmoides*], Spotted Bass [*Micropterus punctulatus*], and Sacramento Pikeminnow [*Ptychocheilus grandis*]) may be captured (through hook and line), tagged, and released in the project area each year (Figures 2-2 and 2-5). All predatory fish tagged and released in the project area would be captured in the immediate vicinity; as a result, this activity would not result in increased densities of predatory fish in the project area.

2.4.3 Acoustic Telemetry Tracking System

An acoustic telemetry tracking system would be used to track fish, which consists of acoustic tags implanted in juvenile Chinook Salmon, underwater hydrophones to detect the transmitters, onshore receivers, data loggers, and data processing and storage computers. Each year, DWR would deploy up to 250 hydrophones in a combination of locations and positions. The specific number of hydrophones deployed each year would depend on project objectives and ability to utilize hydrophones that may be deployed and maintained by others (e.g., Enhanced Acoustic Telemetry [EAT] Project). Additional hydrophones would be deployed in configurations to evaluate route entrainment, reach-specific survival, and fish behavior at specific locations. Locations would be considered for instrumentation with pairs of hydrophones. The river reaches and junctions that would be considered for instrumentation with hydrophones may include the Sacramento River, Steamboat Slough, Sutter Slough, Miner Slough, Georgiana Slough, Mokelumne River, Threemile Slough, and/or Chipps Island (Figure 2-5).

The proposed hydrophones would be placed/mounted on the bottom of the channel, which would include the Sacramento River, Georgiana Slough, and other channels throughout the Delta region. For the channel bottom hydrophones, DWR would use small steel frames (tower mounts) and fabricated steel structures (pound-in mounts). The remaining hydrophones would be deployed higher in the water column and near the BAFF. These hydrophones could be attached to nearby shore features (e.g., docks) or to the temporary piles near the water surface with the cables running down the pile to the channel bottom and routed to shore. The temporary piles would extend above the water surface and be clearly marked with signals and lights as prescribed by the U.S. Coast Guard to alert all boat traffic of their locations. Each hydrophone would be connected

by cable to a receiver. Hydrophones in the immediate vicinity of the BAFF would be connected to multi-port receivers located in houseboats or other secured facilities, and other hydrophones would be connected to individual receivers housed in armored job-boxes on the bank.

2.4.4 Monitoring Equipment

DWR may conduct hydroacoustic and hydrodynamic BAFF operational monitoring using Acoustic Doppler Current Profilers (ADCPs), and potentially an active hydroacoustic-based visual tracking system consisting of a Dual-Frequency Identification Sonar (DIDSON) or similar acoustic camera and multi-beam active sonar units, and would require installation of up to 18 pilings near the BAFF within the Sacramento River and Georgiana Slough (shown as multi-dimensional hydrophone array in Figure 2-5). The hydrophone deployments would occur in coordination with the marine construction activities. DWR would use up to 20 tower mounts (i.e., square steel "weights") to which the hydrophones are attached, that keep them fixed during the monitoring period.

2.4.5 Scientific and BAFF Supporting Structure Summary

Table 2-3 provides a summary of the structural components needed to physically support the BAFF and deploy monitoring equipment (e.g., hydrophones) needed to evaluate the effectiveness of this technology. **Table 2-4** summarizes the number of piles that would be installed.

TABLE 2-3
STRUCTURAL FOOTPRINT PER PROJECT COMPONENT

Structure	No./Area	BAFF	Delta Survival
Piles (24-in.-dia.)	Number	49 (31 BAFF; 18 scientific) 24-in.-dia.	N/A
	Total Area	154 sq. ft.	N/A
Concrete Pier Blocks	Number	4 (BAFF)	N/A
	Total Area	68 sq. ft.	N/A
Concrete Anchor Blocks	Number	40 navigation aids	N/A
	Total Area	250 sq. ft.	N/A
Tower Mounts*	Number	30 (10 hydrophones; 20 ADCP/DIDSON)	45 (hydrophones)
	Total Area	270 sq. ft.	405 sq. ft.
Pound-in Mounts*	Number	70 (hydrophones)	125 (hydrophones)
	Total Area	112 sq. ft.	200 sq. ft.
Total	**Total Area**	**854 sq. ft.**	**605 sq. ft.**

NOTES:
N/A = Not Applicable

* Up to 270 mounts (987 sq. ft.) for hydrophones, ADCP, and/or DIDSON cameras may be installed per year.

Source: Data provided by DWR in 2019

TABLE 2-4
NUMBER OF PILES

Technology	Maximum Number of Piles to be Retained Per Any Given Year	Total Cumulative No. of Piles*	No. Permanent**	No. Temporary
BAFF	49	Up to 189 (up to 49 in Year 1 and up to 20 per year in Years 2-8)	29	20

NOTE:
* Piles would be retained to the maximum extent possible in order to reduce additional pile installation in subsequent years. As a result, total estimated cumulative number of piles is conservative.
** Permanent is considered by piles that are installed and retained longer than one operational period. All remaining at the end of the project would be removed.

Source: Data provided by DWR in 2019

2.5 Construction

Mobilization would occur approximately 15 working days prior to marine construction. For staging areas, DWR would use the areas as indicated on Figures 2-1 and 2-2. Preferred locations include the Delta Cross Channel, the Hood staging area (an existing warehouse may be leased and yard facility would be used in the town of Hood, north of Walnut Grove), and the Georgiana Slough staging area for utilities access situated at the confluence of the Sacramento River and Georgiana Slough. If access to the Georgiana Slough staging area is not available, a barge/flexi-floats with a diesel generator(s) to supply power necessary to operate the BAFF would be located on the water adjacent to the Georgiana Slough project site.

Project-related activities at the Georgiana Slough Point Ranch Property (staging and operations, including utilities) would occur in areas with existing gravel or, if no gravel is present, gravel or geotextile would be imported and placed on the ground surface and then used for project-related activities. Also at the Georgiana Slough Point Ranch Property, an existing utility pole (single-pole) would be replaced with a larger utility pole (also single-pole), in the same location to provide power for project-related operations. The utility pole replacement would result in ground disturbance to no deeper than 10 feet below ground surface, though much, if not all, of the soil that would be disturbed has likely been previously disturbed by the installation of the existing utility pole. Also at the Georgiana Slough Point Ranch Property a service pole (single-pole) would be installed between 15 and 80 feet from the new utility pole for the service panel and meter per Pacific Gas & Electric (PG&E) for DWR's service. The service pole placement would result in ground disturbance to no deeper than 10 feet below ground surface, and would not be placed in or immediately adjacent to areas where previous archaeological investigations identified human remains. PG&E would also complete power pole replacement on the land side of the levee southwest of the Point Ranch Property within an existing easement. Other than the utility pole replacement and service pole installation, no project-related ground disturbance is proposed at the Georgiana Slough Point Ranch Property or any other staging area.

Construction and related activities would occur during daylight hours, up to 10 hours per day, 7 days per week. In-water construction activities and system startup and testing are anticipated to require approximately 60 working days.

Construction of the BAFF would begin with installation of the pile foundation and concrete pier block supports. All piles (see Table 2-4) would be driven with a vibratory pile driver in the wetted channel from a barge. The pilings have a base area of up to approximately 4 square feet each, resulting in a total temporary area of approximately 154 square feet (0.004 acre) for the BAFF. In addition to the piles, concrete pier block supports would be placed on top of the streambed. The concrete pier block supports could have a base area of up to approximately 17 square feet each, resulting in a total temporary area of approximately 68 square feet. It is anticipated it would take approximately 30 minutes to position each pile and up to 6 minutes to drive each pile approximately 30 feet into the riverbed. It would require approximately 30 minutes to 1 hour between piles to reposition the barge and load the next pile. The installation of all piles would occur over a period of up to 30 working days. The BAFF frame sections would be assembled on land and would then be lowered into the water with the barge-mounted crane. Divers or construction personnel from a work boat would attach the frame sets to the piles and concrete pier blocks where necessary. Overwater welding may be required in limited circumstances. Installation of the BAFF would occur over a period of up to 30 working days.

Upstream and downstream of the BAFF, navigational buoys, lights, and signage would be installed along the Sacramento River and Georgiana Slough to inform boaters of the presence of the BAFF to maintain navigation along the waterways. Navigational buoys and signs would require concrete anchors (see Table 2-3). DWR would coordinate with the U.S. Coast Guard on the positioning of buoys, lights, and signage.

Construction of the BAFF would require the use of both on-shore and in-water equipment. It is anticipated that the following equipment would be used during construction and installation: flatbed truck/trailer, up to two barges with spuds and tugboat support, barge-mounted crane, vibratory pile driver, work boats, diesel generators, and pickup trucks/support vehicles. Boat traffic would be controlled during in-water construction activities to ensure safety of construction personnel and boaters.

From a barge, DWR would remove the BAFF equipment between April and September. DWR may also remove a portion of the piles between years. DWR would reposition the barge and use a vibratory hammer to break up the friction bond between the pile and soil. Once the friction bond is loosened, a crane would extract the pile from the streambed. It would require approximately 1 minute to remove a pile. Alternatively, in some cases, piles may be cut from below the substrate line (e.g., bed of river). Removal of the piles would occur within or as close to August-October to the maximum extent practicable. Rebar is attached to the concrete anchor blocks so that a crane can remove or reposition them if necessary. It is anticipated that removal activities would take approximately 30 working days. At the end of the 8-year project period, the BAFF and all supporting equipment would be removed, and any disturbed portions of the project area would be restored to prior existing conditions. This may include the two dolphin structures (three piles each) that were installed at the Georgiana Slough junction as part of the 2014 FFGS study.

2.6 Operations

On-site power or trailer or barge mounted diesel generator(s) with on-site backup may supply the power necessary to operate the BAFF. The generator(s) would be located on a trailer(s) in the staging area (preferably the Georgiana Slough Point Ranch Property) and/or on barges. Additional trailer(s) and/or barge would house the air compressor, and a secure storage container would house the control units, signal generators, and amplifiers. One or more trailers and/or barge containing real-time operations equipment (including telemetry equipment, interfaces, computers, office space, and research facilities for staff conducting 24-hour monitoring) would also be located at the site. The trailers would be towed to and from the staging area and would not require the construction or improvements of any roads beyond minor gravel addition. If a barge is used to support operations, it would be anchored (with spud piles) in the Sacramento River adjacent to the bank on the downstream end of the Georgiana Slough junction. Fueling of diesel generators would occur consistent with the requirements outlined in in the project Hazardous Materials Management Program (see below).

As described above, project-related operations at the Georgiana Slough Point Ranch Property would occur in areas with existing gravel or, if no gravel is present, gravel or geotextile fabric would be imported and placed on the ground surface and then used for project-related activities.

Generally, the BAFF would be left on to provide the assumed maximum protections. However, it may be turned on and off at specific times, or at specific intervals for operational testing and maintenance with divers. Specific details associated with operations would be developed in coordination with CDFW, NMFS, and USFWS.

2.7 Protective Environmental Measures

The following protective environmental measures will be implemented as part of the project to minimize and avoid impacts on waters of the United States and other sensitive environmental resources.

2.7.1 Prepare and Implement a Water Quality Control Plan

A Water Quality Control Plan would be prepared before beginning construction activities that would cause ground disturbance. Site-specific erosion-control, spill-prevention, sedimentation control, and runoff measures would be developed and implemented during construction activities.

Applicable control measures would be utilized to manage the potential for erosion. Measures used at the project site would not include tightly woven cloth or monofilament meshes to ensure wildlife does not become trapped or entangled in the erosion control material. Coconut coir matting is an acceptable erosion control material. Where feasible, the edge of the material would be buried in the ground to prevent wildlife from crawling underneath the material.

2.7.2 Prepare and Implement a Spill Prevention and Control Program

A Spill Prevention and Control Program would be prepared before the start of construction to minimize the potential for hazardous, toxic, or petroleum substances to be released into the project area. The program would be implemented during construction and operation. In addition, DWR would place impervious ground barriers, sandbags or biolog berms, or other containment features around the areas used for fueling or other uses of hazardous materials to ensure complete containment. DWR would adhere to the standard construction best management practices (BMPs) described in the California Stormwater Quality Association (CASQA) – 2015 Construction BMP Handbook.

The Spill Prevention and Control Program would include procedures for mitigating potential spills caused by collision/stranding of vessel traffic with the BAFF during operation. Spill control materials would be kept at the BAFF site, on the vessels, and at additional DWR-owned locations in the Delta. Impediments to navigation would have clear signage with telephone contact details for DWR personnel as well as the Governor's Office of Emergency Services (CalOES) hazardous materials (HAZMAT) spill notifications contact number (1-800-852-7550).

2.7.3 Prepare and Implement a Hazardous Materials Management Program

A Hazardous Materials Management Program (HMMP) would be prepared and implemented to identify the hazardous materials to be used during construction; describe measures to prevent, control, and minimize the spillage of hazardous substances; describe transport, storage, and disposal procedures for these substances; and outline procedures to be followed in case of a spill of a hazardous material. The HMMP would require that hazardous and potentially hazardous substances stored on-site be kept in securely closed containers located away from drainage courses, storm drains, and areas where stormwater is allowed to infiltrate. It would also stipulate procedures to minimize hazards during on-site fueling and servicing of construction equipment, including over-water fueling for barge-based operations. Finally, the HMMP would require that adjacent land users be notified immediately of any substantial spill or release.

2.7.4 Conduct a Worker Environmental Awareness Program

Construction workers would participate in a Worker Environmental Awareness Program that addresses species under jurisdiction of the permitting agencies (CDFW, NMFS, and USFWS). Workers would be informed about the potential presence of listed and other protected species, and habitats associated with such species, and that unlawful take of the species or destruction of their habitat is a violation of the FESA, CESA, and/or Migratory Bird Treaty Act. Before the start of construction activities, a qualified biologist would instruct all construction workers about the life histories of the protected species and the terms and conditions of the applicable Biological Opinions (BOs), CESA ITP, and other regulatory permits that include biological resource protection measures.

2.7.5 Conduct Biological Monitoring

A qualified biologist would conduct compliance inspections and monitoring during initial ground disturbing activities and when construction would occur within environmentally sensitive areas as determined by the biologist. The qualifications of the biologist(s) would be presented to the permitting agencies for review and approval before beginning project activities at the project site. The complete set of permitting documents would be on-site during construction. The biologist(s) would be given the authority to stop work that could result in take of listed species.

2.7.6 Conduct Pile Driving with a Vibratory Driver to Minimize Effects of Impact Driving

DWR would conduct pile driving using a vibratory hammer to minimize to the extent possible the noise generated from pile-driving activities. NMFS (2015:50) noted in the BO for the Woodward Island Bridge Project over Middle River that only pile driving with an impact hammer is expected to produce sound levels that could result in injury to fish, so the use of a vibratory hammer substantially reduces or avoids the potential to cause take of listed species.

2.7.7 Install In-Water Navigational Buoys, Lights, and Signage

Navigational buoys, lights, and signage would be installed upstream and downstream of the BAFF to advise boaters about the presence of these structures. Temporary floating signs and buoys would be anchored to the bottom with cables and concrete anchor blocks. DWR would coordinate with the U.S. Coast Guard on signage and buoys.

2.7.8 Implement Turbidity Monitoring during Construction

DWR would monitor turbidity levels during in-water sediment-disturbing activities. Monitoring would be conducted by measuring upstream and downstream of the disturbance area to ensure compliance with the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins (Central Valley Regional Water Quality Control Board 2018).

DWR contractors would slow or adjust work to ensure that turbidity levels do not exceed those conditions described in the 401 certification issued by the Central Valley Regional Water Quality Control Board (Regional Water Board). If slowing or adjusting work to lower turbidity levels is not practical or if thresholds cannot be met, DWR would consult with the Regional Water Board and permitting agencies to determine the most appropriate measures to minimize turbidity impacts to the maximum extent feasible.

2.7.9 Limit Habitat Disturbance and Return Disturbed Areas to Pre-Project Conditions

DWR and its construction contractors would limit habitat disturbance during project-related construction activities to the minimum area necessary. Immediately following the completion of the GSSMB or once a staging/construction area is no longer needed even if it is during the 8-year

project (whichever comes first), DWR would restore project areas to approximate pre-project conditions.

2.7.10 Limit Land-Based Access Routes and Construction Area

The number of land-based access routes and size of the construction area would be limited to the minimum area necessary to complete the work. Access routes would be restricted to established roadways.

2.7.11 Minimize Wildlife Attraction

To eliminate attraction of wildlife to the project site, all construction debris and food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed from the site on a daily basis.

2.7.12 Remove Invasive Plant Species

DWR would coordinate with the California Department of Parks and Recreation Division of Boating and Waterways Aquatic Weed Control Program for the control of invasive aquatic weeds in the vicinity of the BAFF that are covered by the control program while the BAFF is in place. As needed, the Division of Boating and Waterways would conduct herbicide treatments to control infestations of covered aquatic weeds that may result from these weeds being caught on the BAFF or its supporting infrastructure. DWR would coordinate with the Division of Boating and Waterways on removal strategies for covered invasive aquatic weeds as necessary to ensure that the BAFF does not exacerbate current aquatic invasive weed problems.

2.7.13 Release Non-Target Fishes

During capture of predatory fishes for the GSSMB, any non-target fishes (including listed fishes) would be immediately released, noting species, approximate size, date, time, location of capture, and condition (good, fair, or poor). Appropriate handling techniques to minimize potential effects would be used, i.e., keep fish in water as much as possible and make sure hands are wet. Captures of listed fishes would be reported to NMFS, USFWS, and CDFW within 24 hours, with any dead listed fish being retained and provided to these agencies if requested.

2.8 Permits, Approvals, and Regulatory Requirements

DWR is the lead agency under the California Environmental Quality Act (CEQA) with the primary authority for project approval. In addition, the following federal and State agencies may have jurisdiction over all or some portion of the proposed project:

- USACE—Clean Water Act Section 404 and Rivers and Harbors Act Section 10 Compliance
- USACE —RHA Section 14 (U.S.C. Section 408) Permission
- State Historic Preservation Officer (SHPO)—National Historic Preservation Act Compliance

- U.S. Coast Guard—Informal Coordination
- NMFS—FESA Section 7 Consultation
- USFWS—FESA Section 7 Consultation
- CDFW—Fish and Game Code Section 1602 Streambed Alteration Agreement; Section 2080.1/2081 CESA Compliance (ITP)
- California State Lands Commission—Lease of State Lands Permit Exemption
- Central Valley Regional Water Board —Clean Water Act Section 401 Water Quality Certification
- State Water Resources Control Board—National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
- Central Valley Flood Protection Board—Encroachment Permit
- California Department of Fish and Wildlife—Scientific Collecting Permit

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CHAPTER 3
Environmental Setting and Impacts

Environmental Factors Potentially Affected

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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology/Soils	☒ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial study:

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

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

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

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

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

Jacob McQuirk

Signature

Jacob McQuirk

Printed Name

Department of Water Resources

Agency

9/21/2021

Date

Principal Engineer

Title

Environmental Checklist

3.1 Aesthetics

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

The BAFF would be installed at Georgiana Slough along the Sacramento River, and staging would occur at this site and the Hood, Sutter Slough, Steamboat Slough, DCC, and Georgiana Slough staging areas, as shown in Figures 2-1 and 2-2 and described in Table 2-1.

The Georgiana Slough project site (which includes the Georgiana Slough Point Ranch Property staging area) is located in a rural area just south of Walnut Grove at the divergence of the Sacramento River and Georgiana Slough (Figure 2-2). This area is characterized by substantial riparian forest along many of the channels in the area. However, industrial, commercial, residential, and agricultural land uses occur beyond the immediate channel banks. Viewer groups in this area include residents, motorists, and recreationists using the river. The primary roads in the area of the Georgiana Slough project site include SR 160 (along the western bank of the Sacramento River), River Road (on the eastern bank of the Sacramento River and Georgiana Slough), and Andrus Island Road/Isleton Road (which curves around the left bank of Georgiana Slough and right bank of the Sacramento River). Riparian vegetation along River Road and SR 160 may block some views of the project site for residences along the river and for motorists, and thick riparian forests block views from Andrus Island Road/Isleton Road.

SR 160 is designated as a State Scenic Highway. It connects Route 4 (near Antioch) to the southern limits of the City of Sacramento. Isleton Road runs adjacent to the Georgiana Slough project site and is designated by Sacramento County as a scenic corridor. The Sacramento River is protected in Sacramento County by scenic corridors extending 500 feet from each side of the river, as measured from the middle of the channel or by a minimum of a 300-foot corridor from the edge of the river.

The Hood staging area is located west of SR 160 and the Sacramento River, on the left bank of the Sacramento River (Figures 2-1 and 2-2). The urban town of Hood is located on built-up land with structures along the bank of the Sacramento River; however, the surrounding area is agricultural and open space. The Hood staging area would be located within an existing yard owned by DWR. Riparian vegetation and structures along River Road and SR 160 may block some views of the staging area for motorists and residences located near the site.

The Sutter Slough staging area is located at the confluence of Sutter Slough and the Sacramento River. The area is characterized by agricultural areas (croplands) and rural residents. Viewer groups in the area include residents, motorists, and recreationists using the river and crossing the Sutter Slough Bridge. Riparian vegetation along South River Road may block some views of the staging area for residences along the river and for motorists.

The Steamboat Slough staging area is southwest of Courtland (Figure 2-1) on the opposite side of the Sacramento River. The project vicinity includes agricultural areas (orchards and vineyards) with rural residences. Residents and motorists traveling along River Road on the east side of the Sacramento River or Grand Island Road, SR 160, or Sutter Island Road on the west side of the Sacramento River may have views of the Steamboat Slough staging area. Riparian vegetation along the river may block some views of the staging area for residences along the river and for motorists. In addition, the west side of the river has an elevated levee that could partially screen views of the staging area.

The DCC staging area is located in an existing graveled yard in Walnut Grove (Figures 2-1 and 2-2). The DCC diverts water from the Sacramento River to Snodgrass Slough. There are residences on both sides of the Sacramento River near the DCC staging area; however, the area around the DCC is agricultural, with orchards and open space, and riparian vegetation along the river and DCC. Motorists traveling along SR 160 on the west of the river or River Road on the east, as well as on Levee Road north of the DCC, would have views of the DCC staging area.

3.1.2 Discussion

a) *Less-than-Significant Impact*. The Sacramento County General Plan does not identify scenic vistas near the project site. The Sacramento River is protected in Sacramento County by scenic corridors extending 500 feet from each side of the river, as measured from the middle of the channel or by a minimum of a 300-foot corridor from the edge of the river (Sacramento County 2017).

Construction activities associated with the proposed project would occur primarily in the river channel, but would involve some land-based activities, including staging of equipment and materials at the Hood, Sutter Slough, Steamboat Slough, DCC, and Georgiana Slough staging areas, access to the project site, and potential fish release locations, as described in Chapter 2, *Project Description*. To install and operate the barrier, DWR may be required to conduct improvements at the staging areas, such as adding gravel and grading. If needed, these improvements would be minimal and would not alter the existing views of the staging areas. DWR may also be required to install a new power pole at the Point Ranch Property (within the Georgiana Slough project site

near the Georgiana Slough and Sacramento River confluence) to provide the necessary utilities for the BAFF. Alternatively, if access to the Point Ranch Property is unavailable, staging and utilities for the proposed project would be provided from a barge located on the water within the Georgiana Slough project site. On-site power or trailer or barge-mounted diesel generator(s) with on-site backup may supply the power necessary to operate the BAFF. The generator(s) would be located on a trailer in the staging area and/or on barges.

In-water construction activities and system startup and testing would require approximately 60 working days. Removal would take place over an approximately 30-day period and would occur up to one time (installation and removal) each year during the 8-year project period. The BAFF would have a relatively small in-water footprint and would include navigational buoys, lights, and signage to inform boaters of its presence. The monitoring equipment would require installation of up to 18 pilings near the BAFF within the Sacramento River and Georgiana Slough.

Viewer groups that would be affected by project-related construction and operation consist of the rural residences in the immediate vicinity of the project site and staging areas; motorists or recreationists using roadways in the vicinity of the project site and staging areas (i.e., River Road, SR 160, Isleton Road); boaters, and other recreational users.

During the installation and removal phases, a few large pieces of construction equipment, including the barge, workboat, and floating dock, would be visible from roads, businesses, residences, and the river, and would temporarily degrade the visual quality of the area. Residents and businesses adjacent to the project site would experience temporary changes in the visual character of the river, but these would be limited to the 60 days necessary to construct and 30 days to remove the BAFF.

Furthermore, as described in Chapter 2, *Project Description*, DWR would limit the land-based access routes and construction areas to the minimum size necessary and would use established roadways as access routes wherever feasible.

For the reasons stated above, the proposed project would not have a substantial adverse effect on a scenic vista. Therefore, the impact would be less than significant.

b) *Less-than-Significant Impact*. SR 160 is designated as a State Scenic Highway. No designated scenic waterways are found in Sacramento County (Sacramento County 2017). The Sacramento River is protected in Sacramento County by scenic corridors extending 500 feet from each side of the river, as measured from the middle of the channel or by a minimum of a 300-foot corridor from the edge of the river.

Construction activities at the Georgiana Slough project site would result in a temporary degradation of scenic resources within the Sacramento River at Georgiana Slough due to the presence of construction equipment. The BAFF would be partially visible (top of piles) above the surface of the water during operation but would be visually consistent with other piles, piers, and structures (e.g., bridges, abutments, etc.) in and around the

river. Additionally, navigational buoys, lights, and in-water signage around the barrier would be visible but would be visually consistent with other buoys and signs in and around the river. Staging would occur in previously disturbed areas and would not damage scenic resources. Fish release and tracking activities also would be temporary and would not damage scenic resources. Because of the temporary nature of project-related activities and the limited number of viewers (described in more detail above), the impact would be less than significant.

c) *Less-than-Significant Impact*. For the same reasons described in Questions a) and b) above, the temporary construction activities associated with the proposed project and operation of the proposed project would not substantially degrade the existing visual character or quality of public views of the project site or surroundings. Therefore, the impact would be less than significant.

d) *Less-than-Significant Impact.* Navigational buoys, lights, and signage would be installed upstream and downstream of the BAFF to advise boaters about the presence of the structure. The BAFF installed at Georgiana Slough would include high-intensity LED MILs that would be operated during some nighttime hours. Although the lighting would originate at least 6 feet below the water surface elevation at low tide, there is potential for travelers along area roads to notice the lights through the riparian forest separating them from the channels, or for boaters in the project area to notice the lights. Based on DWR observations during the installation of a similar structure at Georgianna Slough in 2011 and 2012 and the Head of Old River in 2009 and 2010, and the lighting for the proposed BAFF, substantial changes in visible light are not expected. Observations at the Head of Old River barrier concluded that nighttime lighting returned to ambient levels approximately 33 feet from the barrier. The turbid nature of the Sacramento River combined with the fast flows is expected to dissipate light emitted from the BAFF. No nighttime lighting would occur after the removal of the barrier. Navigation lights would be used at the release site(s) during the nighttime with brief periods of increased lighting used during fish releases (approximately one-half hour per release with up to two nighttime releases). Given that the nighttime lighting at the BAFF project site would occur sporadically, navigation lights would be limited to the immediate area of the BAFF and release site(s), and would be temporary, the impact would be less than significant. All project-related construction activities would occur during the daytime. The proposed project would not introduce new sources of glare.

3.2 Agriculture and Forestry Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
AGRICULTURE AND FORESTRY RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
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?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

3.2.1 Environmental Setting

Active agricultural fields are located adjacent to the project site and staging areas and mostly consist of row crops and orchards. Additional information about land uses within and adjacent to the project site is presented in Section 3.11, *Land Use and Planning*.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) produces agricultural resource maps, based on soil quality and land use. The California Department of Conservation (DOC) sponsors the FMMP and is also responsible for establishing agricultural easements, in accordance with California Public Resources Code Sections 10250–10255.

The DOC FMM maps are updated every 2 years using aerial photographs, a computer mapping system, public review, and field reconnaissance. Prime Farmland has the "best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields."

According to the Sacramento County Important Farmland map published by DOC's Division of Land Resource Protection, the agricultural lands adjacent to the project site are designated as Prime Farmland (DOC 2016).

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, enables local governments to form contracts with private landowners to promote the continued use of the relevant land in agricultural or related open space use. In return, landowners receive property tax assessments that are based on farming and open space uses instead of full market value. Cancellation of a Williamson Act contract involves an extensive review and approval process, and the landowner may be required to pay a fee of up to 12.5 percent of the property value. The local jurisdiction approving the cancellation must make either one of the following findings: that the cancellation is consistent with the purpose of the California Land Conservation Act (Section 51282[a][1] of the California Government Code); or that the cancellation is in the public interest (Section 51282[a][2] of the California Government Code).

Lands under active Williamson Act contracts are located around Steamboat Slough and south of Georgiana Slough. Staging areas at Sutter Slough, Steamboat Slough, and Georgiana Slough are located on Williamson Act parcels currently under agricultural production.

Agricultural Zoning

Area around the Georgiana Slough project site is zoned by Sacramento County as Agricultural (80 acres), Agricultural (20 acres), Agricultural-Residential (2 acres), Light Industrial, and has a Special Planning Area (SPA) overlay (Sacramento County 2019).

3.2.2 Discussion

a) *Less-than-Significant Impact.* Lands adjacent to the project site are designated by the DOC as Prime Farmland (DOC 2016). However, most of the project components would be located in the Sacramento River. The staging areas, although located on Prime Farmland, are not currently farmed and would require from 0.5 to 1.8 acres at each location in previously disturbed areas for a period of approximately 30–60 days for marine construction and technology installation; this would not result in the conversion of farmland. DWR would coordinate with and compensate property owners for the use of their land. Temporary use of the fish release locations would not result in the conversion of farmland. Due to the temporary use, the proposed project would not result in the conversion of any farmland. Impacts would be less than significant.

b) *Less-than-Significant Impact.* The project would be located in areas primarily zoned for agricultural use. Lands under active Williamson Act contracts are located around the project site with the Sutter Slough, Steamboat Slough, and Georgiana Slough staging areas being located on active Williamson Act parcels. As described in Question a) above, most activity would take place in the Sacramento River. Previously disturbed areas would be used temporarily for staging. DWR would coordinate with and compensate property owners for the use of their land. Thus, the proposed project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. Potential impacts on agricultural uses and Williamson Act contracts would be less than significant.

c) *No Impact.* The Georgiana Slough project site, staging areas, and fish release locations are not zoned as forestland or timberland. Therefore, implementing the proposed project would not conflict with existing zoning for, or cause rezoning of, forestry resources. No impact would occur.

d) *No Impact.* The Georgiana Slough project site, staging areas, and fish release locations do not contain forestland. Therefore, implementing the proposed project would not result in the loss of forestland or conversion of forestland to non-forest uses. No impact would occur.

e) *Less-than-Significant Impact.* The proposed project would require the temporary use of small amounts of previously disturbed areas not currently farmed for staging within areas designated as farmland. However, as discussed in response to Questions a) and b) above, this impact would be less than significant due to land disturbances being temporary in nature and would not result in the conversion of any farmland or conflict with existing agricultural zoning uses or Williamson Act contracts. Furthermore, the project site, staging areas, and fish release locations are not zoned as forestland or timberland and implementing the proposed project would not result in other changes in the physical environment that could indirectly result in the conversion of farmland to non-agricultural use or conversion of forestland to non-forest uses. Therefore, this impact would be less than significant.

3.3 Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

The GSSMB would occur along the Sacramento River in the northern portion of the Delta. Construction and operation of the BAFF would occur at Georgiana Slough. The project site is located in Sacramento County, in the southeast corner of the Sacramento Valley Air Basin (SVAB).

The SVAB is relatively flat, bordered by mountains to the east, west, and north. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Delta, bringing with it pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Periods of dense, persistent low-level fog that are most prevalent between storms are characteristic of SVAB winter weather. From May to October, the region's intense heat and sunlight lead to high ozone concentrations. Summer inversions are strong and frequent but are less troublesome than those that occur in fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not adequately disperse air pollutants (WRCC 2019).

Sacramento County is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). SMAQMD attains and maintains air quality conditions in Sacramento County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The district's clean-air strategy includes preparing plans to attain ambient air quality standards, adopting and enforcing rules and regulations governing sources of air pollution, and issuing permits for stationary sources of air pollution. SMAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the federal Clean Air Act (CAA) and California Clean Air Act (CCAA).

The primary purpose of an air quality plan is to achieve and maintain the attainment of the California ambient air quality standards (CAAQS) and national ambient air quality standards

(NAAQS). SMAQMD is responsible for preparing plans to attain ambient air quality standards in Sacramento County.

The CCAA requires districts to publish reports every 3 years describing their progress toward attainment of the CAAQS. SMAQMD's most current progress report for compliance with the CCAA is the 2015 Triennial Report and Air Quality Plan Revision (SMAQMD 2015). However, the most recently adopted air quality plan to address nonattainment issues in the project area is the Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan, adopted in 2017 (SMAQMD 2017a). The plan contains control measures intended to help SMAQMD and four neighboring districts achieve attainment of both State and federal ozone standards.

Criteria Pollutants

Criteria air pollutants are a group of six common air pollutants for which the U.S. Environmental Protection Agency (EPA) has set NAAQS. These pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter 10 microns or less in diameter (PM_{10}), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead. Most of the criteria pollutants are emitted as primary pollutants. Ground-level ozone, however, is a secondary pollutant that is formed in the atmosphere by chemical reactions between oxides of nitrogen (NO_X) and reactive organic gases (ROG) in sunlight.

In addition to the criteria air pollutants identified by EPA, California adds four State criteria air pollutants: visibility-reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride. The Sacramento region is considered a nonattainment area with respect to the State and federal ozone standards and the State PM_{10} standard and a maintenance area with respect to the federal carbon monoxide and PM_{10} standards. The area is designated as unclassified or is in attainment for all other State and federal standards. **Table 3.3-1** summarizes Sacramento County's attainment status for criteria air pollutants according to the State and federal standards.

Toxic Air Contaminants

Toxic air contaminants (TACs) are State-designated, airborne substances that are capable of causing short-term (acute) and long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted by a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations, as well as heavy-duty trucks and heavy equipment. The current California list of TACs includes nearly 200 compounds, including diesel particulate matter (DPM) emissions from diesel-fueled engines (CARB 2011), which is driving most of the inhalation pathway health risks in the state.

TABLE 3.3-1
SACRAMENTO COUNTY CRITERIA POLLUTANT ATTAINMENT STATUS

Pollutant and Averaging Time	Designation/Classification State Standards	Designation/Classification Federal Standards
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment/Serious	Nonattainment/Severe
Carbon Monoxide	Attainment	Attainment/Maintenance
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment/Maintenance
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment*
Lead	Attainment	Unclassified/Attainment
Visibility-Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Vinyl Chloride	Unclassified	No Federal Standard

NOTES:
The California Air Resources Board makes area designations for 10 criteria pollutants (ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter 2.5 microns or less in diameter [$PM_{2.5}$], particulate matter 10 microns or less in diameter, lead, visibility-reducing particles, sulfates, and hydrogen sulfide).

* As of 2015, the U.S. Environmental Protection Agency (EPA) found that the Sacramento area attained the 2006 $PM_{2.5}$ standards; thus Sacramento County is in the process of being redesignated by EPA (SMAQMD 2019a).

Sources: CARB 2018; EPA 2019

Odors

Odors are generally regarded as a nuisance or annoyance rather than a health hazard, although individuals can have a strong physical response to specific odors. Odor intensity depends on the concentration of the substance in the air. The ability to detect odors varies considerably among members of the population. The detection of odors is subjective; some individuals can smell minute quantities of specific substances, while others may be sensitive to odors from other substances. Reactions to odors vary substantially as well.

Sensitive Receptors

In the air quality management field, the humans who are most sensitive to and adversely affected by sources of air pollution are defined as "sensitive receptors." The reasons for their greater sensitivity include age, preexisting health problems, proximity to emissions sources, and duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality–related health problems than the general public. Children are particularly sensitive to air pollution because of their rapid breathing rates and smaller body sizes, and the early developmental stage of their respiratory systems. Residential areas are considered sensitive to poor air quality because people usually stay at home for extended periods of time, with greater associated exposure to ambient air quality. Recreational uses are also considered sensitive

because vigorous exercise during recreation places a high demand on the human respiratory system and increases exposure to ambient air quality conditions.

3.3.2 Discussion

a) *Less-than-Significant Impact.* SMAQMD relies on its *Guide to Air Quality Assessment in Sacramento County* (CEQA Guide) to help achieve and maintain all air quality standards as relevant to land use projects (SMAQMD 2020). Demonstration of the project's conformity with all applicable thresholds of significance and best management practices described by SMAQMD's CEQA Guide is described below under Question b), which indicates compliance with the regional attainment plans. Additionally, the proposed project does not include an operational phase; thus, it would not induce growth or create long-term emissions sources that might compromise the goals of SMAQMD.[1] Therefore, the proposed project would not conflict with or obstruct the implementation of the applicable air quality plans, and this impact would be less than significant.

b) *Less-than-Significant Impact with Mitigation*. The proposed project would result in only short-term, construction-related emissions.[2] Those emissions were modeled for this analysis using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, and SMAQMD's *Harborcraft, Dredge, and Barge Emission Factor Calculator* (SMAQMD 2017b). Project-specific information was used for modeling when possible; where project-specific data were unavailable, defaults were used, which capture assumed values consistent with standard practice. CalEEMod assumptions, detailed CalEEMod outputs, and watercraft calculations can be found in **Appendix A**.

The BAFF would be operated from late 2022/early 2023 through 2030. For more detailed information on the anticipated schedule, see Section 2.3, *Project Schedule*. For the purposes of this analysis, each year of the project would include five phases: site preparation, pile installation, barrier installation, operation, and removal.

Construction emissions were estimated for the proposed project using the methods identified in SMAQMD's CEQA Guide. The CalEEMod model was used to quantify emissions from off-road construction equipment, haul trucks used for on-site soil movement, on-road worker vehicles, and vendor delivery trips. SMAQMD's Emission Factor Calculator and calculations outside of CalEEMod were used to quantify emissions from the work boats and tugboats necessary for the project. **Table 3.3-2** and **Table 3.3-3**, respectively, show the unmitigated and mitigated construction emissions for the worst-case day for each construction year. SMAQMD has established a zero-emissions threshold for unmitigated particulate matter emissions to promote a mandatory mitigation program to counteract air quality impacts from particulate matter. The anticipated project

[1] An operational phase, in the context of an air quality analysis, is one that emits pollutants long-term. By this definition, the proposed project does not include an operational phase; however, operation of the BAFF structure would occur during the project period. This analysis refers to operation of the BAFF, but any operational emissions are considered construction-related emissions because of their short-term nature.

[2] See Footnote 1.

emissions are compared to SMAQMD's NO_X, PM_{10}, and $PM_{2.5}$ construction thresholds, which are appropriate for this analysis.

TABLE 3.3-2
UNMITIGATED PROJECT CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2022	27.24	1.48	1.14	0.03	0.02
2023	33.02	1.52	1.37	0.08	0.06
2024	31.91	1.46	1.28	0.08	0.06
2025	30.89	1.44	1.19	0.07	0.05
2026	30.89	1.44	1.19	0.07	0.05
2027	30.89	1.44	1.19	0.07	0.05
2028	30.89	1.44	1.19	0.07	0.05
2029	30.89	1.44	1.19	0.07	0.05
2030	26.73	1.18	0.90	0.03	0.02
SMAQMD Thresholds	**85**	**0**	**0**	**0**	**0**
Maximum Emissions	**33.02**	**1.52**	**1.37**	**0.08**	**0.06**
Significant (Yes or No)?	**No**	**Yes**	**Yes**	**Yes**	**Yes**

NOTES:
NO_X = oxides of nitrogen; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; PM_{10} = particulate matter 10 microns or less in diameter; ppd = parts per day; SMAQMD = Sacramento Metropolitan Air Quality Management District; tpy = tons per year
1 Project construction emissions estimates were made using the California Emissions Estimator Model, Version 2016.3.2. See Appendix A for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD has established a zero-emissions threshold for PM_{10} and $PM_{2.5}$ when projects do not implement SMAQMD's Best Available Practices.

Sources: Data compiled by Environmental Science Associates in 2020; SMAQMD 2020

As shown in Table 3.3-2, unmitigated maximum daily NO_X emissions would fall below the SMAQMD significance thresholds for each year of construction; however, the maximum daily and annual unmitigated construction PM_{10} and $PM_{2.5}$ emissions would exceed the thresholds, as they would exceed SMAQMD's zero-emissions threshold. The predominant construction sources associated with these emissions would be off-road diesel equipment, watercraft, and on-site soil haul trips.

As discussed above, SMAQMD has established a zero-emissions threshold for PM_{10} and $PM_{2.5}$, requiring that all construction projects implement SMAQMD's Basic Construction Emission Control Practices to control PM_{10} and $PM_{2.5}$, including in Mitigation Measure AQ-1. With implementation of SMAQMD's best management practices (BMPs), SMAQMD's maximum daily and annual thresholds increase to 80 pounds per day and 14.6 tons per year of PM_{10} and 82 pounds per day and 15 tons per year of $PM_{2.5}$.

TABLE 3.3-3
MITIGATED PROJECT CONSTRUCTION EMISSIONS

Construction Year	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2022	0.83	0.54	0.01	0.01
2023	0.97	0.57	0.03	0.01
2024	0.97	0.57	0.03	0.01
2025	0.97	0.57	0.03	0.01
2026	0.97	0.57	0.03	0.01
2027	0.97	0.57	0.03	0.01
2028	0.97	0.57	0.03	0.01
2029	0.97	0.57	0.03	0.01
2030	0.83	0.54	0.02	0.01
SMAQMD Thresholds	**80**	**82**	**14.6**	**15**
Maximum Emissions	**1.59**	**0.92**	**0.04**	**0.02**
Significant (Yes or No)?	**No**	**No**	**No**	**No**

NOTES:
NO_X = oxides of nitrogen; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; PM_{10} = particulate matter 10 microns or less in diameter; ppd = parts per day; SMAQMD = Sacramento Metropolitan Air Quality Management District; tpy = tons per year

1 Project construction emissions estimates were made using the California Emissions Estimator Model, Version 2016.3.2. See Appendix A for model outputs and more detailed assumptions.
2 Mitigation Measure AQ-1 accounts for a 54 percent reduction in particulate matter dust emissions.
3 Includes Mitigation Measures AQ-2 and AQ-3, addressed in Question c).
4 Values in **bold** are in excess of the applicable SMAQMD significance threshold.

Sources: Data compiled by Environmental Science Associates in 2020; SMAQMD 2020

With implementation of the SMAQMD BMP's, construction of the proposed project would result in emissions of PM_{10} and $PM_{2.5}$ below the SMAQMD significance thresholds, as shown in Table 3.3-3.[3] Consequently, project construction would not result in a cumulatively considerable net increase in any criteria pollutant, and the impact would be less than significant with mitigation incorporated.

Mitigation Measure AQ-1: Implement SMAQMD Best Management Practices during Construction. The project shall implement the following required best management practices, as applicable:

- Water all exposed surfaces two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that will travel along freeways or major roadways shall be covered.

[3] The mitigated emissions estimates summarized in Table 3.3-3 also include the effects of Mitigation Measure AQ-2, discussed in response to Question c).

- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- Pave all roadways, driveways, sidewalks, and parking lots as soon as possible. In addition, lay building pads immediately after grading unless seeding or soil binders are used.
- Minimize idling time, either by shutting equipment off when not in use or by reducing the time of idling to 5 minutes (as required by the State airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to the manufacturers' specifications. The equipment shall be checked by a certified mechanic and determined to be running in proper condition before it is operated.

c) *Less-than-Significant Impact with Mitigation.* A discrete health risk assessment was completed to evaluate the risks to nearby receptors from exposure to TACs associated with the proposed project. The health risk assessment focused on construction emissions in the project area, which is considered a new but temporary source. The analysis included evaluating additional cancer risks and chronic health hazards at the closest sensitive receptor to the project site. The sensitive receptor is a residence located near the project area. The residence nearest to the BAFF is located at 142 Shop Street, approximately 400 feet southeast of the project site.

A three-step process was used to estimate cancer risk and chronic health hazards of DPM exposure based on approved methods from the State Office of Environmental Health Hazard Assessment's Air Toxic Hot Spots Program Risk Assessment Guidelines (OEHHA 2015). The first step required the use of the CalEEMod software program to conservatively estimate average annual diesel exhaust emissions during project construction, as summarized in response to Question b), above.

The second step in the process involved using the AERSCREEN (Version 16216; USEPA 2019) dispersion model to convert emissions to maximum annual DPM concentrations. The dispersion modeling used average annual DPM emissions, sensitive receptor distance from construction activities, construction emissions sources, and meteorological data. One cumulative source was included in the dispersion modeling to conservatively estimate risk: a conservative representation of the on-site construction equipment within the main project area, modeled as a rectangular area source with an internal vertical dimension of 1.4 meters.

The above source represents the worst-case scenario for DPM emissions occurring at the site's nearest sensitive receptor. AERSCREEN produced estimates of "worst-case" 1-hour concentrations for the single source, which requires application of the included

conversion factors to estimate worst-case annual concentrations. The nearest receptor to the BAFF site was assessed at the AERSCREEN modeling output distance of 400 feet.

The third step in the process involved using the unit-risk calculation methodologies presented in the State Office of Environmental Health Hazard Assessment's Air Toxic Hot Spots Program Risk Assessment Guidelines to convert maximum concentrations to cancer risks and chronic health hazard index (OEHHA 2015). Modeling parameters and health risk calculations are presented in Appendix A.

SMAQMD does not have published thresholds for addressing potential health risk impacts from construction activities; thus, it is common practice to use SMAQMD's published TAC thresholds for stationary sources. The recommended levels of significance are an incremental cancer burden risk of 10 per million and a hazard index of 1.

As shown in **Table 3.3-4**, the proposed project has a potential incremental cancer risk impact of 222.27 per million at the BAFF before mitigation, which exceeds the threshold of 10 per million.

TABLE 3.3-4
PROJECT CONSTRUCTION HEALTH RISK IMPACTS

Source	Cancer Risk (per million)	Hazard Index
BAFF Unmitigated	**222.27**	0.28
Applied Thresholds	10	1
Exceeds Threshold?	**Yes**	**No**
BAFF Mitigated*	9.37	0.01
Applied Thresholds	10	1
Exceeds Threshold?	**No**	**No**

NOTES:
BAFF = Bio-Acoustic Fish Fence™
Health risk calculations are included in Appendix A.
* With implementation of Mitigation Measures AQ-1, AQ-2, and AQ-3.
Source: Data compiled by Environmental Science Associates in 2019

Implementing Mitigation Measures AQ-2 and AQ-3 would reduce DPM emissions through the use of construction equipment with EPA-certified Tier 4 engines and through the use of a tugboat with a 2012 or newer engine. If all off-road construction equipment were to have Tier 4 engines and all tugboats had 2012 or newer model year engines, DPM emissions would be reduced, and the resulting incremental cancer risk would be 9.37 per million at the BAFF. With implementation of Mitigation Measures AQ-2 and AQ-3, estimated health risk impacts would not exceed the significance threshold at the project location. Therefore, the proposed project would not expose sensitive receptors to

substantial pollutant concentrations, and the impact would be less than significant with mitigation incorporated.

Mitigation Measure AQ-2: Use Verified Diesel Emissions Control Strategies. The project shall use off-road diesel construction equipment equipped with the most effective Verified Diesel Emissions Control Strategies available for the engine type. This emissions control requirement will ensure that the mitigated emissions meet the threshold of health risk impacts to off-site sensitive receptors. The best available Verified Diesel Emissions Control Strategies for this project is implementation of Tier 4 engines as certified by the California Air Resources Board (CARB) and EPA. The equipment shall be properly maintained in accordance with the manufacturers' specifications. This maintenance shall be verified through an equipment inventory and certification statement to SMAQMD.

Mitigation Measure AQ-3: Tugboat Engine Requirements. The project shall ensure that the engines for all tugboats used at the project site are model year 2012 or newer.

d) *Less-than-Significant Impact.* Engine exhaust from diesel-powered construction equipment can generate short-term, non-persistent odors. The project site is located in a waterway surrounded by rural areas with low population density. As discussed in response to Question c) above, the nearest sensitive receptor to the project site is approximately 400 feet away. Given the temporary nature of construction activity and the distance of the project area from sensitive receptors, the project would have a less-than-significant impact with respect to creation of odors affecting a substantial number of people.

3.4 Biological Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of 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, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

3.4.1 Environmental Setting

This section describes the biological resources in the project area including vegetation, terrestrial wildlife, and fisheries resources. The project area includes the following terrestrial habitats: narrow bands of riparian vegetation ranging in width from 10 to 100 feet along the banks of the Sacramento River and within the perimeters of staging areas, and developed and disturbed areas associated with paved and graded roads within the staging areas. Surrounding land uses include developed land associated with graded and paved roads and residential development, and agricultural land including irrigation ditches. These land cover types support several common and special-status wildlife species. Open water habitat associated with the Sacramento River and Georgiana Slough that supports several special-status fish species is also in the project area.

Methods

Environmental Science Associates (ESA) reviewed publicly available data and subscription-based biological resource data. Data sources that assisted in this analysis included:

- Aerial imagery (Google Earth 2019);

- The CDFW California Natural Diversity Database (CNDDB) list of plant and wildlife species documented on the following 12 quadrangles: Saxon, Clarksburg, Florin, Liberty Island, Courtland, Bruceville, Rio Vista, Isleton, Thornton, Jersey Island, Bouldin Island, and Terminous (CDFW 2020);
- The California Native Plant Society (CNPS) online database of plant species documented on the following 12 quadrangles: Saxon, Clarksburg, Florin, Liberty Island, Courtland, Bruceville, Rio Vista, Isleton, Thornton, Jersey Island, Bouldin Island, and Terminous (CNPS 2020); and
- The U.S. Fish and Wildlife Service (USFWS) list of species that may occur in the vicinity of the project area (USFWS 2020).

The USFWS, CDFW CNDDB, and CNPS lists are provided in **Appendix B**. The CDFW CNDDB and CNPS lists include special-status species documented on the following 12 quadrangles:

Saxon	Clarksburg	Florin
Liberty Island	Courtland	Bruceville
Rio Vista	Isleton	Thornton
Jersey Island	Bouldin Island	Terminous

The BAFF would be within the northeast corner of the Isleton quadrangle.

Physical Setting

Land Cover Types

The project site is located at the divergence of the Sacramento River and Georgiana Slough. Project activities would occur within the river and sloughs at specific locations on the channel banks and adjacent uplands. Scattered riparian habitat of varying widths and patch sizes is located along the banks of these channels. The land cover within the Georgiana Slough project site and the Hood, Sutter Slough, Steamboat Slough, and DCC staging areas is developed (Hood and DCC, portions of Steamboat Slough) and/or ruderal (portions of Sutter and Steamboat sloughs). The land use around the project area is predominately agricultural.

Special-Status Species

Special-status species are legally protected under the California Endangered Species Act (CESA) and federal Endangered Species Act (FESA) or other regulations, or are considered sufficiently rare by the scientific community to qualify for such listing. These species fall into several categories:

(1) Species listed or proposed for listing as threatened or endangered under the FESA (Code of Federal Regulations Title 50, Sections 17.12 [listed plants] and 17.11 [listed animals], and various notices in the *Federal Register* [FR] [proposed species]).

(2) Species that are candidates for possible future listing as threatened or endangered under the FESA (FR Title 61, No. 40, February 28, 1996).

(3) Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (California Code of Regulations Title 14, Section 670.5).

(4) Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).

(5) Animal Species of Special Concern to CDFW.

(6) Animals fully protected under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

(7) Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as rare or endangered even if the species is not on one of the official lists (State CEQA Guidelines Section 15380).

(8) Plants considered by CDFW and CNPS to be rare, threatened, or endangered in California (California Rare Plant Ranks [CRPRs] 1A, 1B, 2A, 2B, 3, and 4).[4]

Species recognized under these terms are collectively referred to as "special-status species."

A list of special-status plant and wildlife species considered to potentially occur within the project site and staging areas (i.e., project area) was developed using information queried from USFWS, the CNPS, and the CNDDB (**Appendix B**). This list of species includes those species that can be found or are known to have occurred historically in the project area or vicinity. These species were ranked by their likelihood of occurrence within the project area. These rankings were assigned based on the following criteria:

- *None:* The species' required habitat is lacking or is outside of the known species range.
- *Low:* Habitat is of low quality for the species and there are no suitable migration corridors between documented occurrences and the project site and/or staging areas.
- *Moderate:* The species' required habitat occurs in the project area and and/or suitable migration corridors exist.
- *High:* The species has been documented in the area of impact.

Only those special-status species that have been determined to have at least moderate potential to occur in the project area, and/or have officially designated critical habitat or essential fish habitat that overlaps with the project footprint, are summarized in **Table 3.4-1** and analyzed in further detail in this analysis.

[4] CDFW works in collaboration with CNPS to maintain a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. These species are categorized by their rarity in the CRPR system. For further information about the CRPR system and the specific ranks, see "California Rare Plant Ranking System" in Section 3.4.3, *Regulatory Setting.*

TABLE 3.4-1
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Organism	Type	Common Name *Scientific Name*	Federal Status	State Status	CRPR Status	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Plants		Bristly sedge *Carex comosa*	--	--	2B.1	Coastal prairie; marshes and swamps; valley and foothill grassland; 0 to 2,100 feet.	May–September	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Delta tule pea *Lathyrus jepsonii*	--	--	1B.2	Coastal and estuarine marshes: sea level to 15 feet; riverbanks and levees near the water's edge.	May–June	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Delta mudwort *Limosella subulata*	--	--	2B.1	Usually found on mud banks in marshes and swamps and in riparian scrub; 0 to 10 feet.	May–August	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Mason's lilaeopsis *Lilaeopsis masonii*	--	CR	1B.1	Freshwater and intertidal marshes and streambanks in riparian scrub; generally sea level to 30 feet.	April–October	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Sanford arrowhead *Sagittaria sanfordii*	--	--	1B.2	Marshes and swamps; generally sea level to 2,100 feet.	May–October	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Marsh skullcap *Scutellaria galericulata*	--	--	2B.2	Lower montane coniferous forest; meadows and seeps; marshes and swamps; 0 to 6,900 feet.	June–September	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Side-flowering skullcap *Scutellaria lateriflora*	--	--	2B.2	Meadows and seeps; marshes and swamps; 0 to 1,600 feet.	July–September	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Suisun Marsh aster *Symphyotrichum lentum*	--	--	1B.2	Marshes and swamps, often along sloughs; 0 to 10 feet.	May–November	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
		Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	--	--	1B.2	Perennial herb found in marshes and swamps (freshwater), Often found in riprap on sides of levees. 0 to 390 feet.	June–September	**Moderate.** Marginal habitat is present in the project area on channel banks.

TABLE 3.4-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Organism	Type	Common Name Scientific Name	Federal Status	State Status	CRPR Status	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife	Invertebrates	Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	--	--	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	Adults emerge in spring until June. Exit holes visible year-round	**Moderate**. The nearest known elderberry shrub is located 300 feet away from the project area; however, additional shrubs may be present in riparian areas in the project area.
	Reptiles	Giant garter snake *Thamnophis gigas*	FT	CT	--	Highly aquatic snake; requires water throughout summer. Found in freshwater marsh, ditches, sloughs, and similar aquatic habitat with bankside vegetation such as Tule and Typha for basking and cover from predators. Also uses inundated rice fields. Requires nearby uplands with small mammal burrows above flood height for refuge and winter brumation.	Active from mid-March through October	**Moderate.** Potentially suitable habitat is present in the vicinity of upland staging areas, and known occurrences in nearby Snodgrass Slough.
		Western pond turtle *Emys marmorata*	FU	CSC	--	Uses ponds, wetlands drainage canals, streams, marshes sloughs, lakes and other aquatic habitat with basking habitat and adjacent upland habitat with suitable soils for nesting.	Active typically February–November. Can be active year-round depending on temperatures.	**Moderate.** Suitable aquatic and upland habitat within the project area and multiple known occurrences in the vicinity.
	Fish	Delta Smelt *Hypomesus transpacificus*	FT	CE	--	Found in open surface waters in the Sacramento/San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	Spawn December–July; present year-round in the Delta	**High**. Although there are very few recent records of occurrence in the project area, numbers were higher historically.
		Longfin Smelt *Spirinchus thaleichthys*	--	CT	--	Estuarine open waters, mid- to lower water column. Prefer salinity of 15–30 ppt, except for spawning and early life stages when freshwater or low salinity is sought. Spawns over sandy or gravel substrate, rocks, and aquatic plants.	Present year-round in the Delta	**High**. Although there are very few recent records of occurrence in the project area, numbers were higher historically.
		Central Valley DPS steelhead *Oncorhynchus mykiss*	FT	--	--	Inhabits rivers and streams tributary to the Sacramento–San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in winter and spring	**High**. This species is seasonally present in the project area.

TABLE 3.4-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Organism	Type	Common Name Scientific Name	Federal Status	State Status	CRPR Status	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife (cont.)	Fish (cont.)	Central Valley ESU spring-run Chinook Salmon *Oncorhynchus tshawytscha*	FT	CT	--	Inhabits rivers and streams tributary to the Sacramento–San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in late summer and fall	**High**. This species is seasonally present in the project area.
		Central Valley ESU fall-/late fall-run Chinook Salmon *Oncorhynchus tshawytscha*	EFH	CSC	--	Inhabits rivers and streams tributary to the Sacramento–San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in fall and winter	**High**. This species is seasonally present in the project area.
		Sacramento River ESU winter-run Chinook Salmon *Oncorhynchus tshawytscha*	FE	CE	--	Inhabits rivers and streams tributary to the Sacramento–San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in spring and summer	**High**. This species is seasonally present in the project area.
		Green Sturgeon *Acipenser medirostris*	FT	CSC	--	Spawns in large cobble in deep and turbulent mainstem rivers. The Southern DPS spawns in the Sacramento River basin and in the Sacramento–San Joaquin Delta and Estuary.	Year-round	**High**. This species spawns in the mainstem Sacramento River and is expected to be present at least seasonally in the project area.
		Sacramento Splittail *Pogonichthys macrolepidotus*	--	CSC	--	Sloughs, lakes, and rivers. Estuaries up to 29 ppt salinity. Low to moderate current. Inundated vegetation for spawning.	Year-round	**High**. Based on known historic occurrences.
		Pacific Lamprey *Entosphenus tridentata*	FSC	--	--	Streams, mainstem rivers, estuaries, and nearshore ocean.	December–June	**High.** Likely to be seasonally present in the project area during migration period.
		River Lamprey *Lampetra ayresi*	--	CSC	--	Streams, mainstem rivers, estuaries, and nearshore ocean.	December–February	**High.** Likely to be seasonally present in the project area during migration period.
		Starry Flounder *Platichthys stellatus*	EFH	--	--	Benthic habitats of brackish and occasionally freshwater parts of streams with extensive estuaries, as far as first riffle. Nearshore ocean.	Spawns in December and January	**Moderate.** Possibly seasonally present in the project area.
		Northern Anchovy *Engraulis mordax*	EFH	--	--	Bays, estuaries, and nearshore ocean. Pelagic portions of the water column.	Spring and summer	**Low.** Unlikely to be present, but the project area is at upper end of designated essential fish habitat.

TABLE 3.4-1 (CONTINUED)
SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Organism	Type	Common Name Scientific Name	Federal Status	State Status	CRPR Status	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Wildlife (cont.)	Birds	Song sparrow ("Modesto" population) *Melospiza melodia*	--	CSC	--	Nests on the ground and in marshes. Inhabits grassland, chaparral, orchard, woodland, wetland, riparian, and scrub-shrub	Year-round	**High**. The project area occurs within the known distribution range of this species and suitable habitat is present.
		Swainson's hawk *Buteo swainsoni*	--	CT	--	Nests peripherally to valley riparian systems in lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March–October	**High**. The mature trees within and in the vicinity of the project area provide suitable nesting habitat, and the agricultural land and grassland habitat in the area provides suitable foraging habitat for this species. There are documented occurrences of this species in the vicinity of the project area.
		Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT	CE	--	Nests in riparian forests, along the broad, lower flood-bottoms of larger river systems, particularly in willows, cottonwoods, and with a lower story of blackberry, nettles, or wild grape.	June–August	**Moderate**. The project area provides only marginally suitable habitat since this species prefers wider riparian corridors, but the riparian vegetation that is present may serve as a movement corridor for this species.
		White-tailed kite *Elanus leucurus*	--	CFP	--	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation ditches; nests in nearby uplands with low, sparse vegetation.	March– October	**Moderate**. The project area presents suitable habitat for this species.
	Mammals	Western red bat *Lasiurus blossevillii*	--	CSC	--	Inhabits cismontane woodland, lower montane coniferous forest, riparian forest, and riparian woodland.	Year-round	**Moderate**. There is potential roosting habitat for this species in the riparian trees in and around the project area.

KEY TO STATUS CODES:

Federal

FE = federal endangered
FT = federal threatened
FC = candidate
PT = proposed threatened
FPD = proposed for delisting
FD = delisted
FSC = federal species of concern (USFWS or NMFS)
FU = Under Review for Listing
EFH = Essential Fish Habitat

California

CE = California State endangered
CT = California State threatened
CR = California State rare
CSC = California species of special concern
CCT = California State threatened candidate
CFP = California fully protected

CNPS

Rank Categories:

1A = Plants presumed extirpated in California and either rare or extinct elsewhere
1B = Plants Rare, Threatened, or Endangered in California and elsewhere
2A = Plants presumed extirpated in California, but more common elsewhere
2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Plants about which more information is needed - A Review List
4 = Plants of limited distribution - A Watch List

Code Extensions:

.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 = Fairly endangered in California (20–80% occurrences threatened)
.3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

Sources: CNPS 2020; USFWS 2020; CDFW 2020

Special-Status Plant Species

Bristly Sedge

Bristly sedge (*Carex comosa*) has a CRPR ranking of 2B.1. Bristly sedge is a perennial rhizomatous herb that occurs within coastal prairie, marshes and swamps, and valley and foothill grassland. Common threats to this species include modifications to marsh drainage and road maintenance activities. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Delta Tule Pea

Delta tule pea (*Lathyrus jepsonii*) has a CRPR ranking of 1B.2. Delta tule pea is a perennial herb that occurs along tidal sloughs, riverbanks, and levees near the water's edge. Some populations are partially inundated at high tide. Common threats to this species include agricultural operations, water diversions, and erosion. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Delta Mudwort

Delta mudwort (*Limosella subulata*) has a CRPR ranking of 2B.1. Delta mudwort is a perennial stoloniferous herb that typically occurs on mud banks in marsh, swamp, and riparian scrub habitat. This plant species is commonly threated by streambank alteration, levee maintenance, erosion, recreational activities, and foot traffic. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Mason's Lilaeopsis

Mason's lilaeopsis (*Lilaeopsis masonii*) is listed as a rare plant under the California Native Plant Protection Act, and has CRPR ranking of 1B.1. Mason's lilaeopsis is a diminutive rhizomatous perennial herb that typically occurs on clay or silt tidal mudflats with high organic matter content. Threats to this species include erosion, channel stabilization projects, development, agricultural operations, and competition from non-native species. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) has a CRPR ranking of 1B.2. Sanford's arrowhead is a perennial rhizomatous herb that occurs along marshes and swamps. This species is threatened by grazing, development, recreation activities, channel maintenance projects, and non-native species. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Marsh Skullcap

Marsh skullcap (*Scutellaria galericulata*) has a CRPR ranking of 2B.2. Marsh skullcap is a perennial rhizomatous herb found in lower montane coniferous forest, meadows and seeps, and marshes and swamps. This species is thought to be threatened by changes in hydrology, recreational activities, and competition with non-native plants. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Side-Flowering Skullcap

Side-flowering skullcap (*Scutellaria lateriflora*) has a CRPR ranking of 2B.2. Side-flowering skullcap is a perennial rhizomatous that occurs in meadows and seeps and marshes and swamps. There are no listed specific threats to this species (CNPS 2020). Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Suisun Marsh Aster

Suisun Marsh aster (*Symphyotrichum lentum*) has a CRPR ranking of 1B.2. Suisun Marsh aster is a perennial herb that occurs in brackish and freshwater marsh habitat along tidal sloughs and rivers, usually at or near the water's edge, or in drainage and irrigation ditches. Threats to this species include marsh habitat alteration and loss. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Woolly Rose-mallow

The woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*) has a CRPR ranking of 1B.2. This herbaceous perennial member of the mallow family (Malvaceae) sends up clusters of new stems 3 to 6 feet tall each year from underground rhizomes. It flowers from June to September, but plants can generally be recognized much of the year. Woolly rose-mallow or California hibiscus is known from low-lying areas of the Central Valley from Butte and Glenn counties south to San Joaquin County. Most of the occurrences are concentrated in the northern and southern ends of the range. Existing threats to this sub-species include development, agriculture, recreation, and channelization of the Sacramento River and its tributaries. Potentially suitable habitat is present along the banks of the Sacramento River and Georgiana Slough within the project area.

Special-Status Terrestrial Wildlife Species

Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is federally listed as threatened. Valley elderberry longhorn beetle is completely dependent on elderberry shrubs for all stages of its lifecycle, and is generally associated with riparian habitats. This species is restricted to the Central Valley. Adult beetles are active from March to June, which is their assumed breeding season. Adults are known to lay eggs in the bark of elderberry plants. Larvae hatch days later and bore into the stem of the elderberry shrubs where they feed on the pith. The interior pith of an elderberry stem of at least one inch in diameter provides both food and shelter for the developing larvae. Larvae pupate inside the stem and emerge as adults in the spring. Larvae cut an emergence/exit hole through the wood and bark of the elderberry plant. Adults can fly between elderberry plants. Evidence of use by valley elderberry longhorn beetle is more commonly observed in clumps of elderberry bushes rather than isolated bushes.

Adult valley elderberry longhorn beetles appear to be poor dispersers (Barr 1991, Collinge et al. 2001) because they have rarely been observed to colonize new, unoccupied sites, particularly when unoccupied sites are greater than approximately 12 miles from occupied sites (Collinge et al. 2001). Populations typically occur as discrete clusters distributed along river reaches. Local aggregations of valley elderberry longhorn beetle are influenced by habitat patch characteristics,

such as the size of the patch, presence of large shrubs and diversity of stem sizes, and habitat connectivity (Talley 2007, Talley et al. 2007).

No elderberry shrubs were observed in the project area during the biological surveys conducted in 2016 (GEI 2016) and the November 18, 2019 boat survey. Because a comprehensive survey was not conducted within the project area and vicinity in 2019 or 2020 (due to property access constraints), additional elderberry shrubs could be present in areas that may have been partially obscured adjacent to the sites during the boat survey.

Giant Garter Snake

Giant garter snake (*Thamnophis gigas*) is federally listed as threatened (56 FR 58804) and State listed as threatened under CESA. Giant garter snake is endemic to the freshwater marshes of the Sacramento and San Joaquin Valley floors (USFWS 2012), although its current range has been reduced to fragmented populations from Glenn County south to the interior Delta and in the San Joaquin Valley from Merced to Fresno Counties. Giant garter snake is a highly aquatic diurnal snake that requires the presence of water throughout the summer months. It is found in marshes, sloughs, rice fields, and other waterways with mud substrate, emergent or bankside vegetation that provides cover from predators, available prey in the form of small amphibians and small fish, basking sites with adjacent vegetation for cover, absence of large predatory fish, and absence of flooding that would inundate upland refugia (USFWS 2017). In areas where these naturally occurring wetlands have been converted to agriculture, giant garter snake occurs in association with rice cultivation and water supply canals that approximate the aquatic habitat functions of the species' native wetland habitats (Hansen 1986; Wylie et al. 1997, 2000, 2005; Halstead et al. 2015; USFWS 2017).

Although giant garter snake is predominantly an aquatic species, it uses upland areas near aquatic habitat during its active seasons in the spring and summer. Emergent vegetation and upland habitat are used for basking to regulate body temperature and for cover. Giant garter snake uses small-mammal burrows and crevices in the soil to avoid high temperatures in the summer as well as predation. In the winter, giant garter snake uses mammal burrows for brumation.

Giant garter snake habitat requirements consist of: (1) adequate water during the snake's active season (roughly mid-March through October 1) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and tules, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during brumation (USFWS 2017).

There are two documented CNDDB occurrences of this species within 5 miles of the project area, both documented in Snodgrass Slough. No giant garter snakes were encountered during the biological resources survey in 2016 (GEI 2016). Most of the region where the project would occur has not been comprehensively surveyed for giant garter snake, primarily because most of the land is privately owned.

The Sacramento River and Georgiana Slough are not likely to provide suitable aquatic habitat for this species because giant garter snakes are not known to use riverine features with large flow

volumes. The irrigation canals and ditches in the agricultural lands in the vicinity of the project area may provide suitable aquatic habitat for this species. The staging areas could provide potentially suitable upland habitat near irrigation canals and ditches in the vicinity of the project area. Giant garter snake has the potential to occur within the upland staging areas.

Western Pond Turtle

The western pond turtle (*Emys marmorata*) is under review for listing under the FESA and is a CDFW Priority 1 Species of Special Concern (USFWS 2015; Thompson et al. 2016). Western pond turtle is a highly aquatic species and can be found in a variety of habitat types including streams, rivers, sloughs, lakes, ponds, reservoirs, marshes, seasonal ponds, and other wetland habitats (Thompson et al. 2016). It requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks for thermoregulation, and access to suitable upland habitat with loose soils for nesting, dispersal, and overwintering (Thompson et al. 2016; Zeiner et al. 1988). Breeding occurs from spring through fall, with nesting taking place from spring to early summer. Nest sites are usually within 100 meters of water, although nests have been reported as far away as 500 meters. Females lay from 1 to 13 eggs, which hatch in the fall, although the young remain in the nest until the following spring. Western pond turtle has the potential to occur in the project area because of the availability of suitable aquatic and upland habitat, the known range of the species, and occurrences in the project vicinity.

Song Sparrow ("Modesto" Population)

The Modesto song sparrow (*Melospiza melodia*) is a California Species of Special Concern and is a bird species protected under the Migratory Bird Treaty Act (MBTA). This species remains locally numerous in areas where extensive wetlands remain; hence, the Delta represents a current center of abundance for Modesto song sparrow (Shuford and Gardali 2008). This species has an affinity for emergent freshwater marshes dominated by tules and cattails and riparian thickets (Shuford and Gardali 2008). The primary habitats for many subspecies of song sparrow found in California include moderate dense vegetation to provide cover for nest sites, a source of standing or running water, semi-open canopies to allow light, and exposed ground or leaf litter for foraging. Song sparrows forage primarily on the ground, but foraging behavior is highly opportunistic. Suitable habitat for this species is present in the project area in channel bank vegetation.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is a State-listed Threatened species under CESA and is a migratory bird species protected under the MBTA. Its breeding range occurs from southwestern Canada to northern Mexico; the species winters from central Mexico to South America. Swainson's hawks are summer residents in the project area and small numbers of Swainson's hawks are known to winter in the Delta. In California, migrating Swainson's hawks return to nesting grounds and establish territories in March and remain through September. The clutch is generally laid in early April to early May but may occur later (CDFG 1994), and the breeding season extends through mid to late August. In the Central Valley, Swainson's hawks primarily nest in riparian areas adjacent to, or within a few miles of, foraging habitat, although isolated trees or roadside trees are sometimes used (CDFG 1994). Swainson's hawks nest in mature trees and the preferred tree species are valley oak, cottonwood, willows, sycamores, and walnuts. The

main foraging areas for Swainson's hawk are open agricultural and pasture lands, primarily alfalfa (CDFG 1994).

Suitable nest trees are present in the project vicinity and the species has been documented nesting within 0.5 mile of the project area. Although there is no Swainson's hawk foraging habitat with the project site or staging areas, there is suitable foraging habitat in the vicinity.

Western Yellow-billed Cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is federally listed as Threatened under ESA, State listed as Endangered under CESA, and is a migratory bird species protected under the MBTA. It is a neotropical migratory bird that breeds in scattered riparian areas where suitable habitat is available in California, Idaho, Utah, Arizona, New Mexico, western Texas, and possibly Nevada and western Colorado, as well as northwestern Mexico (Nature Serve 2019). In California, this species nests in scattered, isolated areas within Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys. Yellow-billed cuckoos winter in South America, but little is known about the wintering range and migratory routes of the western subspecies (79 FR 59992).

Western yellow-billed cuckoo requires relatively large, wide patches of cottonwood-willow riparian forests. They nest almost exclusively in riparian woodland patches of 50 acres or more. In the Sacramento Valley, breeding habitat typically includes willow (*Salix* spp.) of fairly old growth, often mixed with Fremont cottonwood (*Populus fremontii* spp. *fremontii*), and with an understory of shrubs and vines, such as blackberry (*Rubus* spp.), nettle (*Urtica* spp.), and wild grape (*Vitis californica*). The nesting season generally begins in mid-June and continues through August (78 FR 61622).

Western yellow-billed cuckoo is currently known from only one nesting population in northern California, along the Sacramento River between Red Bluff and Colusa (78 FR 61622). The current size of this population is unknown, but only 10–12 individuals were detected during extensive focused surveys conducted in 2012 over approximately 25 percent of suitable habitat along the Sacramento River (Dettling et al. 2014). Cuckoos have also been known to nest in small numbers along the lower Feather River, but no individuals were detected during surveys in 2012.

Although habitat along the Sacramento River may be suitable for migrating or dispersing individuals, cuckoos are more likely to use larger, less fragmented patches of riparian habitat than occur in the project area. Because the nesting population in the Sacramento Valley is likely very small, western yellow-billed cuckoos tend to nest in large extents of habitat with a closed canopy and high humidity, and observations of migrant individuals in the region are rare, yellow-billed cuckoo is unlikely to occur in the project area. There is a limited potential that this species may utilize riparian habitat within the project area temporarily when migrating through to reach suitable nesting habitat. Therefore, the project area provides only marginally suitable habitat for this species because the larger riparian habitat corridors that western yellow-billed cuckoos prefer are not present.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a State Fully Protected species and is protected under the MBTA. White-tailed kites inhabit open lowland grassland, riparian woodland, marshes, and scrub areas in Central Valley and coastal valleys and foothills (Zeiner et al. 1990). White-tailed kites typically breed in open country with scattered trees. Large shrubs or trees are required for nesting. Nest sites are often near water. The white-tailed kite breeding season extends from February through October, with the peak of the nesting occurring between May through August. Communal night roosting is common during the non-breeding season.

White-tailed kite is a permanent resident in the project area; suitable nesting habitat is present and open space areas and agricultural fields in the vicinity of the project area provide potential foraging habitat.

Western Red Bat

Western red bat (*Lasiurus blossevillii*) is a California Species of Special Concern that roosts in forests and woodlands from sea level up through mixed conifer forests. The species feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. They roost primarily in the foliage of trees and shrubs. Roost sites are often in edge habitats adjacent to streams, fields, or urban areas. Family groups roost together and nursery colonies are found with many females and their young. The maternity season extends from mid-May to early August, at which point young bats are capable of flight. This species has moderate potential to be roosting in riparian vegetation in and adjacent to the project area and staging areas.

Special-Status Fish Species

Chinook Salmon

Several listed Evolutionarily Significant Units (ESUs) of Chinook Salmon *(Oncorhynchus tshawytscha*) use the Delta during one or more of their life history stages. Declining population numbers and continuing threats to salmon populations have resulted in the listing of several Chinook Salmon populations under the FESA and CESA. Critical habitat for these populations generally includes their natal streams and migration corridors and rearing areas in the Delta and Suisun Marsh. Chinook Salmon pass through the Delta as juveniles emigrating to the ocean from the Sacramento and San Joaquin Rivers and tributaries where they were born, and again as adults on their return migration to their natal streams to spawn. Young salmon use the Delta, Suisun Marsh, and the Yolo Bypass (when flooded) for rearing to varying degrees, depending on their life stage (fry versus juvenile) and size, river flows, and time of year.

Access to most of the historical upstream spawning habitat for Chinook Salmon has been eliminated or degraded by manmade structures (e.g., dams and weirs) associated with water storage, conveyance, flood control, and diversions as well as exports for municipal, industrial, agricultural, and hydropower purposes (Yoshiyama et al. 1998; McEwan 2001). Continued threats to Chinook Salmon include the loss and degradation of habitat available for spawning and juvenile rearing; predation on juvenile salmon by non-native fish; entrainment at the SWP and CVP export facilities and other adverse effects from CVP/SWP operations, and other water diversions in the Delta; exposure to pesticides and herbicides; illegal harvest; climate change; and interactions with hatchery-produced salmon.

Sacramento River Winter-run Chinook Salmon

Sacramento River ESU winter-run Chinook salmon is federally listed and State-listed as endangered. The spawning and rearing distribution of winter-run Chinook Salmon historically was limited to the upper Sacramento River and its tributaries, where spring-fed streams provided cold water throughout the summer, allowing for spawning, egg incubation, and rearing during the mid- summer period (Slater 1963; Yoshiyama et al. 1998). The headwaters of the McCloud, Pit, and Little Sacramento Rivers, and Hat and Battle Creeks, historically provided clean, loose gravel; cold, well-oxygenated water; and optimal stream flow in riffle habitats for spawning and incubation. These areas also provided the cold, productive waters necessary for egg and fry development and survival, and juvenile rearing over the summer. The construction of Shasta Dam in 1943 blocked access to all of these waters except Battle Creek, which has its own impediments to upstream migration (i.e., the fish weir at the Coleman National Fish Hatchery and other small hydroelectric facilities situated upstream of the weir) (Moyle et al. 1989; NMFS 1997, 1998a, 1998b).

Adult winter-run Chinook Salmon enter San Francisco Bay from November through June (Hallock and Fisher 1985). Spawning occurs primarily from mid-April to mid-August, with the peak activity in May and June in the Sacramento River reach between Keswick Dam and Red Bluff Diversion Dam (RBDD) (Vogel and Marine 1991). Most spawning Sacramento River winter-run Chinook Salmon are 3 years old (Moyle 2002). Sacramento River winter-run Chinook Salmon fry begin to emerge from the gravel in late June to early July and continue through October (Fisher 1994). Emigration of juvenile Sacramento River winter-run Chinook Salmon past RBDD may begin as early as mid-July, typically peaks in September, and can continue through March in dry years (Vogel and Marine 1991; NMFS 1997). Juvenile Sacramento River winter-run Chinook Salmon occur in the Delta primarily from November through early May. Juvenile winter-run Chinook Salmon migrate to sea after only 4 to 7 months of river life (ocean-type). Adequate instream flows and cool water temperatures are more critical for the survival of Chinook Salmon exhibiting a stream-type life history due to over summering by adults and/or juveniles. The species is known to migrate through the project area.

Central Valley Spring-run Chinook Salmon

Central Valley ESU spring-run Chinook Salmon (*Oncorhynchus tshawytscha*) is federally listed and State-listed as threatened. Historically, the spring-run Chinook Salmon were the second most abundant salmon run in the Central Valley (CDFG 1998). These fish occupied the upper and middle reaches (1,000 to 6,000 feet) of the San Joaquin, American, Yuba, Feather, Sacramento, McCloud, and Pit Rivers, with smaller populations in most tributaries with sufficient habitat for over-summering adults (Stone 1874; Rutter 1904; Clark 1929).

Adult Central Valley spring-run Chinook Salmon leave the ocean to begin their upstream migration in late January and early February (CDFG 1998) and enter the Sacramento River between March and September, primarily in May and June (Yoshiyama et al. 1998; Moyle 2002). Lindley et al. (2004) indicate that adult Central Valley spring-run Chinook Salmon enter native tributaries from the Sacramento River primarily between mid-April and mid-June. Typically, spring-run Chinook Salmon use mid- to high-elevation streams that provide appropriate temperatures and sufficient flow, cover, and pool depth to allow over-summering while conserving energy and allowing their gonadal tissue to mature (Yoshiyama et al. 1998). Spring-

run Chinook Salmon spawning occurs between September and October, depending on water temperatures. Most adult spring-run Chinook Salmon that enter the Sacramento River basin to spawn are 3 years old (Calkins et al. 1940; Fisher 1994).

Spring-run Chinook Salmon fry emerge from the gravel from November to March (Moyle 2002) and the emigration timing is highly variable, as they may migrate downstream as young-of-the-year or as juveniles or yearlings. The emigration period for spring-run Chinook Salmon extends from November to early May, with up to 69 percent of the young-of-the-year fish outmigrating through the lower Sacramento River and Delta during this period (CDFG 1998). Peak movement of juvenile Central Valley spring-run Chinook Salmon in the Sacramento River at Knights Landing occurs in December, and again in March and April. Based on the available information, the emigration timing of Central Valley spring-run Chinook Salmon appears highly variable (CDFG 1998). Some fish may begin emigrating soon after emergence from the gravel, whereas others over-summer and emigrate as yearlings with the onset of intense fall storms (CDFG 1998). The species is known to migrate through the project area.

Central Valley Fall-/Late Fall–Run Chinook Salmon

Central Valley fall-/ late fall–run Chinook Salmon (*Oncorhynchus tshawytscha*) are State and federal species of concern. Adult fall-/ late fall–run Chinook Salmon enter the Sacramento and San Joaquin River systems from September through January and spawn from October through February. During spawning, the female digs a redd (gravel nest) and deposits her eggs, which are then fertilized by the male. Newly emerged fry remain in shallow, lower-velocity edgewaters, particularly where debris congregates and provides cover from predators (CDFG 1998). The duration of egg incubation and time of fry emergence depends largely on water temperature. In general, eggs hatch after a 3- to 5-month incubation period, and alevins (yolk-sac fry) remain in the gravel until their yolk sacs are absorbed (2–3 weeks).

Juveniles typically rear in freshwater (in their natal streams, the Sacramento River system, and the Sacramento–San Joaquin Delta [Delta]) for 3 to 6 months (Fall-Run) and up to 12 months (Late Fall-Run) before entering the ocean. Juveniles migrate downstream from January through June. Important winter habitat for juvenile Chinook Salmon includes flooded bars, side channels, and overbank areas with relatively low water velocities. Juvenile Chinook Salmon have been found to rear successfully in floodplain habitat, which routinely floods but is dry at other times. Growth rates appear to be enhanced by the conditions found in floodplain habitat.

Cover structures, space, and food are necessary components for Chinook Salmon rearing habitat. Suitable habitat includes areas with instream and overhead cover in the form of undercut banks, downed trees, and large, overhanging tree branches. The organic materials forming fish cover also help provide sources of food, in the form of both aquatic and terrestrial insects.

Juvenile Chinook Salmon in the Sacramento River system move out of upstream spawning areas into downstream habitats in response to many factors, including inherited behavior, habitat availability, flow, competition for space and food, and water temperature. Both the number of juveniles that move and the timing of movement are highly variable. Storm events and the resulting high flows appear to trigger movement of substantial numbers of juvenile Chinook

Salmon to downstream habitats. Fall-Run Chinook Salmon emigrate as fry and subyearlings and remain off the California coast during their ocean migration (63 FR 11481).

Central Valley Steelhead

The Central Valley Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*) is federally listed as threatened. This species can be divided into two life history types—summer-run steelhead and winter-run steelhead—based on their state of sexual maturity at the time of river entry and the duration of their spawning migration, stream-maturing, and ocean-maturing. Only winter-run steelhead are currently found in Central Valley rivers and streams (McEwan and Jackson 1996).

Central Valley steelhead generally leave the ocean from August through April (Busby et al. 1996) and spawn from December through April, with peaks from January through March in small streams and tributaries where cool, well-oxygenated water is available year-round (Hallock et al. 1961; McEwan and Jackson 1996). Timing of upstream migration is correlated with higher flow events, such as freshets or sand bar breaches at river mouths, and associated lower water temperatures. Unlike Pacific salmon, steelhead are iteroparous, or capable of spawning more than once before death (Barnhart 1986; Busby et al. 1996). However, it is rare for steelhead to spawn more than twice before dying; most that do so are females (Busby et al. 1996).

Spawning occurs during winter and spring months. The length of time it takes for eggs to hatch depends mostly on water temperature. Newly emerged fry move to the shallow, protected areas associated with the stream margin (McEwan and Jackson 1996) and they soon move to other areas of the stream and establish feeding locations, which they defend (Shapovalov and Taft 1954). Productive steelhead habitat is characterized by complexity, primarily in the form of large and small woody debris. Cover is an important habitat component for juvenile steelhead both as velocity refugia and as a means of avoiding predation (Meehan and Bjornn 1991). Juvenile steelhead emigrate episodically from natal streams during fall, winter, and spring high flows. Emigrating steelhead use the lower reaches of the Sacramento River and the Delta for rearing and as a migration corridor to the ocean. Juvenile steelhead feed mostly on drifting aquatic organisms and terrestrial insects and will also take active bottom invertebrates (Moyle 2002). The species is known to migrate through the project area.

Southern DPS of North American Green Sturgeon

The southern DPS of Green Sturgeon (*Acipenser medirostris*) is federally listed as threatened and State-listed as threatened. Critical habitat for Green Sturgeon has been designated and includes the Sacramento River, lower Feather River, and lower Yuba River; and the Delta and Suisun, San Pablo, and San Francisco Bays. Green Sturgeon spend a large portion of their lives in coastal marine waters as subadults and adults. Adults and subadults occupy the San Francisco Bay, San Pablo Bay, Suisun Bay, and the Delta adjacent to the Sacramento River. Adults and subadults primarily inhabit the Delta and bays during summer months, most likely for feeding and growth (Kelly et al. 2007).

As with anadromous salmonids, access to historical spawning habitat for Green Sturgeon has been reduced by construction of migration barriers, such as major dams, that block or impede

access. In the Sacramento River, the removal of RBDD as a barrier to migration in 2011 has increased the use of upstream spawning habitat by southern DPS Green Sturgeon, leading to spawning now occurring in higher reaches of the river (NMFS 2015). Other threats to Green Sturgeon include the loss and degradation of rearing habitat; dredging operations in the Sacramento and San Joaquin Rivers, and the navigation channels within the Delta, and Suisun, San Pablo, and San Francisco Bays; illegal harvest; and contaminants. The species is known to migrate through the project area.

Delta Smelt

Delta Smelt (*Hypomesus transpacificus*) are federally listed as threatened and State-listed as endangered. The Delta Smelt is a semi-anadromous fish with an annual life cycle, migrating between the brackish waters of Suisun Bay and the freshwaters of the Delta (Moyle 2002; MacNally et al. 2010). In general, adults move from Suisun Bay or river channels in the lower Delta to freshwater upstream and spawn in February to May (Moyle 2002; Bennett 2005). Historically, the Delta Smelt was the most abundant pelagic fish species in the San Francisco Estuary, but by the early 1980s, abundance had declined dramatically (Moyle 2002). Declines in abundance were generally attributed to the high degree of urbanization and land-use patterns in the San Francisco Estuary watershed (Bennett 2005).

Since 2002, Delta Smelt and other pelagic fish species in the San Francisco Estuary have experienced a further rapid decline in abundance (MacNally et al. 2010). Many recent studies have related the decline in Delta Smelt abundance to various environmental covariates, including: water clarity and salinity (Feyrer et al. 2007), water exports, water temperatures, and zooplankton abundance (MacNally et al. 2010), and water clarity and water exports (Thomson et al. 2010). It has been hypothesized that the decline has been associated with water diversion, levee construction, impoundments, water quality and toxicity issues, non-native species introductions (both competition and predation), and overall habitat degradation. The project area is within the known distribution range of this species.

Longfin Smelt

Longfin Smelt (*Spirinchus thaleichthys*) are State-listed as threatened. The Longfin Smelt is a relatively small (i.e., 90–110 millimeters standard length at maturity), semelparous, pelagic fish that occurs in estuaries of North America's Pacific coast, from Prince William Sound, Alaska, to Monterey Bay, California, with landlocked populations found in Lake Washington, Washington, and Harrison Lake, British Columbia (Baxter et al. 1999; Moyle 2002). In California, the Longfin Smelt inhabits the San Francisco Estuary, Humboldt Bay, and Eel, Klamath, and Smith Rivers (Baxter et al. 1999). Once one of the most abundant species observed in San Francisco Estuary surveys (Moyle et al. 2011), the San Francisco Estuary's Longfin Smelt population has declined dramatically over several years (Rosenfield and Baxter 2007; Sommer et al. 2007; MacNally et al. 2010). The project area is within the known distribution range of this species.

Sacramento Splittail

Sacramento Splittail (*Pogonichthys macrolepidotus*) is a California Species of Special Concern. Sacramento Splittail are endemic to the sloughs, lakes, and rivers of the Central Valley (Moyle 2002). In the Sacramento River basin, the most important spawning areas appear to be the Yolo

and Sutter bypasses, which are extensively flooded during wet years (Sommer et al. 1997, 2001). In the San Joaquin drainage, spawning apparently occurs in wet years where the San Joaquin River is joined by the Tuolumne and Merced Rivers (Moyle et al. 2004). Threats to Sacramento splittail include habitat loss and degradation, loss of access to seasonally inundated floodplains, introduction of non-native species, entrainment in water export facilities, and harvest by recreational anglers. This species is known to occur within the project area.

Pacific Lamprey

The Pacific Lamprey (*Entosphenus tridentata)* is a federal species of concern. Pacific Lamprey are a relatively large anadromous and parasitic fish reaching over 80 centimeters in length (Goodman and Reid 2012). Adult Pacific Lamprey enter freshwater and reside there anywhere from a few months to a few years prior to spawning, although spawning generally occurs in the spring following migration into freshwater, often in low-gradient stream reaches, in gravel, and at the tailouts of pools and riffles (Goodman and Reid 2012). Pacific Lamprey were historically widespread along the west coast of the United States and, as they overlap with several FESA-listed salmonids, they may be vulnerable to many of the same threats (Goodman and Reid 2012). In particular, they appear to be declining in numbers due to: reduced quantity and quality of spawning and rearing habitats; passage issues associated with hydropower and irrigation diversion such as obstruction, entrainment, and mortality; a propensity for high predation risks; and a vulnerability to contaminants due to their life history (Goodman and Reid 2012). This species is known to migrate through the project area.

River Lamprey

The River Lamprey (*Lampetra ayresi*) is a California Species of Special Concern. The species is more abundant in the lower Sacramento–San Joaquin River system than in other streams in California, but few surveys for River Lamprey have been conducted (Moyle 2002). The River Lamprey is anadromous; adults enter freshwater in the fall and move upstream to suitable spawning areas with perennial water. It is thought that adults need clean, gravelly riffles in permanent streams to spawn successfully. Adults die after spawning. The eggs hatch into ammocoetes that remain in freshwater for approximately 3 to 5 years. The ammocoete stage requires high-quality perennial backwaters or stream edges over a sandy substrate, into which they bury in the sediments and feed on algae and microorganisms (Moyle et al. 1995). The ammocoetes begin to transform into adults during the summer. This process takes 9 to 10 months, and the new adults enter the ocean in late spring. Adults spend approximately 3 to 4 months in the ocean where they grow rapidly. In the ocean, adult River Lampreys are parasitic, feeding on a variety of host fish species including herring and salmon (Moyle 2002). The primary threats to anadromous lampreys, including River Lamprey, are the loss or degradation of habitat through dams, diversions, pollution, stream channelization, and urbanization (Moyle et al. 1995). This species is known to migrate through the project area.

Starry Flounder

The project site occurs within designated essential fish habitat for Starry Flounder (*Platichthys stellatus*). This species would be most likely to occur in the vicinity of the BAFF during low outflows as young-of-the-year fish, with abundance tending to be very low prior to June, when recruitment begins in earnest (Baxter et al. 1999). Although found in the west Delta from July to

December, the relative abundance of young-of-the-year Starry Flounder is very low compared to other areas such as Suisun Bay and San Pablo Bay (Baxter et al. 1999). As the species grows, it tends to move into higher salinity waters and so would be unlikely to be present in the project area as yearling or older fish. Very little benthic habitat would be occupied at any given time by the BAFF and associated infrastructure. This species may occupy the project area seasonally.

Northern Anchovy

The project site occurs within designated essential fish habitat for Northern Anchovy (*Engraulis mordax*). The abundance of this species is generally low in winter, increasing in spring, and high in summer, before declining again in the fall (Baxter et al. 1999). It is likely that Northern Anchovy abundance would be low in the vicinity of the GSSMB. A total of nearly 2,800 Northern Anchovy were collected from 2002 to 2014 during the annual Spring Kodiak Trawl sampling program that is undertaken at 40 stations in the Bay-Delta from January to May; the majority (nearly 2,200, or nearly 80 percent) were collected in 2014. The species was collected in January–May. The farthest upstream that the species was collected from this sampling program during 2002–2014 is station 801 at the confluence of the Sacramento and San Joaquin rivers. This species may occupy the project area, but they are more likely to be found farther downstream.

3.4.2 Discussion

a) *Less-than-Significant Impact with Mitigation.* Impacts on special-status species with moderate or high potential to occur are discussed below. The proposed project may result in potentially significant impacts on special-status species. With implementation of the mitigation measures listed below, the proposed project's impact on special-status species would be less than significant.

Special-Status Plants

Woolly rose-mallow, bristly sedge, delta tule pea, marsh skullcap, Sanford's arrowhead, side-flowering skullcap, Suisun Marsh aster, delta mudwort, and Mason's lilaeopsis are potentially present within the project area. The shoreline in many portions of the project area is subject to pedestrian traffic, limiting the potential for the establishment of these special-status species. Riprap along the base of the Sacramento River levees for bank slope protection also generally limits the potential for these plant species to be present, although these species can establish on sediment deposited amongst the riprap. Nonetheless, these plant species still have a potential to be present along the Sacramento River, and Georgiana and Steamboat slough bank shoreline and be trampled by construction equipment or personnel during the installation and removal of the BAFF or during servicing of the hydrophone equipment. This is a potentially significant impact.

Within the project footprint, the most likely area where these species could be present is within the staging area on the Point Ranch Property. If DWR is not allowed to access the privately held Point Ranch Property, installation of the BAFF would be limited to barge operations and powering the BAFF would likely occur via a barge-based generator. Operations of the proposed project are not expected to have any influence on the potential for these special-status plants to survive or establish within the project area. With

implementation of **Mitigation Measure BIO-1** listed below, which include conducting a focused botanical survey and, if found, avoiding them to the extent feasible, the impact on special-status plants would be less than significant.

> **Mitigation Measure BIO-1**: **Conduct Pre-construction Survey for Special-status Plants.** A focused botanical survey shall be conducted for special-status plant species prior to the commencement of construction activities. Focused botanical surveys shall be conducted in June and July to overlap with the blooming period for all species potentially present. Surveys shall be conducted during low tides.
>
> If any of the non-listed special-status plants are found, they shall be avoided to the extent feasible. If the plants cannot be avoided, DWR shall prepare a mitigation plan prior to the commencement of construction and/or maintenance activities. The mitigation plan shall include the development and implementation of a replanting plan (collection of seeds, revegetation, and management and monitoring of the habitat to ensure success) for any individuals of the species that cannot be avoided.
>
> If Mason's lilaeopsis is found and cannot be avoided, DWR shall request authorization pursuant to the Native Plant Protection Act for incidental take of a rare plant that could result from activities associated with the project.

Special-Status Invertebrates

There is minimal potential for valley elderberry longhorn beetle to be affected by the proposed project because no elderberry shrubs were present within or immediately adjacent to the project area. If additional elderberry shrubs are found to be within or adjacent to the project site, including staging areas, potential impact to valley elderberry longhorn beetle would be a significant impact.

As described in Section 2.7, *Protective Environmental Measures*, construction personnel will participate in a worker environmental awareness program, which would inform them about the potential presence of valley elderberry longhorn beetle, as well as its life history, and that unlawful take of the species and/or its habitat would represent a violation of the FESA. Furthermore, given implementation of **Mitigation Measures BIO-2** and **BIO-3** listed below—which include conducting an elderberry shrub pre-construction survey prior to any work being conducted; installing exclusion buffers if any elderberry shrubs are observed within or adjacent to the project area; and having a biological monitor present during initial ground disturbance—the impacts on valley elderberry longhorn beetle would be reduced to a less-than-significant level.

> **Mitigation Measure BIO-2: Conduct Pre-construction Survey for Elderberry Shrubs.** Prior to the commencement of initial grading, staging area establishment, and project-related equipment installation, a qualified biologist shall conduct pre-construction surveys to ensure that no elderberry shrubs are present.
>
> If any elderberry shrubs with stems measuring 1 inch or greater in diameter are observed within or in the vicinity of the project area, a minimum 20-foot exclusion buffer from the dripline shall be established around the shrubs with high visibility construction fencing; however, a greater buffer area shall be established if feasible.

Signs shall be erected on the fencing that states that this area is prohibited from entry because it is a sensitive resource. The high visibility construction fencing shall remain intact throughout completion of construction, operations, and decommissioning. If project activities are located within 165 feet of an elderberry shrub, DWR shall consult with USFWS to determine if additional measures protective of valley elderberry longhorn beetle described in the USFWS 2017 *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* are appropriate and warranted.

Mitigation Measure BIO-3: Conduct Elderberry Shrubs Compliance Inspections and Monitoring, if Applicable. If any elderberry shrubs are present within 165 feet, a qualified biologist approved by the permitting agencies shall conduct elderberry shrub avoidance compliance inspections and monitoring during initial ground disturbance, including the installation of exclusion fencing, and during construction within environmentally sensitive areas as determined by the biologist.

Special-Status Reptiles

Giant Garter Snake

The Sacramento River and Georgiana Slough provide potentially suitable aquatic habitat for the giant garter snake. This species occupies vegetated ditches and associated adjacent uplands, which are present in the vicinity of the staging areas. Impacts on the giant garter snake would be significant. As described in Section 2.7, *Protective Environmental Measures*, construction personnel will participate in a worker environmental awareness program, which will inform them about giant garter snake life history and habitat and make it clear that unlawful take of the species would represent a violation of the FESA. Furthermore, given implementation of Mitigation Measure BIO-3 listed previously and **Mitigation Measure BIO-4** listed below, which includes the installation of exclusion fencing around the perimeter of the staging areas prior to grading or equipment deployment within the staging areas, the potential impacts on giant garter snake would be less than significant.

Mitigation Measure BIO-4: **Install Giant Garter Snake Exclusion Fencing.** DWR shall install exclusion fencing around the perimeter of the work areas to prevent giant garter snakes from entering these areas. Pre-construction surveys will be conducted prior to fence installation. The fencing shall extend to the edge of the channel bank, perpendicular to the water line. Small gaps should be placed in the exclusion fencing to facilitate ingress and egress of construction equipment and personnel into the work areas from nearby roadways, however this opening shall be minimized to the maximum extent feasible. The exclusion fencing shall consist of silt fence material. Fences shall be installed to a depth of 6 inches below the ground surface to prevent giant garter snakes from going under the fence. Fences shall be installed before the giant garter snake active season (i.e., May 1) prior to grading and deployment of staging equipment within the staging areas and remain in place until after the barrier and associated equipment and material are completely removed. Prior to the commencement of daily construction activities, the on-site biological monitor shall conduct a morning pre-construction survey to verify that there are no giant garter snakes in the work areas. This survey process shall also include verifying that the fence is in suitable condition. If any repairs are necessary, the monitor shall guide construction personnel in making the necessary repairs. If any giant garter snakes are

observed during construction, work shall stop until the giant garter snake moves away from construction zone on its own accord or until it is moved by a qualified biologist with permitting authority to handle giant garter snakes.

Western Pond Turtle

Open water habitat and adjacent habitat within the project area provides suitable habitat for western pond turtle. The BAFF installation, maintenance, and removal process could result in disturbance of open water habitat. This impact is expected to be minimal since the turtles are expected to be able to easily swim away from the construction activity. Staging of materials and access of equipment along the Sacramento River shoreline has the potential to disrupt turtle movement and possibly traveling through uplands this is a potentially significant impact. As described in Section 2.7, *Protective Environmental Measures*, construction personnel will participate in a worker environmental awareness program, which would inform them about the potential presence of western pond turtles, as well as their life history. Furthermore, with implementation of **Mitigation Measure BIO-5** listed below, which involves the installation of exclusion fencing to prevent western pond turtles from entering into work areas, the potential impact on western pond turtles would be reduced to a less-than-significant level.

Mitigation Measure BIO-5: **Conduct Pre-construction Survey for Western Pond Turtle.** Pre-construction surveys for western pond turtle shall be conducted within 48 hours prior to any ground disturbance activities. If any western pond turtles are observed on land during the pre-construction survey, to avoid potential nests, suitable upland habitat within 100 feet of aquatic habitat shall be flagged and avoided, where feasible. An on-site biological monitor shall be present for any on-land construction activities, to conduct morning surveys before the start of the construction work for the day for western pond turtle within the project site as well as check the conditions of the exclusion fence daily (the same fence as described previously for Mitigation Measure BIO-4). If any repairs are necessary, the monitor shall guide construction personnel in any making the necessary repairs. If any western pond turtles are observed during construction, work shall stop until the turtle moves away from construction zone on its own accord. If the turtle does not move on its own volition, the monitor may request permission from CDFW to relocate the turtle to suitable aquatic habitat out of harm's way. Vehicles parked overnight on-site shall be checked before they are moved for the presence of western pond turtles that may be taking shelter under the vehicle. To avoid the loss of western pond turtle nests and eggs as a result of construction, DWR shall install exclusion fencing along the landward perimeter of the work areas to minimize the potential for turtles to nest in these areas. The exclusion fencing shall extend down the channel bank. A small gap in the exclusion fencing may be present to facilitate ingress and egress of construction equipment and personnel into the work areas from nearby roadways, however this opening shall be minimized to the maximum extent feasible. The exclusion fencing shall consist of silt fence material. Fences shall be installed to a depth of 6 inches below the ground surface to prevent turtles from going under the fence. Fences shall be installed prior to May 1 and remain in place until after the barrier and associated equipment and material are completely removed.

Special-Status Birds

Nesting Birds

The riparian habitat in the project area provides potential habitat for nesting birds protected by the MBTA, including raptors such as the white-tailed kite and Cooper's hawk. Noise disturbance could be disruptive to nesting behavior if nest sites are established before barrier technology installation and operation. In such a circumstance, it could result in abandonment or diminished likelihood of nesting success. Adherence to Mitigation Measure BIO-6 – which includes completing grading and any vegetation clearing activities outside of the nesting season, and if not feasible, conducting pre-construction surveys and establishing appropriate buffers if any are observed nesting – will establish appropriate nest buffer zones if active nests of species protected by the MBTA are found and will reduce the impact on nesting bird species to less than significant.

> **Mitigation Measure BIO-6**: **Implement Nesting Bird Protection Measures.** If needed, DWR shall remove all woody and herbaceous vegetation from the staging areas to the extent possible during the nonbreeding season (September 15–January 31) to minimize effects on nesting birds. During the breeding season, all herbaceous vegetation in the staging areas shall be maintained to a height of 6 inches or less to minimize the potential for nesting.
>
> If any vegetation removal begins during the nesting season (February 1 to September 14), a qualified biologist shall conduct pre-construction surveys prior to vegetation removal or equipment deployment within the staging areas or in-water work. The biologists shall survey a 300-foot buffer around the work areas. The pre-construction surveys shall be conducted within 3 days prior to the commencement of ground-disturbing activities or within the appropriate window for designated species. If construction does not commence within 3 days of the pre-construction surveys, or halts for more than 3 days, additional pre-construction surveys shall be conducted if work is expected to resume during the nesting season.
>
> If any active nests of birds protected under the Fish and Game Code and/or Migratory Bird Treaty Act are located within or in the vicinity of the staging areas or in the vicinity of the in-water work areas, an appropriate buffer zone shall be established around the nests, as determined by the project biologist. The biologist shall mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of the breeding season or until the nest is no longer active. Buffer zones are typically 100 feet for migratory bird nests and 250 feet for raptor nests.

Western Yellow-billed Cuckoo

Although riparian habitat within the project area could represent suitable habitat for western yellow-billed cuckoo, the likelihood that this species is using habitat within the project footprint or in the vicinity of the project area is minimal because riparian habitat in the project vicinity is highly fragmented, cuckoo observations in the region are very rare, and disturbance levels from traffic and local farming operations are relatively high. However, potential impacts on western yellow-billed cuckoo that might use riparian habitat adjacent to the project area during migration would be significant. As described in Section 2.7, *Protective Environmental Measures*, construction personnel will participate

in a worker environmental awareness program, which would inform them about western yellow-billed cuckoo life history and habitat, and that unlawful take of the species would represent a violation of the FESA. Given implementation of **Mitigation Measure BIO-6**, described previously, the impact on western yellow-billed cuckoo would be less than significant with mitigation incorporated.

White-Tailed Kite

White-tailed kite may nest in large trees or shrubs located along the channel banks. This species is particularly sensitive to noise and human activities and will often abandon nesting areas that are subject to high levels of human disturbances. Existing disturbance levels from ongoing traffic and local farming operations are relatively high within the project area. Generation of loud noises and vegetation trimming associated with construction work would represent a potentially significant impact on this species. Given implementation of Mitigation Measure BIO-6—which includes completing grading and any vegetation removal activities outside of the nesting season, and if not feasible, conducting pre-construction surveys and establishing appropriate buffers if any are observed nesting—the impact on white-tailed kite would be less than significant with mitigation incorporated.

Song Sparrow ("Modesto" Population)

The Modesto song sparrow may utilize the channel bank vegetation present within the project area as habitat. Noises and increased human activities associated with installation and removal of the BAFF have the potential to disturb this species. If this species is present within the project area, they have likely become accustomed to continuing disturbance given nearby noises from traffic and local farming operations. With implementation of Mitigation Measure BIO-6 described previously, the impact on Modesto song sparrow would be less than significant with mitigation incorporated.

Swainson's Hawk

The time frame for the installation and removal of the BAFF overlaps with the Swainson's hawk nesting period, which extends from March through August. The preferred time of the year to install these technologies is during December and/or January so they can be in place and operational in time for the juvenile salmonid fish outmigration period during the spring. However, depending on extraneous factors (e.g., hydraulic conditions, acquisitions of materials and equipment), the installation of the BAFF may occur as early as August and as late as March, which would overlap, respectively, with the end and beginning of the Swainson's hawk nesting period. Removal of the BAFF and associated piles would occur within or as close to August-October as possible, although removal may occur as early as April. These removal activities would overlap with the Swainson's hawk nesting season. Operation of the BAFF, which may involve the extended use of diesel generators, would also occur within the Swainson's hawk nesting season. Noise and visual disturbances associated with the installation, operation, maintenance, and removal of the BAFF in the vicinity of occupied nest sites could adversely affect nesting Swainson's hawks. These disturbances could prompt a change in Swainson's hawk nesting behavior, including nest abandonment or

early fledgling of young birds. If disturbances associated with the installation and/or removal of the BAFF occur prior to the nesting season, Swainson's hawks may elect to use nest sites outside the area that would experience the noise and visual disturbance. It is important to note though that the project area is already subject to ongoing disturbance from noises generated from nearby traffic and local farming operations.

The potential disturbance of nesting Swainson's hawks is considered a significant impact. Implementation of Mitigation Measure BIO-6 described previously, and **Mitigation Measure BIO-7**, which would involve Swainson's hawk protocol surveys and establishing protective measures if active Swainson's hawk nests are found, would reduce impacts on nesting Swainson's hawk to less than significant with mitigation incorporated.

> **Mitigation Measure BIO-7**: **Conduct Surveys for Swainson's Hawks.** Surveys for Swainson's hawks shall be conducted 3 days before construction if construction is to begin during nesting season at and adjacent to all locations to be disturbed by the installation and removal of the barrier and associated operations and maintenance activities to ensure this species is not nesting in these locations. The survey(s) shall occur during the recommended survey periods for the nesting season that coincides with the start of construction activities, in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SHTAC 2000). Where legally permitted, the qualified biologist shall conduct surveys for nesting Swainson's hawks within 0.25 mile of the project area. If access to adjacent properties is denied, the biologist shall use binoculars to visually determine whether Swainson's hawk nests are present in the 0.25-mile survey area.
>
> If active Swainson's hawk nests are found within 0.25 mile of project-related activities, the qualified biologist shall report the findings to DWR and CDFW within 1 day after the survey. Should an active nest be present within 0.25 mile of construction and maintenance activities, DWR shall consult with CDFW to establish an appropriate non-disturbance buffer, develop take avoidance measures, determine whether high-visibility construction fencing shall be erected around the buffer zone, and implement a monitoring and reporting program before any project-related activities occur within 0.25 mile of the nest. Should the qualified biologist determine that the construction activities are disturbing the nest, the biologist shall halt construction activities until DWR consults with CDFW. The project activities causing the disturbance shall not resume until CDFW determines that they will not result in abandonment of the nest site. Should the qualified biologist determine that construction activities within the buffer zone have not disturbed the nest, DWR shall continue to monitor the nest until it is fledged or no longer active. DWR shall submit a report to CDFW summarizing the survey results within 30 days after the final monitoring event, and no further avoidance and minimization measures for nesting habitat are recommended.
>
> The qualified biologist shall notify CDFW if the nest or nestlings are abandoned due to project-related activities and the nestlings are still alive to determine the appropriate actions. DWR shall fund the recovery and hacking (controlled release) of the nestlings. If a nest is abandoned and the nestlings do not survive, DWR shall either purchase conservation bank credits or shall develop 0.5 acre of riparian forest and grant permanent conservation easements over that riparian forest and over 25 acres of suitable Swainson's hawk foraging habitat in a location and in a form

acceptable to CDFW. These easements shall be provided no later than 12 months after nest abandonment.

Special-Status Bats

Special-status western red bats have the potential to roost in the trees within the project area. Although tree removal is not anticipated with the proposed project, should trees need to be removed, significant impacts on western red bats could occur through direct take should they be present within the trees during the removal process. With implementation of **Mitigation Measure BIO-8**, which calls for a pre-construction survey for special-status bats should tree removal occur; the establishment of an avoidance buffer if bats are found; and authority to a qualified biologist to stop work if it is determined to be causing adverse effects on special-status bats, the impacts on western red bat would be reduced to less than significant with mitigation incorporated.

Mitigation Measure BIO-8: Conduct Pre-construction Survey for Special-Status Bats. Within 48 hours prior to project activities within 100 feet of suitable bat roosting trees (larger than 24 inches in diameter at breast height and trees with deep bark crevices, snags, or holes), a qualified biologist shall conduct a pre-construction survey for special-status bats. If no special-status bats are observed roosting, the qualified biologist shall provide a letter report to DWR for its records, documenting the results of the survey, and no additional measures are recommended. Should project activities halt for more than 14 days, a new survey shall be conducted. All removal of trees that provide suitable bat roosting habitat, including maternity roosts, shall be conducted between August 15 and October 30, or earlier than October 30 if evening temperatures fall below 45 degrees Fahrenheit and/or more than 0.5 inch of rainfall occurs within 24 hours. These dates correspond to a time period when bats would not be caring for non-volant young and have not yet entered torpor.
A qualified biologist shall monitor removal/trimming of trees that provide suitable bat roosting habitat. Tree removal/trimming shall occur over two consecutive days. On the first day in the afternoon, limbs and branches shall be removed using chainsaws only. Limbs with cavities, crevice, or deep bark fissures shall be avoided, and only branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed if needed.

If bats are found in the area where construction-related activities will occur, a minimum 100-foot avoidance buffer shall be established around the roost/maternity area until it is no longer occupied, as determined by a qualified biologist. High-visibility construction fencing shall be installed around the buffer and shall remain in place until bats no longer occupy the tree. The tree shall not be removed or modified and the buffer shall remain in place until a qualified biologist has determined that the bats are no longer occupying the roost. If maternity roosts are found, they shall be avoided until the offspring have volant.

If construction activities must occur within the avoidance buffer, CDFW shall be notified. A qualified biologist shall monitor the work either continuously or periodically, as determined by the biologist. The qualified biologist shall be empowered to stop activities that, in the biologist's opinion, threaten to cause unanticipated and/or unpermitted adverse effects on special-status bats. If construction

activities are stopped, the qualified biologist shall consult with CDFW to determine appropriate measures that DWR will implement to avoid adverse effects.

Special-Status Fish

The project area provides habitat for several special-status fish species including Central Valley fall-/late fall-run Chinook Salmon, Central Valley spring-run Chinook Salmon, Sacramento River winter-run Chinook Salmon, Central Valley steelhead, North American Green Sturgeon, Delta Smelt, Longfin Smelt, Sacramento Splittail, Pacific Lamprey, River Lamprey, Starry Flounder, and Northern Anchovy. The project site is designated critical habitat for Central Valley spring-run Chinook Salmon, Sacramento River winter-run Chinook Salmon, Central Valley steelhead, Southern DPS of North American Green Sturgeon, and Delta Smelt.

The installation and removal of the BAFF has the potential to harass and displace fishes present in the general area of the construction activity. General disturbance could startle fish away from in-water activity areas, making them more susceptible to predation if predators have not also been startled. Increased anthropogenic noise could make fish more susceptible to predation by elevating stress (reducing startle responses because of reduced locomotor activity or attention), increasing distraction, or masking acoustic cues indicating the approach of a predator.

A vibratory pile driver would be used to drive the piles needed for the proposed project. Vibratory pile driving minimizes the amount of noise and turbidity and substantially reduces or avoids the potential to cause take of listed species. Based on the estimated time to drive each pile, a total of about 3–8 days of pile driving per year would be needed, if piles were continuously driven per 10-hour day. However, as noted in the Chapter 2, *Project Description*, installation of all piles would occur over a period of up to 30 working days per year, which accounts for fewer piles per day being driven than the estimates assuming continuous work on each pile driving day.

An interagency working group, including NMFS, has established interim criteria for evaluating underwater noise impacts from pile driving on fish. These criteria are defined in the document entitled “Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities” dated June 12, 2008 (Fisheries Hydroacoustic Working Group 2008). This agreement identifies a peak sound pressure level of 206 decibels (dB) and a cumulative sound exposure level (SEL) of 187 dB as thresholds for injury to fish. For fish less than 2 grams, the cumulative threshold is reduced to 183 dB. Although there has been no formal agreement on a “behavioral” threshold, NMFS uses 150 dB root mean square (RMS) as the threshold for adverse behavioral effects.

Proposed marine construction, BAFF installation, and removal have the potential to affect special-status fish because of sediment disturbance/turbidity and underwater noise and disturbance. The potential effects of these activities would be minimized for special-status fish for the following reasons:

- Installation and removal would avoid the peak occurrence periods of listed juvenile salmonids in the project area; driving for marine construction (and to the extent possible, for removal) would be undertaken in August/September, which is within the in-water work window for Delta Smelt.
- Pile driving for marine installation and removal would be done with a vibratory pile driver.
- The in-water construction work would be temporary (e.g., in-water construction activities and system startup and testing would require approximately 60 working days).
- The effects of noise on fish are likely to be limited to avoidance behavior in response to movements, noises, and shadows caused by construction equipment and personnel operating in or adjacent to the river.
- Most fish would be expected to move away from the area of disturbance, and the riverine nature of the project area would facilitate fish movement away from the area because of river flows (although larval smelt may move away more slowly because of their smaller size and weaker swimming ability).

The potential effect described above for Delta Smelt and Chinook Salmon generally would be applicable to Sacramento Splittail, which are considered hearing generalists (ICF Jones and Stokes and Illingworth and Rodkin, Inc., 2009). Species with low sensitivity to sound, such as Green Sturgeon, Pacific Lamprey, and River Lamprey, would not be expected to suffer hearing loss or auditory tissue damage and would be large enough to volitionally swim away to avoid noise disturbances.

Construction activities have the potential to decrease water quality through substrate disturbance and to disturb fish in the immediate project area. Fish could be affected by increased turbidity, increased suspended sediments, and increased water column concentration of contaminants that would otherwise be located in the substrate. Fish response to increased turbidity and suspended sediment ranges from behavioral changes (alarm reactions, abandonment of cover, and avoidance) to sublethal effects (e.g., reduced feeding rate), and, at high suspended sediment concentrations for prolonged periods, lethal effects.

The potential disturbance of special-status fish is a considered significant impact given the potential for these species to be impacted by noise and pressure waves generated during the installation of piles into the channel bed and from increased turbidity generated from the disturbance of bed substrates. Mitigation measures have been identified to address these impacts on special-status fish species. As described in the project description, DWR shall conduct pile driving using a vibratory hammer to minimize to the extent possible the noise generated from pile-driving activities. Sound monitoring is not proposed for vibratory pile driving because there are no accepted threshold criteria for vibratory pile driving. To address the potential impacts associated with increased turbidity, as described in Section 2.7, *Protective Environmental Measures*, DWR will prepare and implement a Water Quality Control Plan. Additionally,

Mitigation Measure BIO-9 would be in place, which involves monitoring turbidity levels during construction. As a result, with implementation of these mitigation measures, the impacts on special-status fish would be reduced to less than significant with mitigation incorporated.

> **Mitigation Measure BIO-9: Monitor Turbidity Levels During Construction.** DWR shall monitor turbidity levels during in-water sediment-disturbing activities. Monitoring shall be conducted by measuring upstream and downstream of the disturbance area to ensure compliance with the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins (Central Valley Regional Water Board 2018).
>
> DWR contractors shall slow or adjust work to ensure that turbidity levels do not exceed those conditions described in the 401 certification issued by the Central Valley Regional Water Board. If slowing or adjusting work to lower turbidity levels is not practical or if thresholds cannot be met, DWR shall consult with the Central Valley Regional Water Board and permitting agencies to determine the most appropriate measures to minimize turbidity impacts to the maximum extent feasible.

b) *Less-than-Significant Impact.* Discussion of impacts on riparian habitat or other sensitive natural communities is provided below. For the purposes of this discussion, sensitive natural communities include shallow aquatic habitat, which provides beneficial rearing habitat for juvenile salmonids and critical habitat and essential fish habitat for federally listed fish species. The proposed project's potential to impact riparian habitat or other sensitive natural communities is potentially significant. With implementation of the applicable mitigation measures listed below, along with DWR's overall protective environmental measures, the proposed project's impact on these resources would be less than significant.

The installation of the BAFF would include mostly water-based and some land-based construction. Equipment and materials would be set up within the staging areas and loaded onto barges. Impacts on riparian vegetation would be avoided or minimized. Some limited riparian vegetation pruning or clearing may occur to facilitate access of construction equipment. It is expected that any removal of riparian vegetation, if necessary, would be minimal; nevertheless, there is a possibility that riparian vegetation including trees could be trimmed or removed. Impacts on riparian habitat would be potentially significant. As described in Section 2.7, *Protective Environmental Measures*, DWR and its construction contractor would limit habitat disturbance as much as possible and immediately following completion of the GSSMB (or once a staging/construction area is no longer needed), DWR would restore the area to approximate pre-project conditions.

If any instream cover habitat (such as instream woody debris) interferes with the proper installation of the barrier, then this material would be relocated as necessary. This cover functions as rearing habitat for juvenile salmonids. As previously mentioned, following completion of 8-year GGSMB, DWR would seek to restore habitat to pre-project conditions to the extent possible.

The presence of the barrier within the water column also increases the potential for invasive aquatic weeds to accumulate on the barrier itself or its supporting structures. Clusters of invasive aquatic vegetation can provide beneficial cover for non-native fish predators, to the detriment of native fish species. As described in Chapter 2, *Project Description,* DWR would coordinate with the California Department of Parks and Recreation Division of Boating and Waterways Aquatic Weed Control Program for the control of invasive aquatic weeds in the vicinity of the BAFF in order to ensure that this barrier does not exacerbate current invasive weed problems prevalent in the Delta. Any aquatic weed removal activities conducted by Division of Boating and Waterways would be conducted in a manner that would avoid accumulation and ensure that there is not new introduction and/or promote the proliferation of aquatic weeds in the project area. This coordination and response by Division of Boating and Waterways would occur both during project operations and during non-operational periods.

The GSSMB would guide juvenile salmon towards migration pathways associated with higher survival rates for these fish. Reduced outmigration success for this particular pathway is a result of a myriad of factors including greater predation loss in the central Delta and entrainment loss at the south Delta export facilities. A large proportion of the mortality associated with fish entrained at these facilities is due to predation by nonnative fish. The GSSMB is expected to guide native juvenile salmon away from areas where predation by nonnative fish are more likely to occur. While some nonnative fish predators may congregate around the in-water structures, the net improvement to juvenile outmigration success from reduced predation loss overall is expected to improve as a result of the GSSMB. Therefore, the project would not result in created improved habitat conditions for nonnative species.

The proposed project would have minimal effects on designated critical habitat for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook Salmon, and Central Valley steelhead. The BAFF, once in place, would have a footprint that varies in size by year, but is generally limited in size. It is calculated that the maximum total area of channel bottom that would be covered would total 0.03 acre. The duration of the physical coverage of the channel bottom by the total extent of equipment could be up to 9 months (January–September), depending on the installation and removal dates. Based on the limited footprint of the barrier, the proposed project would not demonstrably affect the extent of rearing habitat or availability of food resources for listed salmonids.

The proposed project is also expected to have minimal effects on designated critical habitat for Green Sturgeon. Passage impediment effects on this species are likely to be limited as the species is often relatively close to the substrate, and there would be ample room for Green Sturgeon to go beneath or around the barrier (additional discussion on Green Sturgeon movement is provided below). While this species is believed to feed primarily on benthic invertebrates, the very small area occupied by the BAFF at any given time means there would be minimal effects on food availability for this species.

The proposed project would have limited effect on critical habitat for Delta Smelt. The area of substrate occupied by the BAFF tends to be in deeper water, and so it may be less likely used by Delta Smelt for spawning. Furthermore, as described previously, the loss in extent of potential spawning habitat would be very limited (up to 0.03 acre) and limited in duration. Construction activities could potentially increase turbidity and contaminant concentrations in the water column; however, these effects would be temporary and limited.

Essential fish habitat for Pacific salmon, Starry Flounder, and Northern Anchovy are present within the project area. When considering the effects on Pacific salmon, it is important to consider not only the runs of Chinook Salmon that are federally listed, but also fall-run/late fall-run Chinook Salmon. It is likely that there would be overlap of fall-run and late fall-run Chinook Salmon juveniles with the installation and operational period of the BAFF, with similar effects as for winter-run and spring-run Chinook Salmon. There could also be overlap in migration timing with barrier removal, with minor disturbance effects as previously noted for the listed runs of Chinook Salmon. Proposed marine construction would have considerable potential to overlap with adult fall-run Chinook Salmon upstream migration, with daily effects from vibratory pile driving likely similar to those previously described for steelhead. The BAFF would not be expected to appreciably overlap with fall-run Chinook Salmon upstream migration nor would there be much potential for effects on essential fish habitat by blocking or delaying upstream migration. Overall, adult fall-run and late fall-run Chinook Salmon would not be expected to experience more than minimal effects for the same reasons as described for the listed salmonids.

Although the project area is within the designated essential fish habitat for Starry Flounder and Northern Anchovy, these species are primarily marine and estuarine species that generally occupy habitat seaward of the project area (e.g., San Pablo Bay and Suisun Bay). As a result, the essential fish habitat for these species is not expected to be affected by the proposed project.

Overall, the potential impacts on sensitive natural communities, including riparian habitat, are expected to be minimal. The impact would be less than significant.

c) *Less-than-Significant Impact*. Discussion of impacts on State or federally protected waters is provided below. Based on the very minor temporary impacts on the bed of the Sacramento River and Georgiana Slough, the impact on State or federally protected waters would be less than significant.

The total area of the maximum cumulative 189 piles associated with the proposed project is 594 square feet (0.01 acre), with up to 29 (91 square feet) of these being permanent (installed and retained longer than one operation period) and the remainder being temporary. Concrete pier blocks and anchor blocks would cover an additional 318 square feet. Up to 270 mounts (987 square feet) for hydrophones, ADCP, and/or DIDSON cameras may be installed per year. The maximum total area of channel bottom occupied

by the GSSMB equipment at any one time would be made up of piles (154 square feet), pier blocks (68 square feet), anchor blocks (250 square feet), and mounts for hydrophones, ADCP, and DIDSON (987 square feet), for a total of 1,459 square feet (0.03 acre). Many of the piles would be removed annually after each operation period, although some piles may be retained depending on the extended technology configuration for the following year. After the end of the 8-year study period, all the piles would be removed.

There would be a temporary loss of benthic habitat because of the barrier piles, concrete piers, hydrophone cables, and concrete anchors, which would result in a temporary reduction in: (a) critical habitat for green sturgeon, winter-run and spring-run Chinook Salmon, and steelhead; (b) essential fish habitat for starry flounder; (c) foraging habitat for Sacramento Splittail; and (d) benthic habitat for river lamprey and Pacific Lamprey. Given the small scale of the loss (0.03 acre) and the fact that the placement of the barrier technology would occur for only a few months out of the year (and be removed completely after the completion of the 8-year project), the proposed project would have a less-than-significant impact on waters of the United States and the habitat functions provided by those waters.

d) *Less-than-Significant Impact.* Discussion of impacts on migratory corridors of native resident or migratory fish and wildlife species is provided below. Based on the rationale provided below, the impact on migratory habitat would be less than significant.

Construction activities for the proposed project could interfere with the local movement of native resident or migratory terrestrial wildlife species. However, construction work would not substantially interfere with the movement of these species because they could move through adjacent unaffected habitat. Furthermore, staging and land-based construction-related activities would occur next to major levee roads, including SR 160, which already disrupt migration and movement pathways in the area. Noise from project construction could temporarily alter the foraging patterns of resident wildlife species in the project area, but it would not substantially interfere with foraging because these mobile species could move to nearby unaffected habitat.

Based on prior juvenile salmon survival studies, juvenile salmon that remain in the mainstem Sacramento River at the Georgiana Slough/Sacramento River split result in an increased likelihood of their detection (i.e., survival) downstream at Chipps Island—approximately the downstream end of the Delta. Juvenile salmon that utilize the Georgiana Slough route have an increased chance of entrainment at the SWP/CVP facilities and furthermore must survive a longer migration pathway to exit the Delta, increasing the chance of predation. The BAFF is intended to deter listed salmonids from entering Georgiana Slough and subsequently the waters of the Delta interior, including the central and southern Delta. By doing so, it is hypothesized that overall survival will be enhanced for these listed salmonid populations by reducing the fraction of the population that migrates into Georgiana Slough and that is subsequently lost, for this is a low-survival migration route (e.g., Perry et al. 2010).

Relatively few smelt would be expected to be migrating upstream and forced to swim through the BAFF bubble curtain. Smelt passing through the BAFF's bubble curtain are likely to experience at most momentary discomfort and no lasting effects. Upstream migrating adult smelt primarily use selective tidal stream transport (tidal surfing) to migrate upstream. As such, they are more likely to occur on the mainstem Sacramento River than in Georgiana Slough, based on the near absence of reversing flood tide flows in Georgiana Slough compared to the Sacramento River.

Laboratory studies showed that Delta Smelt were not deterred by a BAFF when velocities were 2.5 ft/s (Bowen et al. 2010a) but they could potentially be deterred by a BAFF if water velocity immediately upstream and downstream of the barrier is 1.0 ft/s (Bowen et al. 2010b). River velocity in this area is frequently greater than 1.0 ft/s, suggesting that in general, Delta Smelt would be expected to be pushed through the bubble curtain (e.g., during a downstream migration). This limited effectiveness reflects the relatively weak swimming ability of Delta Smelt in relation to juvenile salmonids. It is important to note that these laboratory experiments were not designed to assess behavioral or physiological effects on Delta Smelt and there is no published literature on the subject. While uncertainty exists, and there could be effects, a limited proportion of Delta Smelt would be expected to occur in areas where the GSSMB technology would be operated and any effects of the GSSMB (beneficial or adverse) would be expected to be minimal.

As discussed above, the frame sections of the BAFF would be elevated off the channel bottom by approximately 12 feet, reducing the likelihood that the barrier infrastructure would interfere with the movement of more benthic fish, such as sturgeon. No known studies (laboratory or field) have assessed effects of a BAFF on sturgeon. Similar to smelt, while uncertainty exists, effects of the GSSMB (beneficial or adverse) on Green Sturgeon would be expected to be minimal.

Overall, the proposed project is expected to have minimal effects on the movement patterns or migration of non-target species (e.g., smelt and sturgeon). Additionally, the BAFF is expected to improve migration habitat conditions for juvenile salmonids. As such, the impact would be less than significant.

e) *No Impact*. Discussion of potential conflicts with local policies or ordinances protecting biological resources is provided below. Because DWR as a State agency is not subject to local policies or ordinances, there would be no impact regarding conflicts with local policies or ordinances protecting biological resources.

The proposed project would not conflict with any local policies or ordinances protecting biological resources. The proposed project supports compliance with Action IV.1.3 of the NMFS (2009) *Biological and Conference Opinion for the Long-Term Operations of the Central Valley Project and State Water Project (BiOp) for Chinook Salmon (*Oncorhynchus tshawytscha*), Steelhead (*O. mykiss*), and Green Sturgeon (*Acipenser medirostris*),* which requires that Reclamation and/or DWR to consider engineering solutions to further reduce the diversion of juvenile salmonids into the interior Delta, and

reduce exposure of the fish to SWP and CVP export facilities. As such, the proposed project is complying with a FESA requirement mandated by NMFS. Furthermore, State agencies such as DWR are not subject to local ordinances. To the extent feasible, implementation of the proposed project would comply with applicable adopted county ordinances protecting biological resources, provided that they are consistent with DWR's internal environmental policies.

f) *Less-than-Significant Impact*. Discussion of potential conflicts with adopted habitat conservation plans (HCPs) is provided below. Based on the rationale provided below, this impact would be less than significant.

The only adopted habitat conservation plan that could be affected by the proposed project is the South Sacramento HCP, adopted in 2018 (Sacramento County et al. 2018). The planning area for the South Sacramento HCP extends to the Sacramento River east levee, and as far south as the Sacramento/San Joaquin County line. Certain elements of the proposed project occur within this planning area. Activities that occur west of the Sacramento River east levee (e.g., activities that occur within the Sacramento River and Georgiana Slough) are outside the South Sacramento HCP plan area. Some land-based activities associated with the proposed project would occur within the HCP plan area, including the DCC staging area and the Hood staging area.

The HCP identifies eight Preserve Planning Units (PPUs) that encompasses where important resources are present for the 28 species covered by plan. The project footprint overlaps with PPU 6. The HCP's primary conservation focus for this PPU is to preserve agricultural croplands, which provide suitable foraging habitat for many of the bird species covered under the HCP, including greater sandhill crane (*Grus canadensis*) and northern harrier (*Circus hudsonius*). The HCP also seeks to establish a wildlife corridor between the Cosumnes River and Deer Creek. Given that the DCC and Hood staging areas occur within gravel lots near the Sacramento River that would not affect agricultural cropland or be located within a potential corridor between the Cosumnes River and Deer Creek, the proposed project would not interfere with implementation of the South Sacramento HCP. The potential of the proposed project to conflict with provisions of an adopted habitat conservation plan is less than significant.

3.5 Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

This section examines the potential impacts of the proposed project on cultural resources. Tribal cultural resources are addressed in Section 3.18, *Tribal Cultural Resources*. For the purposes of this analysis, the term *cultural resource* is defined as follows:

> Native American and historic-era sites, structures, districts, and landscapes, or other evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or another reason. These resources include the following types of CEQA-defined resources: historical resources, archaeological resources, and human remains.

This section relies on the information and findings presented in *Georgiana Slough Salmonid Migratory Barrier Project, Sacramento County, California: Cultural Resources Inventory Report* (Hoffman 2021). That report (confidential **Appendix C**) details the results of the cultural resources study, which examined the environmental, ethnographic, and historic background of the project area, emphasizing aspects of human occupation.

CEQA Area of Potential Effects

For purposes of this analysis, the CEQA Area of Potential Effects (C-APE) is defined as both the horizontal and vertical maximum extents of potential direct impacts of the proposed project on cultural resources. This area encompasses the footprint of project actions, including staging and access areas. The C-APE comprises approximately 69.8 acres and extends vertically to the maximum depth of the proposed project's ground-disturbing activities, varying according to specific location. Due to the nature of the proposed project and its minimal potential for indirect impacts, a single C-APE has been defined to account for potential impacts on archaeological and architectural resources.

Despite the large horizontal extent of the C-APE, most of the project activities would occur either on the water surface (e.g., boat operations, floating elements) or in water, requiring fairly minimal ground disturbance in relation to the horizontal extent of activity. Most of the proposed ground-disturbing activities are those within waterways associated with piling installations, geotechnical explorations, concrete pier block installations, and navigational aids; the overall total area of

ground disturbance associated with these activities is a very small percentage of the areal extent of the C-APE. The only terrestrial ground disturbance proposed consists of the utility pole replacement and service pole installation at the Georgiana Slough staging area; the new utility pole would be a single pole placed in the same location as the existing single-pole utility pole and would extend to no deeper than 10 feet below ground surface, though much, if not all, of the soil that would be disturbed has likely been previously disturbed by the installation of the existing utility pole. The service pole replacement would occur 15 to 80 feet from the new utility pole, would result in ground disturbance to no deeper than 10 feet below ground surface, and would not be placed in or immediately adjacent to areas where previous archaeological investigations identified human remains.

Records Search

In 2016, GEI Consultants, Inc. (GEI) conducted a cultural resources records search for the C-APE and vicinity at the North Central Information Center (NCIC) at California State University, Sacramento. Also in 2016, at the request of GEI, staff at the Northwest Information Center (NWIC) at Sonoma State University, Rohnert Park, conducted a cultural resources records search for the APE and vicinity. The NCIC maintains the official California Historical Resources Information System (CHRIS) records of previous cultural resources studies and recorded cultural resources for the Sacramento County portion of the C-APE and vicinity, while the NWIC maintains the official CHRIS records for Solano County and Yolo County in the vicinity of the C-APE. On October 31, 2019, ESA conducted a cultural resources records search update for the C-APE and vicinity at the NCIC. The study area for the 2016 records searches and 2019 records search update consisted of the C-APE with a 0.5-mile buffer.

The CHRIS has record of 55 previously recorded cultural resources mapped within the 0.5-mile search area, 15 of which are mapped within 500 feet of the horizontal C-APE, and three of which are mapped in the horizontal C-APE. Of the previously recorded cultural resources mapped in or within 500 feet of the horizontal C-APE, one is a Native American archaeological site (P-34-000356), four are historic-era architectural districts (P-34-002386, -002387, -002389, -003317), and ten are historic-era architectural (non-district) resources (P-34-001497, -001545, -001610, -002143, -002350, -002395, -002403, -002481, -004293, -004297). CHRIS records document the following three cultural resources within the horizontal C-APE: P-34-000356, -001610, and -004293. The previously recorded cultural resources within the horizontal C-APE are summarized in **Table 3.5-1**.

According to the Office of Historic Preservation's Archaeological Determination of Eligibility and Directory of Properties in the Historic Property Data File, two of the three resources (P-34-001610, -004293) within the horizontal C-APE have been evaluated or determined eligible for the California Register of Historical Resources (California Register) or National Register of Historic Places (National Register). The Historic Property Data File shows that P-34-001610 appears National Register-eligible through evaluation (State Owned Properties Master List), though NCIC report S-7990, for the California Department of Transportation's Seismic Retrofitting of the Steamboat Slough Bridge on Highway 160, shows that P-34-001610 was determined National Register-eligible in 1996 (see Noble, 1996); therefore, P-34-001610 is automatically listed on the

California Register. P-34-004293, a bridge over Sutter Slough, was determined not eligible for the National Register in 2002 as part of the Caltrans Historic Bridge Inventory.

TABLE 3.5-1
PREVIOUS RECORDED CULTURAL RESOURCES WITHIN THE HORIZONTAL C-APE

Primary (P-34-)	Trinomial (CA-SAC)	Type	Age/ Affiliation	Name/Description	Recorder (Year)	Previous Eligibility*
000356	329	Archaeological	Native American	Site-human remains, midden soil, flaked- and ground-stone artifacts, shell, faunal bone, beads, baked clay, fire-affected rock	Johnson and Johnson (1974)	CR, NR-Unevaluated
001610	959	Architectural	Historic	Structure-Steamboat Slough Bridge	Pursell (1979); Lortie (1996); JRP Consulting (2003)	CR-Listed; NR-Eligible (D)
004293	[none]	Architectural	Historic	Structure-bridge	Caltrans (2002)	CR-Unevaluated; NR-Not eligible (D)

NOTE:
*CR-California Register of Historical Resources, NR-National Register of Historic Places, D-Determined

Although P-34-000356 (a Native American archaeological site) is mapped within the horizontal C-APE, previous archaeological excavations at the site (Soule 1976) show that most of the archaeological material at the site appears to be at depths of 150 centimeters and greater, with intact deposits only at depths of 230 centimeters or greater (Soule 1976). Despite this, the somewhat vague reporting on the previous excavations at the site (Soule 1976) suggest that some disturbed archaeological deposits may be present at shallower depths. A 2010 pedestrian survey at the site (Roark 2010) did not result in the identification of any archaeological material. The vertical C-APE at the mapped location of P-34-000356 is 0 feet, except at the utility pole replacement and service pole installation locations, where the vertical C-APE is 10 feet; therefore, the only portion of the C-APE where P-34-000356 is mapped is from approximately 4.5 to 10 feet at the proposed utility pole replacement and service pole installation locations at the Georgiana Slough staging area. Note, the previous archaeological excavations at the site did not include systematic boundary determination through excavation, thus it is unclear whether the archaeological material associated with the site is actually present at the utility pole replacement and service pole installation locations. Soule recommended the site as National Register-eligible in 1976 (Soule 1976), though it does not appear that any formal determination of National Register-eligibility has been made for the site. As part of tribal cultural resources (TCR) identification and evaluation efforts for the proposed project, P-34-000356 was determined to be a California Register-eligible TCR; this is discussed in more detail in Section 3.18, *Tribal Cultural Resources*.

Although P-34-001610 (Steamboat Slough Bridge [architectural resource]) and P-34-004293 (bridge over Sutter Slough [architectural resource]) are mapped within the horizontal C-APE—the former at the Steamboat Slough project footprint and Steamboat Slough staging area, and the latter at the Sutter Slough staging area—proposed project activities would all occur beneath the

bridge deck or approaches (for both resources), on the river (beneath P-34-004293), and would not include any work to or on the bridges themselves. Therefore, P-34-001610 and P-34-004293 are considered to be outside (above/adjacent) the C-APE.

In summary, one previously recorded cultural resource, P-34-000356 has been documented within both the horizontal and vertical extents of the C-APE, at the Georgiana Slough staging area.

Shipwrecks Databases

The California State Lands Commission (SLC) maintains a Shipwrecks Database that currently identifies approximately 1,550 recorded shipwrecks in California. On October 25, 2019, ESA sent an email request to the SLC requesting that the SLC conduct a records search of their Shipwrecks Database for the C-APE. The SLC responded on October 29, 2019, indicating that the Shipwrecks Database has no record of any shipwrecks in the C-APE.

Also, the National Oceanic and Atmospheric Administration maintains an online interactive database of shipwrecks derived from historic nautical charts at https://wrecks.nauticalcharts.noaa.gov/viewer/. ESA conducted a search of this database for the APE on September 10, 2020, in which no shipwrecks were identified in or adjacent to the C-APE.

Ethnographic Literature Research

A review of ethnographic literature for the proposed project revealed that a number of documented Native American villages (all Plains Miwok) are in the vicinity of the C-APE. With respect to the Steamboat Slough staging area, *Ochehamne* was situated approximately 1 mile east of the current Sacramento River channel, east of Paintersville and northeast of the C-APE, and *Chucumne* was situated along the east side of the current Sutter Slough channel, approximately 1.25 miles west of the C-APE (Heizer 1978). Regarding the Georgiana Slough staging area, *Junizumne* was between the current channels of the Sacramento River and Georgiana Slough, approximately 1 mile southwest of the C-APE (Heizer 1978).

Native American Correspondence

ESA contacted the California Native American Heritage Commission (NAHC) on October 5, 2019 in request of a search of the NAHC's Sacred Lands File (SLF) and a list of Native American representatives who may have interest in the proposed project. The NAHC replied to ESA on October 22, 2019, in which they stated that the SLF has no record of sacred sites in the C-APE; the reply also included a list of Native American representatives to contact regarding these resources and who may be interested in the proposed project.

In support of required Native American consultation for the project pursuant to Public Resources Code Section 21080.3, as well as in accordance with the California Natural Resources Agency's *Final Tribal Consultation Policy* and DWR's *Tribal Engagement Policy*, DWR sent letters on December 23, 2019, via certified mail, to the following Native American representatives: Sara Dutschke Setshwaelo, Ione Band of Miwok Indians Chairperson; Ralph Hatch, Wilton Rancheria Director of Cultural Preservation; and Gene Whitehouse, United Auburn Indian Community of

the Auburn Rancheria (UAIC) Chairperson. These letters provided information on the project and requested that the recipients notify DWR if they would like to consult pursuant to Public Resources Code Section 21080.3. The only response from these individuals came via letter from Chairperson Whitehouse (UAIC) to DWR on February 3, 2020, stating that UAIC would like to consult on the project pursuant to Public Resources Code Section 21080.3, that UAIC views the C-APE as sensitive, and that UAIC would like to visit or survey the C-APE.

On September 1, 2020, DWR sent an email to Anna Starkey, a UAIC cultural resources representative, providing details on project changes, explaining that access is limited for the staging areas but that a field visit with UAIC could be arranged if they still wish to do so. The email also stated that ESA can provide the cultural resources technical report, with CHRIS records search results, to UAIC when it is complete. On November 6, 2020, DWR sent UAIC, via email, an electronic version of a previous draft of the current report, with associated CHRIS records search results. On November 18, 2020, Starkey sent an email to William McLaughlin at DWR, stating that UAIC does not agree that P-34-000356 is outside the C-APE, that no ground disturbance or staging should occur within the site boundary, and that fencing should be placed around the site. UAIC, DWR, and ESA had a conference call on November 23, 2020 to discuss the project and potential impacts to cultural resources. During the call, UAIC representatives explained the sensitivity of P-34-000356, requested a site visit to P-34-000356, and requested to conduct construction monitoring of project activities at P-34-000356. On January 4, 2021, representatives from UAIC, DWR, and ESA conducted a site visit to P-34-000356. During the visit, proposed project actions at the site and cultural resources work (both previous and for the proposed project) conducted at the site were discussed. The UAIC representative reiterated that ground-disturbing project activities should not occur at the site; however, the UAIC representative acknowledged that the utility pole replacement and service pole installation likely have minimal potential to impact P-34-000356 due to previous ground disturbance, but that UAIC would like to monitor said work. Additional consultation between DWR and UAIC for the proposed project occurred through July 2021, focusing on the identification and evaluation efforts for TCRs (see Section 3.18, *Tribal Cultural Resources*), and cultural resources- and TCR-related impacts and associated mitigation measures for the proposed project. The cultural resources and TCR impacts and mitigation measures for the proposed project, as presented in the current document, were developed and reviewed by UAIC representatives. Note, P-34-000356 was determined to be a California Register-eligible TCR as a result of Tribal consultation efforts conducted for the proposed project; this is discussed in more detail in Section 3.18. The Draft IS/MND was circulated to UAIC for review prior to public circulation; after completion of this review, UAIC agreed to conclude AB 52 consultation on the proposed project.

In accordance with the California Natural Resources Agency's *Final Tribal Consultation Policy* and DWR's *Tribal Engagement Policy*, DWR sent letters on December 23, 2019 to the following Native American representatives: Grayson Coney, Tsi Akim Maidu Cultural Director; Pamela Cubbler, Colfax-Todds Valley Consolidated Tribe Treasurer; Regina Cuellar, Shingle Springs Band of Miwok Indians Chairperson; Rhonda Morningstar Pope, Buena Vista Rancheria of Me-Wuk Indians Chairperson; Clyde Prout, Colfax-Todds Valley Consolidated Tribe Chairperson; Don Ryberg, Tsi Akim Maidu Chairperson; and Cosme A. Valdez, Nashville Enterprise Miwok-Maidu-Nishinam Tribe Chairperson. These letters provided information on the project and

requested that the recipients notify DWR if they have any concerns regarding the project and effects to cultural resources. To date DWR has not received any replies from these individuals. Documentation of the project correspondence with Native American representatives to date is included in the cultural resources technical report, in Appendix C.

Field Survey

Reconnaissance Survey

On November 11, 2019, ESA conducted a cultural resources survey of the Steamboat Slough and Georgiana Slough staging areas. The survey used reconnaissance methods, consisting of inspecting the staging area riverbanks from a boat at a distance of approximately 10 meters as well as inspecting the staging areas from public road right-of-way. The ground surface surveyed remotely for cultural material (archaeological or architectural) or evidence thereof. Specific attention was given to the Georgiana Slough staging area, where P-34-000356 had been previously recorded within the C-APE. During the survey, ground visibility at the Steamboat Slough staging area was approximately 50 percent, while that at the southern staging area at the Georgiana Slough staging area was approximately 15 percent. The Steamboat Slough staging area includes the area surrounding and under the north side of the Steamboat Slough Bridge and consists of a small slope with grasses and trees and a sandy riverbank/beach. The Georgiana Slough staging area consists of a densely vegetated riprap-lined bank. During the reconnaissance survey, no cultural resources, including any evidence of P-34-000356, which had been previously mapped within the C-APE, were identified in the C-APE.

Pedestrian Survey

On December 10, 2020, ESA conducted a pedestrian survey of the Georgiana Slough staging area. During the survey, intensive pedestrian methods were used, consisting of walking the ground surface in parallel transects no greater than 5 meters apart in accessible areas and inspecting the ground surface for evidence of cultural material. Particular attention was given to slopes/banks and informal trails, where exposed soil was present. Notes and photographs were recorded in the same fashion as with the reconnaissance survey. During the survey, ground visibility ranged from 5 to 40 percent, as dense vegetation and duff were present in many areas. Ground visibility along the Sacramento River bank portion of the staging area (where previous archaeological excavations had been conducted) averaged 25 percent. The areas on either side of the existing gravel drive in the southern portion of the staging area were not surveyed due to extremely dense vegetation. As observed during the reconnaissance survey at the Georgiana Slough staging area, the staging area consists of graveled paths and drives, some heavily vegetated areas, and rip-rap-lined river banks. During the pedestrian survey, no cultural resources, including any evidence of P-34-000356, which had been previously mapped within the C-APE, were identified in the C-APE.

Summary of Cultural Resources Identified

The cultural resources study for the proposed project identified one cultural resource, Native American archaeological site P-34-000356, in the C-APE, at the Georgiana Slough staging area. Although previously recorded architectural resources P-34-001610 and P-34-004293 are mapped within the horizontal C-APE, they are not within the vertical C-APE. P-34-000356 was not

previously evaluated for California Register-eligibility, but was determined to be a California Register-eligible TCR as a result of Tribal consultation efforts conducted for the proposed project; this is discussed in more detail in Section 3.18, *Tribal Cultural Resources*. Therefore, P-34-000356 is considered an historical resource, under CEQA, for the purposes of the proposed project. In summary, one potential historical resource, P-34-000356, has been identified in the C-APE.

3.5.2 Discussion

The following analysis describes archaeological resources, both as historical resources, according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources, as defined in Public Resources Code Section 21083.2(g), under Question b).

a) *No Impact.* No architectural resources were identified in the C-APE through background research and field surveys for the proposed project. As such, there are no known historical resources, as defined in CEQA Guidelines Section 15064.5, in the C-APE. Therefore, the proposed project would result in no impact on historical resources, and no mitigation is required.

b) *Less-than-Significant Impact with Mitigation*. No shipwrecks and other submerged cultural resources have been identified in the C-APE. One archaeological resource, P-34-000356, has been identified in the C-APE. P-34-000356 was not previously evaluated for California Register-eligibility, but was determined to be a California Register-eligible TCR as a result of Tribal consultation efforts conducted for the proposed project. Therefore, P-34-000356 is considered an historical resource, under CEQA, for the purposes of the proposed project. In summary, one historical resource, P-34-000356, has been identified in the C-APE.

Archaeological material at P-34-000356 appears to be at depths of 150 centimeters and greater, with intact deposits only at depths of 230 centimeters or greater. This is supported by pedestrian surveys conducted for the proposed project and in 2010, which both resulted in no archaeological material identified. Despite this, the reporting on the previous excavations (Soule 1976) was somewhat vague regarding disturbed deposits, and suggested that some such deposits may be present at the site at shallower depths (than 150 centimeters). The vertical C-APE at the mapped location of P-34-000356 is 0 feet, except at the utility pole replacement and service pole installation locations, where the vertical C-APE is 10 feet; therefore, the only portion of the C-APE where P-34-000356 is mapped is from approximately 4.5 to 10 feet at the proposed utility pole replacement and service pole installation locations. The previous archaeological excavations at the site did not include systematic boundary determination through excavation, thus it is unclear whether the archaeological material associated with the site is actually present at the utility pole replacement and service pole installation locations. However, the potential for the proposed project to result in significant impacts to P-34-000356 is negligible for the following reasons: (1) much, if not all, of the soil that would be disturbed has likely been previously disturbed by the installation of the existing utility pole; and (2) no grading or

ground-disturbing activities other than the utility pole replacement and service pole installation would occur.

Although the proposed project is not anticipated to impact any archaeological resources, including P-34-000356, the proposed project would involve ground-disturbing activities within the site boundary of P-34-000356. It is possible that such activities could unearth, expose, or disturb subsurface archaeological resources that have not been identified on the surface or during previous archaeological excavations. Because previously unrecorded archaeological deposits associated with P-34-000356 could be present in the C-APE, if any intact deposits were encountered, they could contribute to the significance of P-34-000356. Any impacts of the proposed project on such deposits could be potentially significant to historical resources, pursuant to CEQA Guidelines Section 15064.5.

Such potentially significant impacts would be reduced to less than significant with mitigation incorporated by implementing Mitigation Measures CUL-1 to CUL-5.

Mitigation Measure CUL-1: Conduct Pre-construction Cultural Resources Awareness and Sensitivity Training. Prior to project construction, a qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards (SOI PQS) for Archeology and with expertise in California archaeology, in coordination with culturally affiliated California Native American Tribes, shall develop a Cultural Resources Awareness and Sensitivity Training Program for all construction and field workers involved in project ground-disturbing activities. The program shall include a presentation that covers, at a minimum, the types of cultural resources common to the area, regulatory protections for cultural resources, and the protocol for unanticipated discovery of archaeological resources (see Mitigation Measure CUL-3). Written materials associated with the program shall be provided to project personnel as appropriate. Personnel working in areas of project ground-disturbing activities shall receive the training prior to working in these areas.

Mitigation Measure CUL-2: Conduct Archaeological Subsurface Survey at P-34-000356. Before the start of removal and replacement of the existing power pole, and installation of the new service pole at the Georgiana Slough staging area, a qualified archaeologist, defined as one meeting the SOI PQS for Archeology and with expertise in California archaeology, accompanied by a United Auburn Indian Community compensated Tribal Monitor, shall conduct up to three 4-inch-diameter hand auger excavations to the depth of the proposed ground disturbance within a 10-foot-diameter of each the existing pole and proposed service pole location. Excavated sediments shall be screened through 1/8-inch wire mesh. Any artifacts recovered shall be recorded and returned to the auger units. This effort will clarify the extent of the site and provide context for the monitoring efforts.

Mitigation Measure CUL-3: Conduct Archaeological and Tribal Monitoring at P-34-000356. An archaeologist meeting, or supervised by an archaeologist meeting, the Secretary of the Interior's Professional Qualifications Standards for Archeology, in addition to a United Auburn Indian Community compensated Tribal Monitor shall conduct construction monitoring for all initial project construction activities (equipment mobilization/delivery), utility pole replacement, and service pole installation at the Georgiana Slough staging area. The conduct and work of any

Tribal Monitor shall be consistent with the California Native American Heritage Commission (NAHC) *Guidelines for Native American Monitors/Consultants* (NAHC, 2005). If discovery of any potential intact archaeological deposits or human remains is made during monitoring, the procedures set forth in Mitigation Measures CUL-4 and CUL-6 shall be followed. If discovery of any potential tribal cultural resources is made during monitoring, the procedures set forth in Mitigation Measure TRI-2 shall be followed.

Mitigation Measure CUL-4: Unanticipated Discovery Protocol for Native American or Historic-era Archaeological Resources. If Native American or historic-era archaeological resources are encountered during project construction or operation, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. DWR and its qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology and with expertise in California archaeology, shall be immediately informed of the discovery. The qualified archaeologist shall inspect the discovery. Native American archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include building or structure footings and walls, and deposits of metal, glass, and/or ceramic refuse. If the qualified archaeologist determines that the resource is or is potentially Native American in origin, culturally affiliated California Native American Tribes shall be contacted to assess the find and determine whether it is potentially a tribal cultural resource.

If DWR determines, based on recommendations from the qualified archaeologist and culturally affiliated California Native American Tribes, if the resource is Native American, that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5), or a tribal cultural resource (as defined in Public Resources Code Section 21074), the resource shall be avoided if feasible. Avoidance means that no activities associated with the project that may impact cultural resources shall occur within the boundaries of the resource or any defined buffer zones. DWR shall determine whether avoidance is feasible considering factors such as the nature of the find, project design, costs, and other considerations.

If avoidance is not feasible, DWR shall consult with its qualified archaeologist, culturally affiliated California Native American Tribes, if the resource is Native American, and other appropriate interested parties to determine treatment measures to minimize or mitigate any potential impacts to the resource pursuant to Public Resources Code Section 21083.2 and CEQA Guidelines Section 15126.4.

Any treatment measures implemented shall be documented in a professional-level technical report (e.g., Archaeological Testing Results Report, Archaeological Data Recovery Report, Ethnographic Report), authored by a qualified archaeologist, to be filed with the California Historical Resources Information System (CHRIS). Project construction work at the location of the find may commence upon completion of the approved treatment and authorization by DWR. Work may proceed in other parts of the project area while the mitigation is being carried out.

If, during project implementation, DWR determines that portions of the CEQA Area of Potential Effects (C-APE) may be sensitive for archaeological resources or tribal cultural resources, DWR may authorize construction monitoring of these locations by an archaeologist and Tribal Monitor. Any monitoring by a Tribal Monitor shall be done under agreements between DWR and culturally affiliated California Native American Tribes.

Mitigation Measure CUL-5: Unanticipated Discovery Protocol for Submerged Cultural Resources. If a shipwreck, and associated artifacts, or other cultural resource on or in the tide and submerged lands of California is encountered during project development or operation, Mitigation Measure CUL-4 shall be implemented, in addition to the following:

- DWR shall initiate consultation with California State Lands Commission (SLC) staff within 2 business days of the discovery.
- Per Public Resources Code Section 6313(c), any submerged cultural resource remaining in State waters for more than 50 years is presumed to be archaeologically or historically significant.
- The qualified archaeologist assessing the find shall have expertise in maritime archaeology if the find is a maritime archaeological resource.
- DWR shall consult with the SLC regarding assessment of the find and development of any treatment measures to minimize or mitigate potential impacts on the resource, pursuant to Public Resources Code Section 21083.2 and CEQA Guidelines Section 15126.4.
- DWR shall submit to the SLC any report prepared for the resource as part of the assessment of the find and implementation of treatment measures to minimize or mitigate potential impacts.

c) *Less-than-Significant Impact with Mitigation.* No human remains have been identified in the C-APE through archival research, field surveys, or Native American consultation or correspondence, including with the NAHC. The land use designations for the C-APE do not include cemetery uses. Therefore, the proposed project is not anticipated to disturb any human remains.

However, since the nature of the proposed project would involve ground-disturbing activities, including within a known archaeological site with human remains, though no human remains have been identified at the locations where ground-disturbing activities would occur, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. In the event that human remains are discovered during proposed project construction activities, impacts on the human remains resulting from the proposed project would be significant if those remains are disturbed or damaged.

Impacts would be reduced to less than significant with mitigation incorporated by implementing Mitigation Measures CUL-4 to CUL-6, which would require construction workers in the area to cease work and follow appropriate State law if human remains are discovered.

Mitigation Measure CUL-6: Unanticipated Discovery Protocol for Human Remains. If human remains are uncovered during project construction, all work shall immediately halt within 100 feet of the find and the Sacramento County Coroner shall be contacted to evaluate the remains and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the County Coroner determines that the remains are Native American, the County shall contact the California Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5(c) and Public Resources Code Section 5097.98. Per Public Resources Code Section 5097.98, DWR shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until DWR has discussed and conferred with the most likely descendant (MLD) regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the MLD is not responsive in the given amount of time, DWR may request that United Auburn Indian Community treat and reinter the human remains with the appropriate dignity and cultural protocols.

3.6 Energy

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.6.1 Environmental Setting

Pacific Gas and Electric Company (PG&E) is responsible for the generation, transmission, and distribution of electricity and the procurement, storage, and distribution of natural gas to its 70,000-square-mile Northern and Central California service area, which includes the area immediately surrounding the project site in the Sacramento River. PG&E maintains approximately 5.3 million electric distribution accounts and 4.4 million natural gas accounts, serving nearly 16 million people (PG&E 2014). The company is bound by contract to meet any additional energy demand. In 2017, PG&E obtained its energy from the following sources: nuclear (27 percent), natural gas (20 percent), large hydroelectric (18 percent), solar (13 percent), wind (8 percent), geothermal (5 percent), biomass and waste (4 percent), and small hydroelectric (3 percent) (PG&E 2018). Approximately 33 percent of PG&E's energy portfolio is from eligible renewable resources. Two percent of PG&E's energy was from "unspecified" sources, a designation required by Section 398.2(d) of the Public Utilities Code if power is obtained through transactions and is not traceable to specific generation sources.

Gasoline makes up the vast majority of transportation fuel usage in California, with 97 percent of all gasoline consumed by light-duty cars, pickup trucks, and sport utility vehicles (CEC 2019a). Diesel fuel is the next most frequently used transportation fuel used in California, representing 17 percent of total fuel sales. Nearly all heavy-duty trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, construction equipment, and heavy-duty military vehicles have diesel engines. Diesel is popular for heavy-duty usage because it has 12 percent more energy per gallon than gasoline and has fuel properties that prolong engine life, making it ideal for heavy-duty vehicle applications (CEC 2019b). According to the State Board of Equalization, approximately 15.6 billion gallons of gasoline, including aviation gasoline, and 3.1 billion gallons of diesel, including off-road diesel, were sold in California in 2018 (BOE 2019a, 2019b).

3.6.2 Discussion

Consistent with Public Resources Code Section 21100(b)(3), this impact analysis evaluates the potential for the proposed project to result in a substantial increase in energy demand and wasteful use of energy during construction, operation, and maintenance. The impact analysis is informed by Appendix G of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether estimates of construction energy use by the proposed project would be considered excessive, wasteful, or inefficient.

a) *Less-than-Significant Impact.* The analysis in this section uses the energy input assumptions used to complete the analyses from Section 3.3, *Air Quality*, and Section 3.8, *Greenhouse Gas Emissions*. Because the California Emissions Estimator Model (CalEEMod) program used for those analyses does not quantify in the output file the fuel volume or type for construction-related sources, additional calculations were completed. Calculations of fuel use during construction activity are provided in Appendix A. The proposed project does not include an operational component; thus, operational energy use is not included in this analysis.

Construction of the proposed project would result in fuel consumption from the use of tools and equipment, mobilization of equipment and materials, vehicle trips by workers traveling to and from the project site, and the use of work boats and tugboats. Over the course of the project period, construction activity is expected to consume approximately 300,955 gallons of diesel fuel from equipment and vehicles, mobilization to the site, and tugboat operation and approximately 18,924 gallons of gasoline from worker transportation and work boat operation. For reference, approximately 94 million gallons of diesel and 586 million gallons of gasoline were sold in Sacramento County in 2018 (CEC 2019c). Construction activities and corresponding fuel energy consumption would be temporary and localized, and because the proposed project has no operational component, energy consumption would cease at the end of the 8-year project period. Based on this comparison, with its relatively low consumption of fuel and short-term nature, the proposed project would not result in inefficient, wasteful, or unnecessary energy use compared with energy use for other projects in the region. This impact would be less than significant.

b) *No Impact.* To address energy usage from heavy-duty construction vehicles, EPA and the National Highway Traffic Safety Administration established a comprehensive Heavy-Duty National Program that would reduce greenhouse gas emissions from and increase the fuel efficiency of on-road heavy-duty vehicles beginning with model year 2014 (EPA and NHTSA 2011). CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation also requires that diesel trucks operating in California be upgraded to reduce emissions, so that nearly all trucks would have 2010 model year engines or equivalent by 2023 (CARB 2018). Vehicles used during construction would already incorporate these standards; therefore, the proposed project would not impede the efficient use of fuel for heavy-duty vehicles. Off-road construction equipment would be subject to regulations for off-road equipment such as Tier 4 standards or the Off-Road Regulation implemented by CARB, and would therefore not impede the implementation of CARB's energy efficiency programs. In addition, there would be no operational phase; thus, heavy-duty diesel equipment would not be used after completion of the 8-year project period. As a result, the proposed project would not conflict with the implementation of fuel efficiency plans.

With regard to energy usage by light-duty vehicles, as described above, the National Highway Traffic Safety Administration required manufacturers of light-duty vehicles to meet an estimated combined average fuel economy level for passenger cars and light trucks of 34.1 miles per gallon by model year 2016. In the course of more than 30 years,

the National Energy Conservation Policy Act's regulatory program has resulted in improved fuel economy throughout the United States' vehicle fleet, and has protected against the inefficient, wasteful, and unnecessary use of energy. Regardless of the uncertainty about fleet-wide emissions past 2021, projected fleet-wide fuel economy for light-duty vehicles is expected to reach 41.7 miles per gallon by 2020 (EPA 2012; NHTSA and EPA 2018). In addition, CARB's Advanced Clean Cars Program would continue to improve fuel efficiency and reduce gasoline use by promoting an increase in the number of zero-emission vehicles and plug-in hybrid electric vehicles. Vehicles used by project construction workers would already incorporate these standards and programs; therefore, the proposed project would not impede the efficient use of fuel for light-duty vehicles.

Because the proposed project would have relatively low energy demand and would comply with fuel and energy-efficiency regulations, it would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. No impact would occur.

3.7 Geology and Soils

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.7.1 Environmental Setting

The project site and staging areas are all located in the Great Valley Geomorphic Province of California. The Great Valley is drained by the Sacramento and San Joaquin rivers, which join and flow out of the province through San Francisco Bay. This geomorphic province is an asymmetric trough approximately 400 miles long and 50 miles wide, filled with a thick sequence of sediments ranging from Jurassic (180 million years Before Present [B.P.]) to recent age (CGS 2002). The sediments in the Great Valley vary from 3 to 6 miles in thickness and were derived primarily from erosion of the Sierra Nevada to the east, with lesser amounts of material from the Coast Ranges to the west.

The project site and staging areas are located south of Sacramento, in the northern reaches of the Delta. Most of the sediments in the Delta were deposited between 175 million and 25 million years B.P. and were accumulated in marine environments. Younger deposits (25 million years B.P. to recent) generally are described as nonmarine; however, some of the younger deposits may have formed as marine deposits in shallow seas and estuaries (Atwater 1982). The depositional

history of the Delta during the late Quaternary period (the last 1 million years) probably was controlled by several cycles related to fluctuations in regional and global climate in which each cycle consisted of a period of deposition followed by a period of nondeposition and erosion (Atwater 1982). Thus, the Delta during the late Quaternary period had stages of wetlands and floodplain creation as tidewaters rose in the Central Valley from the west, areas of erosion when tidewaters receded, deposition of alluvial fans that were reworked by wind to create extensive sand dunes, and alluvial fan deposition from streams emanating from the adjacent mountain ranges (Atwater 1982).

From 70,000 to 11,700 years B.P., sea level may have been as much as 365 feet below the present-day level. During this time, the Delta was a fluvial and alluvial system, where fast-moving rivers deposited coarse-grained sediments in alluvial fans and channels. During the Holocene (11,700 years B.P. to present day), sea levels rose, flooding San Francisco Bay and the Delta. In the initial flood stages, fine-grained silty sands and clayey silts were deposited in shallow bays (Atwater 1982). As conditions in the Delta became conducive to plant growth over time, organic sediments mainly made of peat began to accumulate above the silt that previously had been deposited. After the plants became established, their growth and decay led to repeated cycles of peat deposition. The thickest deposits likely occurred at the sites of major Pleistocene-age drainage ways. Over thousands of years, the process of peat deposition led to the formation of peat islands, with river channels and sloughs around the islands. During flood events, rivers would flow over their banks and form natural levees of sand and silt along the edges of the islands. Many of the existing levees in the Delta are located at the sites of these older, natural levees (Ingebritsen et al. 2000). Geologists commonly use the age of offset rocks as evidence of fault activity—the younger the displaced rocks, the more recently earthquakes have occurred. To evaluate the likelihood that a fault would produce an earthquake, geologists examine the magnitude and frequency of recorded earthquakes and evidence of past displacement along a fault. The California Geological Survey (CGS) defines an active fault as one that has had surface displacement within Holocene time (within the last 11,000 years; the U.S. Geological Survey [USGS] uses within the last 15,000 years). A Quaternary fault is defined as a fault that has shown evidence of surface displacement during the Quaternary period (the last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that a fault lacking evidence of surface displacement is necessarily inactive. The term “sufficiently active” is also sometimes used to describe a fault if there is some evidence that Holocene displacement has occurred on one or more of its segments or branches (CGS 2007).

For the purpose of delineating fault rupture zones, the CGS historically sought to zone faults defined as potentially active, which are faults that have shown evidence of surface displacement during the Quaternary period (the last 1.6 million years). In late 1975, the State Geologist made a policy decision to zone only those faults that had a relatively high potential for ground rupture, determining that a fault should be considered for zoning only if it was sufficiently active and “well defined.”[5] Faults that are confined to pre-Quaternary rocks (more than 1.6 million years old) are considered inactive and incapable of generating an earthquake.

[5] A well-defined fault has a clear trace detectable by a trained geologist as a physical feature at or just below the ground surface.

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting in structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and has published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults and must be set back from the fault (generally 50 feet). Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace because many active faults are complex and consist of more than one branch that may experience ground surface rupture. The project site and staging areas are not located within an Alquist-Priolo Special Studies Zone and there are no underlying active earthquake faults (DOC 2019a, 2019b). According to the California Department of Conservation (DOC) (2016) earthquake shaking potential for California, the project site is located in areas distant from known, active faults and will experience lower levels of shaking less frequently. **Table 3.7-1** shows the closest seismic sources and their activity levels. The project site and staging areas are not in areas known by the DOC for liquefaction or landslides (2019b).

TABLE 3.7-1
SEISMIC SOURCES IN THE VICINITY OF THE PROPOSED PROJECT

Fault Name	Approximate Distance from Steamboat Slough Project Site	Approximate Distance from Georgiana Slough Project Site	Activity Level
Midland	8 miles west	8 miles east	No activity in the last 1.6 million years
Rio Vista	10 miles southwest	10 miles west	Activity in the last 1.6 million years
Vaca–Kirby Hills	16 miles southwest	10 miles west	Activity in the last 700,000 years
Davis	22 miles southwest	20 miles southwest	Activity in the last 1.6 million years
Greenville-Clayton–Marsh Creek	30 miles southwest	26 miles southwest	Two magnitude 5.8 earthquakes in 1980

Source: DOC 2010

3.7.2 Discussion

a.i) *Less-than-Significant Impact.* Damage from surface fault rupture is generally limited to a linear zone that is a few yards wide. No active faults have been mapped within or immediately adjacent to the project site (Table 3.7-1). The closest Alquist-Priolo earthquake fault zone—the Greenville Fault Zone—is approximately 26 miles southwest of the Georgiana Slough project site and 30 miles southwest of the Steamboat Slough staging area (DOC 2010). Therefore, surface fault rupture at the project site is unlikely to occur, and the impact would be less than significant.

a.ii) *Less-than-Significant Impact.* Two magnitude 5.8 earthquakes occurred along the Greenville segment of the Greenville Fault Zone in 1980. The Working Group on

California Earthquake Probabilities (2015) estimates there is a 4.14 percent probability that an earthquake with a magnitude greater than 6.7 will occur on the Greenville Fault Zone within the next 30 years. Although this fault is located approximately 26 miles southwest of the Georgiana Slough project site and DCC staging area and 30 miles southwest of the Steamboat Slough staging area, and 40 miles southwest of the Hood staging area, strong seismic ground shaking could still occur at the project site from seismic activity on the Greenville Fault Zone or on other faults in the Coast Ranges. However, as described in Chapter 2, *Project Description*, the fish barrier would be held in place using up to 31 steel piles and four concrete pier blocks. Because the barrier has been appropriately designed and engineered for stability in the event of strong seismic ground shaking, the impact would be less than significant.

a.iii) *Less-than-Significant Impact.* Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer that is saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. Saturated, Holocene-age, uncompacted fill material located close to an active fault has a higher potential to liquefy. Liquefaction poses a hazard to engineered structures. The loss of soil strength can result in bearing capacity insufficient to support foundation loads, increased lateral pressure on retaining walls, and slope instability.

The soils at the project site is composed of Holocene-age soft silts, clays, and peat deposits. Therefore, strong seismic ground shaking could result in liquefaction and lateral spreading. However, the fish barrier would be anchored in stable bedrock via steel piles and concrete pier block supports. Therefore, the barrier has been appropriately designed for stability in the event of liquefaction, and the impact would be less than significant.

a.iv) *No Impact.* The project site, staging areas, and fish release locations are not located in areas subject to landslides. The proposed construction activities would have no effect on the potential for landslides to occur. Therefore, no impact would occur.

b) *Less-than-Significant Impact.* As described in Chapter 2, *Project Description*, a Water Quality Control Plan, a Spill Prevention and Control Program, and a Hazardous Materials Management Program would be prepared before and would be implemented during all construction activities. The plan and programs would include site-specific best management practices to control erosion, sedimentation, runoff, and accidental spills from construction equipment such as over-water fueling. In addition, DWR would monitor turbidity during in-water sediment-disturbing and major maintenance activities to ensure that turbidity levels do not exceed those conditions described in the 401 Water Quality Certification issued by the Central Valley Regional Water Quality Control Board. DWR also would limit the number of land-based access routes, and the size of the construction area would be limited to the minimum space necessary. Access routes would be restricted to established roadways. Furthermore, all disturbed areas would be restored after construction. Therefore, the impact would be less than significant.

c) *Less-than-Significant Impact.* The fish barrier and monitoring equipment would be constructed within the river channel. Generally, Delta riverbed soils are composed of soft peaty mud and therefore could be subject to lateral spreading, subsidence, and liquefaction. However, the barrier would be anchored to stable bedrock via steel piles and concrete pier block supports, and therefore have been appropriately designed for stability. The hydrophones would be attached to tower mounts to keep them fixed during the monitoring period. Therefore, the impact would be less than significant.

d) *Less-than-Significant Impact.* Although the fish barrier and associated monitoring equipment may be located on expansive soils, the proposed project would not increase risks to life or property. The barrier would be located in the river channel and would be anchored to stable bedrock via steel piles and concrete pier block supports, and therefore has been appropriately designed for expansive soils. Therefore, the impact would be less than significant.

e) *No Impact.* Portable restroom facilities would be used during construction activities. The proposed project would not include permanent restroom facilities or wastewater treatment. Therefore, no impact would occur.

f) *No Impact.* The project site and staging areas consist of Holocene-age (11,700 years B.P. to present day) natural levee deposits and hydraulically dredged mud, which is common along the Sacramento River and the associated sloughs in southwestern Sacramento County (Dupras 1999: Plate 1; Wagner et al. 1987). By definition, to be considered a fossil, a resource must be more than 11,700 years old. Holocene deposits contain only the remains of extant, modern taxa (if any resources are present), which are not considered "unique" paleontological resources. This formation is not considered to be paleontologically sensitive, and project-related ground-disturbing activities would have no effects on unique paleontological resources. Therefore, no impact would occur.

3.8 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐

3.8.1 Environmental Setting

Certain gases in the Earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters Earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation (i.e., thermal heat) is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth.

Global warming is the name given to the increase in the average temperature of Earth's near-surface air and oceans since the mid-20th century. Increases in the GHG concentrations in Earth's atmosphere are thought to be the main cause of human-induced climate change. As discussed above, some GHGs occur naturally and are necessary for keeping Earth's surface habitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature. GHG emissions from human activities are highly likely to be responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (IPCC 2013).

The principal anthropogenic (human-caused) GHGs are carbon dioxide (CO_2), methane, nitrous oxide, sulfur hexafluoride, perfluorocarbons, and hydrofluorocarbons. Each of the principal GHGs has a long atmospheric lifetime (1 year to several thousand years). In addition, the potential heat-trapping ability of each of these gases varies substantially from the others. For example, methane is 23 times as potent as CO_2, whereas sulfur hexafluoride is 22,200 times more potent than CO_2. GHGs have been reported as CO_2 equivalents (CO_2e). This approach takes into account the relative potency of non-CO_2 GHGs to convert their quantities to an equivalent amount of CO_2 so that all emissions can be reported as a single quantity.

The primary human-made processes that release these gases are the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release methane, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high global warming potential gases, such as sulfur hexafluoride,

perfluorocarbons, and hydrofluorocarbons. Deforestation and land cover conversion also have been identified as contributing to global warming by reducing Earth's capacity to remove CO_2 from the air and altering Earth's albedo (or surface reflectance), allowing more solar radiation to be absorbed.

3.8.2 Discussion

Any single project would be unlikely to create a significant GHG impact. However, the cumulative effect of human activities has been clearly linked to quantifiable changes in the composition of the atmosphere, which in turn have been shown to be the main cause of global climate change (IPCC 2013). Therefore, this section addresses the environmental effects of GHG emissions from the proposed project cumulatively.

a) *Less-than-Significant Impact.* The proposed project does not include an operational component[6]; thus, long-term, operational emissions are not included in this analysis. However, construction of the proposed project would generate GHG emissions from a variety of sources, including off-road construction equipment, on-road worker and vendor vehicles, vessels, and generators. For this analysis, emissions from land-based construction emissions sources were estimated using the most recent version of CalEEMod, Version 2016.3.2. Emissions resulting from water-based construction emissions sources (i.e., tugboats, work boats) were estimated separately and summed with the results of the CalEEMod model.

   As discussed in Section 3.3, *Air Quality*, the project site falls within the jurisdiction of SMAQMD, which has adopted construction GHG significance thresholds of 1,100 metric tons of CO_2 equivalent ($MTCO_2e$) per year (SMAQMD 2015). As shown in **Table 3.8-1**, GHG emissions associated with the proposed project were estimated for each year of construction. The maximum annual GHG emissions generated by construction of the proposed project were estimated to be approximately 281 $MTCO_2e$, well below the SMAQMD threshold. Therefore, the proposed project's impact with respect to generation of GHG emissions would be less than significant.

[6] An operational phase, in the context of a GHG analysis, is one that emits pollutants long-term. By this definition, the proposed project does not include an operational phase; however, operation of the BAFF would occur during the project period. Any emissions resulting from operation of the barrier are considered construction-related emissions because of their short-term nature.

TABLE 3.8-1
PROJECT CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	CO_2e (MT/year)
2022	67
2023	281
2024	281
2025	280
2026	280
2027	279
2028	278
2029	278
2030	237
SMAQMD Threshold	**1,100**
Maximum Emissions	**281**
Significant (Yes or No)?	**No**

NOTES:
CO_2e = carbon dioxide equivalent; MT/year = metric tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

Project construction emissions were estimated using the California Emissions Estimator Model, Version 2016.3.2. See Appendix A for model outputs and more detailed assumptions.

Source: Data compiled by Environmental Science Associates in 2020

b) *Less-than-Significant Impact with Mitigation.* In May 2012, DWR adopted the Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan (GGERP), which details DWR's efforts to reduce its GHG emissions consistent with Executive Order S-3-05 and Assembly Bill 32 (DWR 2012). DWR also adopted the IS/Negative Declaration prepared for the GGERP under CEQA. Both the GGERP and the IS/Negative Declaration are incorporated herein by reference. The GGERP provides estimates of historical (back to 1990), current, and future GHG emissions for operations, construction, maintenance, and business practices (e.g., building-related energy use). The GGERP specifies aggressive goals for reducing GHG emissions by 2020 and 2050 and identifies a list of measures to achieve these goals.

DWR prepared its GGERP as a "plan for the reduction of GHG emissions" in compliance with CEQA Guidelines Section 15183.5. That section provides that such a plan, which must meet certain specified requirements, "may be used in the cumulative impacts analysis of later projects." Global climate change, by its very nature, is a global cumulative impact; thus, an individual project's compliance with a qualifying GHG reduction plan may suffice to mitigate the project's incremental contribution to that cumulative impact to a level that is not "cumulatively considerable." (See CEQA Guidelines Section 15064[h][3].)

More specifically, "[l]ater project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG

emissions reduction plan. “An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project.” (CEQA Guidelines Section 15183.5[b][2].)

Section 12 of the GGERP outlines the steps that each DWR project will take to demonstrate its consistency with the GGERP:

(1) Analyze GHG emissions from construction of the proposed project.

(2) Determine that the construction emissions from the project do not exceed the levels of construction emissions analyzed in the GGERP.

(3) Incorporate DWR’s project-level GHG emissions reduction strategies into the design of the project.

(4) Determine that the project does not conflict with DWR’s ability to implement any of the “Specific Action” GHG emissions reduction measures identified in the GGERP.

(5) Determine that the project would not add electricity demands to the State Water Project (SWP) system that could alter DWR’s emissions reduction trajectory in such a way as to impede its ability to meet its emissions reduction goals.

Appendix A presents the GGERP Consistency Determination Checklist and emissions estimates for project construction, documenting that the proposed project has met the required elements of the GGERP. Because the proposed project would not result in emissions that could adversely affect DWR’s ability to achieve its GHG emissions reduction goals, it would be considered consistent with the GGERP if it implements the applicable measures in GGERP Construction Measure 1 (CO-1). Consequently, Mitigation Measure GHG-1, below, identifies the BMPs applicable to the project to ensure consistency with the GGERP. With implementation of Mitigation Measure GHG-1, the proposed project would have a less-than-significant impact with respect to a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be less than significant with mitigation incorporated.

Mitigation Measure GHG-1: Implement DWR Greenhouse Gas Emissions Reduction Plan Best Management Practices for Construction Practices. The following GGERP BMPs shall be implemented as part of construction activities associated with the project, as applicable.

- Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high-efficiency technologies are appropriate and feasible for the project or specific elements of the project.

- Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.

- Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.
- Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.
- Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.
- Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an Air Quality Control Plan prior to commencement of construction.
- Implement a tire inflation program on the jobsite to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and every 2 weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an Air Quality Management Plan prior to commencement of construction.
- Develop a project-specific ride share program to encourage carpools and shuttle vans for construction worker commutes.
- Reduce electricity use in temporary construction offices by using high-efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air, conditioners, heaters, and other equipment each day at close of business.
- For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box type trailer is used for hauling, a SmartWay certified truck will be used to the maximum extent feasible.
- Develop a project-specific construction debris recycling and diversion program to achieve a documented 50 percent diversion of construction waste.
- Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution minimize, to the extent possible, uses of public roadways that would increase traffic congestion.

3.9 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Environmental Setting

Materials and waste are considered hazardous if they are poisonous (toxicity); can be ignited by open flame (ignitability); corrode other materials (corrosivity); or react violently, explode, or generate vapors when mixed with water (reactivity). The term "hazardous materials" is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.[7] In some cases, past uses can result in spills or leaks of hazardous materials to the ground, contaminating soil and groundwater. The use, storage, transportation, and disposal of hazardous materials are subject to numerous federal, State, and local laws and regulations.

Information about hazardous materials sites in the project area was collected by conducting a review of the California Environmental Protection Agency's (CalEPA) Cortese List Data Resources (Cortese List) and the State Water Board's GeoTracker list. The Cortese List includes data resources that provide information about the facilities or sites identified as meeting the Cortese List requirements. The Cortese List is updated at least annually, in compliance with

[7] State of California, Health and Safety Code, Chapter 6.95, Section 25501(n).

California regulations (California Code Section 65962.5[a][4]) and includes federal superfund sites, State response sites, non-operating hazardous waste sites, voluntary cleanup sites, and school cleanup sites. The GeoTracker list includes underground storage tanks (USTs). Based on a review of the Cortese List conducted in November 2019, two cleanup program sites are located near the Georgiana Slough project site and DCC staging area. One site is approximately 1,600 feet south of the Georgiana project site (Nutrien Ag Solutions Crop Production Service, Walnut Grove) and the other is approximately 1,300 feet northwest (Former BC Stocking Terminal) (DTSC 2019). The Former BC Stocking Terminal is approximately 700 feet from the DCC staging area and is eligible for closure (DTSC 2019). No listed sites are located within 1 mile of the Hood, Sutter Slough, or Steamboat Slough staging areas (DTSC 2019).

The closest school to Georgiana Slough project site and the DCC staging area is Walnut Grove Elementary, 800 feet from the Georgiana Slough project site and 1,900 feet from the DCC staging area. The closest school to the Hood staging area is Franklin Elementary School, which is approximately 3.4 miles to the east. There are no schools within 5,000 feet of the Sutter Slough or Steamboat Slough staging areas.

The nearest public airport, Franklin Field, is approximately 6.15 miles southeast of the Hood staging area, approximately 7.35 miles east of the Sutter Slough and Steamboat Slough staging areas, approximately 5.55 miles northeast of the DCC staging area, and approximately 5.95 miles northeast of the Georgiana Slough project site.

The Georgiana Slough project site and staging areas are all located within a Local Responsibility Area (LRA) and designated as Non-Very High Fire Hazard Severity Zone (Non-VHFHSZ) (CAL FIRE 2019).

3.9.2 Discussion

a) *Less-than-Significant Impact.* Construction activities associated with the proposed project would be performed within approximately 30 to 60 days, and removal would take approximately 30 days and would occur up to one time (installation and removal) each year during the 8-year project period. Construction activities would likely require the use of limited quantities of hazardous materials such as fuels for construction equipment, oils, and lubricants. The improper use, storage, handling, transport, or disposal of hazardous materials could result in accidental release of hazardous materials, thereby exposing construction workers, the public, and the environment (including soil and/or ground or surface water) to hazardous materials contamination. The transportation of hazardous materials on area roadways is regulated by the California Highway Patrol (CHP) and California Department of Transportation (Caltrans), and the use of these materials is regulated by the California Department of Toxic Substances Control (DTSC), as outlined in Title 22 of the California Code of Regulations (CCR). DWR would obtain permits and comply with appropriate regulatory agency standards designed to avoid release of hazardous materials during any activities that would use or store hazardous materials. Compliance with these laws and requirements would ensure that potential impacts would be minimized. Also, as described in Chapter 2, *Project Description*, a Water Quality Control Plan, a Spill Prevention and Control Program, and a Hazardous Materials

Management Program would be prepared before and implemented during all construction activities. DWR would adhere to the standard construction best management practices described in the California Stormwater Quality Association (CASQA) – 2015 Construction BMP Handbook. The Spill Prevention and Control Program would also be implemented during project operations to minimize the potential for hazardous, toxic, or petroleum substances to be released into the project area. Therefore, with adherence to regulations involving hazardous materials and the implementation of the protective environmental measures, the impact would be less than significant.

b) *Less-than-Significant Impact.* As noted under Question a) above, proposed project activities would require the use of minor amounts of hazardous materials during construction. However, as described in Chapter 2, *Project Description*, a Water Quality Control Plan, a Spill Prevention and Control Program, and a Hazardous Materials Management Program would be prepared before and implemented during all construction activities. The plan and programs would include site-specific best management practices to minimize the potential for hazardous, toxic, or petroleum substances to be released into the project site during construction and project operation. DWR also would limit the number of land-based access routes, and the size of the construction area would be limited to the minimum space necessary. Access routes would be restricted to established roadways (see Chapter 2, *Project Description*). Therefore, the impact would be less than significant.

c) *Less-than-Significant Impact.* Project construction activities and operations would likely require the use of limited quantities of hazardous materials. The improper use, storage, handling, transport, or disposal of hazardous materials could result in the accidental release of hazardous materials, which could occur in proximity to a school. However, because numerous laws and regulations govern the transport, use, storage, handling, and disposal of hazardous materials, the impacts of the construction and use of hazardous materials associated with project components within 0.25 mile of a school would be less than significant.

d) *No Impact.* A search of the Cortese List, GeoTracker, and a search for sites with reported hazardous material spills, leaks, ongoing investigations, and/or remediation near the project site was performed using the DTSC online EnviroStor database (DTSC 2019). EnviroStor did not identify any potential hazardous contamination sites within approximately 0.25 mile of the project site. The DCC staging area is approximately 700 feet from the Former BC Stocking Terminal. The site has been eligible for closure since July 12, 2019 and is not located within the staging area. Both cleanup program sites discussed in Section 3.9.1, *Environmental Setting*, are located farther than 0.25 mile from the Georgiana Slough project site. The project site is not on a list of hazardous materials sites. Thus, no impact would occur.

e) *No Impact.* The project site is not located within 2 miles of a public airport. The nearest public airport, Franklin Field, is approximately 6.15 miles southeast of the Hood staging area, approximately 7.35 miles east of the Sutter Slough and Steamboat Slough staging areas, approximately 5.55 miles northeast of the DCC staging area, and approximately

5.95 miles northeast of the Georgiana Slough project site. The GSSMB and fish release and tracking would not create a safety hazard or excessive noise for people residing or working in the project area. Therefore, no impact would occur.

f) *Less-than-Significant Impact.* Some rural, local roads would be affected intermittently during the installation and removal of the barrier by minimal truck traffic as workers or materials travel to the project site. Most of the construction activities would occur from the river; therefore, traffic flow would not be substantially interrupted on any roadway. In-water navigation would not be substantially interrupted because public notices would be posted about the barrier, temporary boat transfer ramps would be provided to facilitate navigation, alternate routes would be available, and the proposed project would be of limited size and short duration. Implementation of the proposed project would not significantly impair or interfere with emergency access to local roads and evacuation routes, or significantly reduce emergency response. Therefore, the impact would be less than significant.

g) *Less-than-Significant Impact.* The California Department of Forestry and Fire Protection (CAL FIRE) classifies an area over which it has responsibility as a Very High Fire Hazard Severity Zone (VHFHSZ) or Non-VHFHSZ. CAL FIRE has designated the project site as Non-VHFHSZ or unzoned (CAL FIRE 2019). None of the communities near the project site are shown on the map of communities at risk from wildfire (CAL FIRE 2019). The proposed project would not add structures that could be exposed to fire risk and construction of the proposed project would not increase fire risk to surrounding areas (discussed in Section 3.20, *Wildfire*). In the event of a fire at any of the project site, access roads could be used to accommodate firefighting crews and equipment. Therefore, the impact would be less than significant.

3.10 Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.1 Environmental Setting

The project site is located along the Sacramento River and its intersection at Georgiana Slough. The staging areas are also located along the Sacramento River near the project site. The project site and staging areas are within the Sacramento River Basin north of the Delta and the San Joaquin River Basin south of the Delta.

The Sacramento River Basin covers 27,210 square miles and includes the entire area drained by the Sacramento River. For planning purposes, this includes all watersheds tributary to the Sacramento River that are north of the Cosumnes River watershed. The principal streams are the Sacramento River and its larger tributaries: the Pit, Feather, Yuba, Bear, and American rivers to the east; and Cottonwood, Stony, Cache, and Putah creeks to the west. Major reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake, and Lake Berryessa.

DWR Bulletin 118-80 identifies 63 groundwater basins in the Sacramento watershed area (DWR 1980). The Sacramento Valley floor is divided into two groundwater basins. Other basins are in the foothills or mountain valleys. There are areas other than those identified in the DWR Bulletin with groundwaters that have beneficial uses (Central Valley Regional Water Board 2018).

Delta channels have been modified to allow transport of surface water and to reduce the effects of pumping on the direction of flows and salinity intrusion. The conveyance of water from the Sacramento River southward through the Delta is aided by the Delta Cross Channel, a constructed, gated channel that conveys water from the Sacramento River to the Mokelumne River. Water diversions in the Delta include the CVP's Jones Pumping Plant, the SWP's Banks Pumping Plant, the Contra Costa Canal Pumping Plant, the SWP's North Bay Aqueduct, and over 1,800 agricultural diversions for in-Delta use.

The Delta contains approximately 1,115 miles of levees, which protect the land from flooding. Approximately 65 percent of these levees are owned by local agencies and private owners and the other 35 percent are owned and maintained by the State and federal governments. Delta levees are distinguished from river levees in that they are constantly holding back water.

The failure rate of Delta levees was generally greater in the early part of the 20th century than during the latter half because of several factors: the construction of upstream reservoirs that attenuate flood flows; construction of two federal flood control projects (Sacramento River Flood Control Project and San Joaquin River Flood Control Project); non-reclamation of some islands that were flooded early in the century; increased funding for flood control; and greater attention and resources given to fighting floods and repairing levees.

Water quality in the Delta is highly variable and strongly influenced by inflows from the rivers and by seawater intrusion into the western and central portions of the Delta during periods of low outflow that may be affected by high volumes of export pumping. The concentrations of salts and other materials in the Delta are affected by river inflows, tidal flows, agricultural diversions, drainage flows, wastewater discharges, water exports, cooling water intakes and discharges, and groundwater accretions.

A variety of historic and ongoing point and non-point industrial, urban, and agricultural activities degrade the quality of groundwater. Discharges to groundwater associated with these activities include industrial and agricultural chemical use and spills, underground and above ground tank and sump leaks, landfill leachate and gas releases, septic tank failures, improper animal waste management, and chemical seepage via shallow drainage wells and abandoned wells (Central Valley Regional Water Board 2018).

The project site and staging areas are located within a portion of the Sacramento River (Delta waterways [northern portion]) that is listed in the State Water Board's Total Maximum Daily Load (TMDL) program for anthracene, arsenic, benzo(a)anthracene, benzo(a)pyrene (3,4-Benzopyrene-7-d), bifenthrin, cadmium, chlordane, chlorpyrifoschromium, chrysense (C1-C4), copper, cyfluthrin, cyhalothrin, lambda, cypermethrin, dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), deltamethrun, diazinon, dieldrin, endrin, esfencalerate/fenvalerate, fenpropathrin, fluoranthene, fluorine, group A pesticides, invasive species, lead, lindane/gamma hexachlorocyclohexane (gamma-HCH), mercury, methyl parathion, naphthalene, nickel, nitrate/nitrite (nitrite + nitrate as N), nitrogen, ammonia, dissolved oxygen, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), permethrin, pH, phenanthrene, pyrene, water temperature, total DDT, toxicity,

turbidity, and zinc. The State Water Board's TMDL programs are implemented under the Clean Water Act Section 303(d) for impaired water bodies. TMDL programs are plans that describe how an impaired water body will meet federal water quality standards.

3.10.2 Discussion

a, d) *Less-than-Significant Impact*. During the construction phases, project construction equipment and materials would include fuels, oils and lubricants, cement, and concrete, which are all commonly used in construction. The routine use or an accidental spill of hazardous materials used in construction could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. A barge may be used for staging at the Georgiana Slough project site if the land-based staging area at the Point Ranch Property is unavailable. In this case, the potential for spills of hazardous, toxic, or petroleum substances (such as fuel being stored on the boondocks) by collision/ stranding of vessel traffic within the BAFF presents a moderate risk.

Construction activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies, including the Sacramento River and the Delta.

In addition, as described in Chapter 2, *Project Description*, protective environmental measures would be implemented as part of the proposed project, including a Water Quality Control Plan, a Spill Prevention and Control Program, and a Hazardous Materials Management Program. These would be prepared before and implemented during all construction activities. The Spill Prevention and Control Program would also be implemented during project operations to minimize the potential for hazardous, toxic, or petroleum substances to be released into the project area. DWR would adhere to the standard construction best management practices described in the California Stormwater Quality Association (CASQA) – 2015 Construction BMP Handbook. DWR also would limit the number of land-based access routes, and the size of the construction area would be limited to the minimum space necessary. Access routes would be restricted to established roadways.

Another protective environmental measure is the implementation of turbidity monitoring, which would require the monitoring of turbidity levels during in-water sediment-disturbing activities. Monitoring would be conducted by measuring upstream and downstream of the disturbance area to ensure compliance with the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins (Central Valley Regional Water Board 2018). DWR contractors would slow or adjust work to ensure that turbidity levels do not exceed those conditions described in the 401 Water Quality Certification issued by the Central Valley Regional Water Quality Control Board. If slowing or adjusting work to lower turbidity levels is not practical or if thresholds cannot be met, DWR would consult with the Central Valley Regional Water Quality Control

Board and permitting agencies to determine the most appropriate measures to minimize turbidity impacts to the maximum extent feasible. Therefore, with adherence to regulations involving hazardous materials and the implementation of the protective environmental measures, the impact would be less than significant.

b) *No Impact*. The proposed project would not alter hydrology, pump groundwater, or reduce groundwater recharge such that the groundwater table would be altered. No substantial impervious surfaces would be created as part of the proposed project that would reduce surface area capable of percolation. Therefore, no impact would occur.

c) *Less-than-Significant Impact*. The proposed project would include minimal land-based facilities adjacent to the Sacramento River and the BAFF structure within the river. Staging area improvements may include grading and the addition of gravel, which would be pervious. The BAFF and monitoring equipment would not represent a substantial volume when compared to the river channel capacity, nor would it alter the course of the Sacramento River or impede or redirect flood flows. As described in Chapter 2, *Project Description*, protective environmental measures would include the implementation of a Water Quality Control Plan and turbidity monitoring during construction, which would minimize erosion and siltation as a result of the proposed project. Therefore, this impact would be less than significant.

e) *Less-than-Significant*. The proposed project would not use groundwater or involve dewatering. The proposed project would not involve substantial impervious surfaces, and staging area improvements would include grading and the addition of gravel, which is pervious. The proposed project would adhere to applicable regulations regarding water quality including a Water Quality Control Plan, a Spill Prevention and Control Program, a Hazardous Materials Management Program, and turbidity monitoring. Monitoring would be conducted by measuring upstream and downstream of the disturbance area to ensure compliance with the Basin Plan for the Sacramento River and San Joaquin River Basins. Therefore, impacts related to conflict with or obstruction of implementation of a water quality control plan or sustainable groundwater management plan would be less than significant.

3.11 Land Use and Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Environmental Setting

Georgiana Slough consists of open water. Substantial riparian forest exists along much of the channels throughout the area. However, industrial, commercial, residential, and agricultural land uses occur beyond the immediate channel banks. The area around Georgiana Slough is zoned by Sacramento County as Agricultural (80 acres), Agricultural (20 acres), Agricultural-Residential (2 acres), Light Industrial, and has a Special Planning Area (SPA) overlay. A SPA is created for an established area when the countywide zoning regulations do not adequately address local concerns and allows uses, regulations, and standards that would not generally be allowed under the countywide regulations. The Sacramento County General Plan designates the area as Agricultural Cropland, Recreation, and Natural Preserve to the north, west, and south of the project site. The area east of the Georgiana Slough project site is designated Low Density Residential.

The staging area in the town of Hood is located in Sacramento County on the west side of both the Sacramento River and SR 160. The Sacramento County General Plan designates Hood and its surrounding areas as agriculture (80 acres), agriculture (40 acres), agricultural (20 acres), low density residential, commercial and offices, extensive industrial, and recreation reserve.

The Sutter Slough staging area is on the left bank of Sutter Slough located across the Sacramento River from the community of Courtland and north of Paintersville. Sutter Slough is in an agricultural area (orchards and vineyards) with a few rural residences. Sacramento County General Plan designates the area as Agricultural Cropland.

The Steamboat Slough staging area is just south of Paintersville. Steamboat Slough is located in an agricultural area (orchards and vineyards) with a few rural residences. Arrowhead Harbor Marina is approximately 4 miles west of the Steamboat Slough staging area. Snug Harbor Resort and Hidden Harbor Marina are located on Steamboat Slough, approximately 7.5 and 9.5 miles south, respectively, of the Steamboat Slough staging area (see Section 3.16, *Recreation*, for further discussion). Steamboat Slough consists of open water, and the banks on both sides of Steamboat Slough are extensively rock-lined. The upper banks of the levees support annual grass and forbs, with a few scattered, mature trees. The Steamboat Slough staging area is zoned by Sacramento County as Agricultural (80 acres), Agricultural (40 acres), and Agricultural (20 acres); the area just north of the project site is zoned General Commercial. The Sacramento County General Plan (Sacramento County 2017) designates the area as Agricultural Cropland.

The DCC staging area is located in an existing graveled yard in Walnut Grove. The DCC diverts water from the Sacramento River to Snodgrass Slough. There are residences on both sides of the Sacramento River near the DCC staging area. The channel consists of open water, and the rock-lined banks support annual grass and forbs with several scattered trees. The area around the DCC staging area is zoned by Sacramento County as a SPA along the east side of the Sacramento River north and south of the DCC. Most of the area is zoned as Agricultural (20 acres). The Sacramento County General Plan designates the borders of DCC as Recreation and the area near the Sacramento River as Low Density Residential.

Land Use and Resource Management Plan for the Primary Zone of the Delta

The Delta Protection Commission (DPC) has planning jurisdiction over portions of five counties—Contra Costa, Sacramento, San Joaquin, Solano, and Yolo—including lands that extend approximately 500,000 acres of waterways, levees, and farmlands. It was charged with developing a comprehensive regional plan to guide land use and resource management. The resulting Draft Land Use and Resource Management Plan for the Primary Zone of the Delta was initially adopted by DPC in February 1995 and was updated in 2010 (DPC 2010).

Also related to land management, the Delta Reform Act of 2009 created the Delta Stewardship Council (DSC), which is tasked with furthering the State's coequal goals of "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem" through the development of the Delta Plan (Water Code Sections 85300[a] and 85054). The Delta Plan is a comprehensive, long-term resource management plan for the Delta, containing both regulatory policies and recommendations, aimed at furthering the coequal goals and promoting a healthy Delta ecosystem. The Delta Plan became effective on September 1, 2013 and since been amended. The Delta Plan provides for a distinct regulatory process for activities that qualify as "Covered Actions" to demonstrate consistency with applicable Delta plan policies (Water Code Sections 85057.5 and 85225).

South Sacramento Habitat Conservation Plan

The draft South Sacramento Habitat Conservation Plan (SSHCP) was published in February 2018 (County of Sacramento et al. 2018). It provides a regional approach to balancing development in concert with conservation and protected habitats, open space, and agricultural lands. It aims to protect 28 species of plants and wildlife, including 11 that are listed as threated or endangered under the FESA, the CESA, or both. The SSHCP also protects wetlands, streams, and other aquatic resources that are subject to the federal Clean Water Act (CWA), California's Porter-Cologne Water Quality Control Act, and the California Fish and Game Code. The SSHCP includes 317,655 acres within south Sacramento County between U.S. Highway 50 to the north, the Sacramento River levee and County Road J11 to the west, the Sacramento County line with El Dorado and Amador Counties to the east, and the San Joaquin County line to the south (County of Sacramento et al. 2018).

3.11.2 Discussion

a) *Less-than-Significant Impact.* Construction of the proposed project could interfere with navigation because the project site in the Sacramento River is normally open to navigation (described further in Section 3.16, *Recreation*). However, implementing the proposed project would not physically divide an established community because alternate water and land routes would be available. Therefore, the impact would be less than significant.

b) *Less-than-Significant Impact.* Most of the project construction and operation work would take place in the river, with several small, temporary staging areas on land. The proposed project would not change the land use of any parcel, nor would it conflict with any applicable land use policy, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Specific impacts associated with other resource and issue areas are addressed in each resource issue section of Chapter 3, *Environmental Checklist*, where appropriate. These sections provide a detailed analysis of other relevant environmental effects resulting from project implementation. Thus, the proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the impact would be less than significant.

3.12 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.12.1 Environmental Setting

In compliance with the Surface Mining and Reclamation Act, the California Geological Survey (CGS) has established a classification system to denote both the location and significance of key extractive resources. All of the areas where project-related work would occur have been classified as MRZ-1: areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence (Dupras 1999).

The project site has not been designated as a locally important mineral resource recovery site in the Sacramento County General Plan (Sacramento County 2017:4-12).

3.12.2 Discussion

a) *No Impact.* All of the areas where project-related work would occur are classified as MRZ-1, indicating that no mineral resources are present (Dupras 1999). Therefore, no impact would occur.

b) *No Impact.* The project site is not designated as a locally important mineral resource recovery site in the *Sacramento County 2030 General Plan* (Sacramento County 2017:4-12). Thus, no loss of locally important minerals would occur, and there would be no impact.

3.13 Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Environmental Setting

Sound, Noise, and Acoustics

Sound is the mechanical energy of a vibrating object transmitted by pressure waves through a liquid, gaseous, or solid medium (e.g., air). Noise is generally defined as a sound that is loud, disagreeable, unexpected, or unwanted (Caltrans 2013).

The amplitude of pressure waves generated by a sound source determines the perceived loudness of that source. A logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of human hearing (near-total silence) is approximately 0 dB. A doubling of sound energy corresponds to an increase of 3 dB. In other words, when two sources at a given location are each producing sound of the same loudness, the resulting sound level at a given distance from that location is approximately 3 dB higher than the sound level produced by only one of the sources. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously do not produce 140 dB; rather, they combine to produce 73 dB.

The perception of loudness can be approximated by filtering frequencies using the standardized A-weighting network. A strong correlation exists between A-weighted sound levels (expressed as dBA) and community response to noise. All noise levels reported in this section are in terms of A-weighting. As discussed above, doubling sound energy results in a 3-dB increase in sound. In typical noisy environments, noise-level changes of 1 to 2 dB are generally not perceptible by the healthy human ear; however, people can begin to detect 3-dB increases in noise levels. An increase of 5 dB is generally perceived as distinctly noticeable and a 10-dB increase is generally perceived as a doubling of loudness. The following are the sound level descriptors most commonly used in environmental noise analysis:

- Equivalent sound level (L_{eq}): An average of the sound energy occurring over a specified time period. In effect, the L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour, A-

weighted equivalent sound level ($L_{eq[h]}$) is the energy average of A-weighted sound levels occurring during a 1-hour period.

- Maximum sound level (L_{max}): The highest instantaneous sound level measured during a specified period.
- Day-night average sound level (L_{dn}): The energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours (10 p.m. to 7 a.m.).

Sound from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, and the sound level attenuates (decreases) at a rate of 6 dB for each doubling of distance from a point/stationary source. Roadways and highways and, to some extent, moving trains consist of several localized noise sources on a defined path; these are treated as "line" sources, which approximate the effect of several point sources. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. Therefore, noise from a line source attenuates less with distance than noise from a point source with increased distance.

Groundborne Vibration

Groundborne vibration is energy transmitted in waves through the ground. Vibration attenuates at a rate of approximately 50 percent for each doubling of distance from the source. This approach considers only the attenuation from geometric spreading and tends to provide for a conservative assessment of vibration level at the receiver.

Vibration is an oscillatory motion that can be described in terms of the displacement, velocity, or acceleration. Vibration typically is described by its peak and root-mean-square (RMS) amplitudes. The RMS value can be considered an average value over a given time interval. The peak vibration velocity is the same as the "peak particle velocity" (PPV), generally presented in units of inches per second. PPV is the maximum instantaneous positive or negative peak of the vibration signal and is generally used to assess the potential for damage to buildings and structures. The RMS amplitude typically is used to assess human annoyance to vibration and is expressed in decibel notation as vibration decibels (VdB). The typical range of interest for background vibration-velocity levels is approximately 50 VdB (general residential area vibration-velocity level) to 100 VdB (general threshold in which minor damage can occur in weak buildings).

Existing Noise Conditions

The surrounding land uses near the project site include agricultural and rural residential, commercial, and industrial uses. The closest noise-sensitive receptors to the project site is a residence approximately 350 feet southeast of the Georgiana Slough project site.

Existing noise sources in the area of the proposed project include vehicular traffic, boating activity on the river, agricultural/commercial/industrial activities, and natural noise (i.e., wildlife vocalizations, wind, and birds). No airports or airstrips are in the vicinity of the project site. Ambient noise levels in rural/agricultural areas typically range from 45 to 55 dBA L_{eq} (Cowan 1994).

The Borges-Clarksburg Airport and Sacramento Executive Airport are approximately 5.2 miles and 10 miles north, respectively, from the Hood staging area. The Rio Vista Municipal Airport is approximately 12.5 miles southwest of the Sutter Slough staging area, approximately 11 miles southwest of the Steamboat Slough staging area, approximately 10.9 miles southwest of the DCC staging area, and approximately 10.2 miles southwest of the Georgiana Slough project site. The Spezia Airport is approximately 7.5 miles south of the Sutter Slough staging area, approximately 2.1 miles southwest of the DCC staging area, approximately 6 miles south of the Steamboat Slough staging area, and approximately 1.8 miles southwest of the Georgiana Slough project site.

Relevant Noise Regulations

California Department of Transportation

The California Department of Transportation has developed guidelines for assessing the significance of vibration produced by transportation and construction sources (**Table 3.13-1**). These thresholds address the subjective reactions of people to both short-term vibration (e.g., from temporary construction activities) and long-term/permanent vibration (e.g., from transit operations).

TABLE 3.13-1
CALIFORNIA DEPARTMENT OF TRANSPORTATION GUIDELINES ON POTENTIAL CRITERIA FOR VIBRATION ANNOYANCE

Human Response	Impact Levels[1] from Transient Sources	Impact Levels[1] from Continuous/Frequent Intermittent Sources
Barely perceptible	80 (0.040)	68 (0.010)
Distinctly perceptible	96 (0.250)	80 (0.040)
Strongly perceptible	107 (0.900)	88 (0.100)
Severe	114 (2.000)	100 (0.400)

NOTES:
µin/sec = microinches per second; in/sec = inches per second; PPV = peak particle velocity; VdB = vibration decibels

Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

1 VdB re: 1 µin/sec (PPV, in/sec)

Source: Caltrans 2013

The Noise Element of the Sacramento County General Plan (2017) establishes noise exposure criteria to aid in determining land use compatibility by defining the limits of noise exposure for sensitive land uses. **Table 3.13-2** from the Noise Element summarizes nontransporation noise level standards.

TABLE 3.13-2
SUMMARY OF NONTRANSPORTATION NOISE LEVEL STANDARDS – NOISE ELEMENT OF THE SACRAMENTO COUNTY GENERAL PLAN

New Land Use	Outdoor Area Daytime Noise Level[1]	Outdoor Area Nighttime Noise Level	Interior Day and Night Noise Level
All residential	55/75	50/70	35/55
Transient lodging	55/75	–	35/55
Hospitals and nursing homes	55/75	–	35/55
Theaters and auditoriums	–	–	30/50
Churches, meeting halls, schools, libraries, etc.	55/75	–	35/60
Office buildings	60/75	–	45/65
Commercial buildings	–	–	45/65
Playgrounds, parks, etc.	65/75	–	–
Industry	60/80	–	50/70

NOTES:
The standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.

Outdoors activity areas of transient lodging facilities are not commonly used during nighttime hours.

Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

Where median (L50) level data are not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

1 L_{50}/L_{max} (dB)

Source: Sacramento County 2017

Sacramento County Municipal Code

The Sacramento County Noise Control Ordinance, Chapter 6.68.090, Exemptions, establishes exemptions to the Chapter 6.68.070 exterior noise exposure limits. Specifically, Section 6.68.090(e) exempts construction noise based on the following:

Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of 8 p.m. to 6 a.m. on weekdays and Friday commencing at 8 p.m. through 7 a.m. Saturday; Saturdays commencing at 8 p.m. through 7 a.m. on Sunday and on Sunday after the hour of 8 p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardship for the contractor or owner.

Therefore, noise produced by construction activities occurring between 6 a.m. and 8 p.m. on weekdays and between 7 a.m. and 8 p.m. on weekends would be exempt from Sacramento County's noise level criteria.

3.13.2 Discussion

a) *Less-than-Significant Impact with Mitigation.* Construction noise would be temporary and operation of heavy-duty construction equipment would be intermittent throughout the day during construction. No permanent increase in ambient noise levels would result, as project operation would be over a period of up to 5 months per year during the 8-year period.

Project operation would cause noise due to the use of generators, air compressors, trucks, and in-water barge and workboat operation, over a period of up to 150 days per year during the 8-year period. Project-related operational noise is estimated to be 88 dB L_{eq} to 89 dB L_{eq} at 50 feet. The distance between proposed project operation activities and the closest acoustically sensitive receptors would be approximately 350 feet. Assuming a standard reduction of 6 dB per doubling of distance, the project-related operation noise levels at the nearest sensitive receptors would be approximately 71 dB L_{eq} to 72 dB L_{eq} at 350 feet. These levels of noise are above daytime noise levels typical of residential buildings, which is 55 dB L_{eq} (Table 3.12-2). Therefore, a substantial temporary increase in ambient noise levels resulting from temporary operation activities may occur.

The Sacramento County Municipal Code exempts construction noise between 6 a.m. and 8 p.m. on weekdays and between 7 a.m. and 8 p.m. on Saturday and Sunday. Construction activities associated with the proposed project would be limited to daytime hours, up to 10 hours per day, 7 days per week.

It is anticipated that the following equipment would be used during installation and removal: flatbed truck/trailer; up to two barges with spuds and tugboat support; barge-mounted crane; vibratory pile driver; work boats; diesel generators; and pickup trucks. **Table 3.13-3** summarizes typical noise levels produced by equipment anticipated to be used for construction activities associated. Anticipated noise from equipment operations was estimated based on the loudest pieces of equipment likely to operate at the same time, using the Federal Highway Administration (FHWA)'s Roadway Construction Noise Model (Barry and Regan 2006). As shown in Table 3.12-3, average construction-related exterior noise levels would range from approximately 88 dB L_{eq} to 95 dB L_{eq} at 50 feet. The distance between proposed construction activities and the closest acoustically sensitive receptors would be approximately 350 feet. Assuming a standard reduction of 6 dB per doubling of distance, the project-related construction noise level at the nearest sensitive receptors would be approximately 73 dB L_{eq} to 80 dB L_{eq} at 350 feet. This level of noise caused by the project would exceed the ambient noise levels that range from approximately 45 dBA L_{eq} to of 55 dBA L_{eq}. Because of the potential for construction noise to exceed Sacramento County noise standards during nonexempt hours, this impact would be potentially significant.

TABLE 3.13-3
TYPICAL CONSTRUCTION NOISE EMISSION LEVELS

Construction Phase	Anticipated Type of Equipment that May Be Utilized by the Contractor*	BAFF Noise Level at 50 Feet L_{max}, dBA	BAFF Noise Level at 50 Feet L_{eq}, dBA	FFGS Noise Level at 50 Feet L_{max}, dBA	FFGS Noise Level at 50 Feet L_{eq}, dBA
Simultaneous - Marine Construction and Technology Installation	Vibratory Pile Driver	101	94	101	94
	Workboat[a]	75	71	75	71
	Pickup Truck	75	71	75	71
	Pickup Truck	75	71	75	71
	Tugboat[b]	91	87	91	87
	Crane	85	77	85	77
	Workboat[a]	75	71	75	71
	Pickup Truck	75	71	75	71
	Pickup Truck	75	71	75	71
	Flat Bed Truck	84	80	84	80
Max. and Combined Noise Level		**101**	**95**	**101**	**95**
Marine Construction	Vibratory Pile Driver	101	94	101	94
	Workboat[a]	75	71	75	71
	Pickup Truck	75	71	75	71
	Pickup Truck	75	71	75	71
Max. and Combined Noise Level		**101**	**94**	**101**	**94**
Technology Installation	Tugboat[b]	91	87	91	87
	Crane	85	77	85	77
	Workboat[a]	75	71	75	71
	Pickup Truck	75	71	75	71
	Pickup Truck	75	71	75	71
	Flat Bed Truck	84	80	84	80
Max. and Combined Noise Level		**91**	**88**	**91**	**88**
Operation	Generator	82	79	--	--
	Generator	82	79	--	--
	Compressor (air)	80	76	--	--
	Compressor (air)	80	76	--	--
	Tugboat[b]	91	87	91	87
	Dump Truck	84	80	84	80
	Workboat[a]	75	71	75	71
Max. and Combined Noise Level		**91**	**89**	**91**	**88**
Removal	Vibratory Pile Driver	101	94	101	94
	Workboat[a]	75	71	75	71
	Pickup Truck	75	71	75	71
	Pickup Truck	75	71	75	71
Max. and Combined Noise Level		**101**	**94**	**101**	**94**

NOTES:
dBA, A-weighted decibel level; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level during a specific period of time.
[a] Based on data for pickup truck
[b] Calculated for tugboat using 1,000 horsepower reciprocating engine with muffler (Hoover & Keith 2000).

Source: Federal Highway Administration 2006

Implementation of **Mitigation Measure NOISE-1** would reduce this potentially significant impact to a less-than-significant level.

> **Mitigation Measure NOISE-1: Employ Noise-Reducing Practices.** DWR shall employ noise-reducing practices during construction and operation. Measures that will be used to limit noise include the following:
>
> - Provide written notification of heavy construction activities to all sensitive receptors located near to the project sites and heavy construction activities, or within 350 feet of such activities. Notification will include anticipated dates and hours when construction and operation activities are anticipated to occur, and contact information, including a daytime telephone number, for the project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will be included in the notification.
> - Locate fixed/stationary equipment (e.g., generators, compressors) as far as possible from noise-sensitive receptors.
> - Shut off all motorized construction equipment when not in use.
> - Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
> - Prohibit gasoline or diesel engines from having unmuffled exhaust.

b) *Less-than-Significant Impact.* Construction of the project would require the use of equipment and vehicles that could expose nearby sensitive receptors to vibration levels that may result in an annoyance or building damage. According to the Caltrans' Transportation and Construction Vibration Guidance Manual, an exposure to a vibration level of 0.4 PPV (in/sec) would cause a "severe" human response (Caltrans 2013). As for structural damage, an older residential and modern industrial building exposed to vibration levels of 0.3 PPV (in/sec) and 0.5 PPV (in/sec), respectively, could result in building damage (Caltrans 2013). The threshold for damage to historic buildings is 0.25 PPV (in/sec); however, there are no historic structures located in the vicinity of the project site.

Ground-borne vibration from onsite equipment, such as vibratory pile drivers used to install piles, could produce vibration at nearby sensitive receptors, including structures themselves. The typical reference vibration level for a vibratory pile driver is 0.65 PPV (in/sec) at 25 feet. The nearest residence is located approximately 400 feet southeast of the project site and the nearest building is located approximately 200 southeast of the project site. Attenuated vibration levels at these receptors locations would be substantially less than the vibration thresholds discussed above; and the impact of the proposed project with respect to vibration exposure would be less than significant.

c) *No Impact.* The project site is not located within vicinity of a private airstrip or an airport land use plan, or within 2 miles of a public or private airport. Because all project activities would be located outside the Airport Comprehensive Land Use Plan area and would not introduce any new noise sensitive uses or involve any aircraft uses for installation, removal or operation activities, the proposed project would not affect any airport or airstrip operations and would not expose people on- or off-site to excessive noise levels. Therefore, no impact would occur.

3.14 Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

Several scattered residences are present in the vicinity of the proposed project. Small rural towns also are found in this region of the Delta, in the vicinity of the project site. The community of Walnut Grove is located in unincorporated Sacramento County, approximately 12 miles south from Hood, about 6.5 miles southeast of the Sutter Slough staging area, about 5 miles southeast of the Steamboat Slough staging area, and adjacent to both the DCC staging area and Georgiana Slough project site, and has an estimated population of 1,542 (U.S. Census Bureau 2013).

3.14.2 Discussion

a) *No Impact.* The proposed project would not include constructing new homes or businesses or extending roadways or other infrastructure that could cause unplanned population growth in the vicinity of the proposed project. Construction activities associated with the proposed project would be performed within approximately 30 to 60 days, with removal taking approximately 30 days and would occur up to one time (installation and removal) each year during the 8-year project period. Construction would require approximately 10 to 30 workers. These temporary workers would likely come from the existing labor pool in the region and would not cause the area's population to increase.

Operation of the proposed project would require minimal staff. Approximately six workers would be needed to seasonally operate the barrier, and because the proposed project is of short duration, no workers are expected to require long-term housing; therefore, installation of the proposed project would not induce population growth beyond levels already planned and projected by local governments. Implementing the proposed project would not directly or indirectly induce substantial unplanned population growth. Therefore, no impact would occur.

b) *No Impact.* None of the proposed project activities would displace the existing residences or people near or in the vicinity of the project site. Therefore, implementation of the proposed project would not displace existing housing or people nor necessitate construction of replacement housing elsewhere. Therefore, no impact would occur.

3.15 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

3.15.1 Environmental Setting

No schools, parks, or other public services are in the vicinity of the Georgiana Slough project site or the staging areas. There are no schools within 5,000 feet of the Hood, Sutter Slough, or Steamboat Slough staging areas. The closest school to the Georgiana Slough project site and the DCC staging area is Walnut Grove Elementary, approximately 1,600 feet from the Georgiana Slough project site and 2,500 feet from the DCC staging area. Therefore, the following discussion focuses an overview of fire protection and police protection services in the project area.

Fire Protection Services

Additional information on wildfire impacts can be found in Section 3.20, *Wildfire*.

The Courtland Fire Department (CFD) would provide services to the Hood staging area. The CFD has two stations and over 22 volunteer employees and protects an area that spans over 33 square miles (CFD 2014). The closest CFD station to the staging area is Station 92, located in the eastern portion of Hood.

Fire protection services for the Sutter Slough and Steamboat Slough staging areas would be provided by the CFD. The closest CFD station to the staging areas is Station 91, approximately 2 miles north at 154 Magnolia Avenue in Courtland.

Walnut Grove Fire District (WGFD) stations would provide fire protection services to the Georgiana Slough project site. The WGFD responds to approximately 300 calls a year; approximately 70 percent are emergency services calls. The WGFD has two stations near the project site: one located at 14160 Grove Street and one on Grand Avenue (WGFD 2014). The WGFD would also provide services to the DCC staging area.

Police Protection Services

Law enforcement services for the project area are provided by the Sacramento County Sheriff's Department (SCSD). The SCSD provides law enforcement services to the unincorporated county. The SCSD operates several facilities, including the headquarters building, main jail, the Rio Cosumnes Correctional Center, five station houses, 10 community service centers, a training academy, firearms training facility, marine enforcement detail, and an air support bureau (SCSD 2019). The closest service center to the Hood staging area is located at 14160 Grove Street in Walnut Grove, about 12 miles from the staging area. The closest SCSD service center to the Sutter Slough and Steamboat Slough staging areas is the Wilton Station, approximately 19 miles northeast at 10661 Alta Mesa Road in the community of Wilton. The closest service center to the Georgiana Slough project site and DCC staging area is located at 14160 Grove Street in Walnut Grove, about 1,000 feet from the project site and about 2,000 feet from the staging area.

3.15.2 Discussion

a.i) *No Impact.* The proposed project would not generate new residents in the vicinity of the proposed project, nor would it include the construction of any structures that would require additional fire protection services. Temporary workers required to construct and operate the proposed project would likely come from the existing labor pool in the region and would not cause the area's population to increase. No impact would occur.

a.ii) *No Impact.* The proposed project would not include any new housing, businesses, or other development that would increase demand for police protection services and facilities. Because the proposed project would be a limited size and of short duration, and would not generate any development that would increase the demand for police protection and services, no impact would occur.

a.iii) *No Impact.* The proposed project would not provide any new housing that would generate new students in the community. Therefore, implementation of the proposed project would not increase the demand for school services and facilities. No impact would occur.

a.iv) *No Impact.* The proposed project would not provide any new housing that would generate new residents who would require new or expanded park facilities. No impact would occur.

a.v) *No Impact.* No other public facilities exist in the vicinity that would be affected by project implementation. No impact would occur.

3.16 Recreation

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
RECREATION —				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
c) Will the project interfere with or interrupt any well-established recreation activities or interfere with use of existing recreation sites, developed or undeveloped?	☐	☐	☒	☐

3.16.1 Environmental Setting

Dagmar's Landing marina is directly across the Sacramento River from the Georgiana Slough project site. The Walnut Grove Marina is located approximately 1 mile southeast of the and Georgiana Slough project site and the DCC staging area. The Boathouse Marina is adjacent to and north of the DCC staging area. The Ko-Ket Resort is located on the Sacramento River approximately 2 miles southwest of the Georgiana Slough project site and the DCC staging area. Vieira's Resort is located on the Sacramento River at Ida Island, approximately 8 miles southwest of the Georgiana Slough project site and the DCC staging area. Arrowhead Harbor Marina is located approximately 4 miles southwest of the Steamboat Slough staging area. Snug Harbor Resort and Hidden Harbor Marina are located on Steamboat Slough, approximately 7.5 miles and 9.5 south, respectively, of the Steamboat Slough staging area. All of the marinas and resorts support extensive recreational opportunities, including boating, swimming, fishing, and restaurants. In addition, dozens more marinas and other facilities offer boat access to the Sacramento River and other channels in the Delta, for access to the area and vicinity of the proposed project (Delta Protection Commission 2015).

According to a boating survey conducted by the Delta Protection Commission in 2017, boating is the most popular recreational activity in the Delta (DPC 2017:Chapter II).

The California Department of Boating and Waterways prepared the Sacramento–San Joaquin Delta Boating Needs Assessment 2000–2020; a summary of the pertinent survey results is as follows. In 2000, an estimated 6.4 million boating-related visitor days (a 2-day trip would equal 2 visitor days per individual) and 2.13 million boating trips to the Delta were recorded. Of those 2.13 million boating trips, approximately 1.98 million were classified in the small-boat category, while approximately 150,000 large-boat trips took place in 2000. On a peak day in 2000, more than 8,300 boats and 25,000 visitors boated in the Delta. Ninety-three percent of boating trips in the Delta were made by small boats (i.e., trailerable boats 26 feet long or shorter). Distance traveled while boating in the Delta averaged 20 to 25 boating miles round trip, with smaller boats boating a higher average range. A greater number of large-boat owners (75 percent) take overnight trips, while small-boat owners tend to take a lesser amount (38 percent).

Compared to the large-boat group, small-boat owners were more likely to fish or water-ski during their trips. Summer was the primary season of use for owners of both large and small boats, but 70 percent of boat owners indicated that they also used the Delta during the fall. In terms of boating travel patterns, 58 percent of large-boat owners traveled on connected waterways up to 50 miles from homeport, while most of the remaining 42 percent tended to travel shorter distances. Large-boat owners were most likely to cruise the Delta's waters, dine at a restaurant, sight see, or view wildlife, while small-boat boat owners were more likely to fish, camp, ski, or wake-board. The single most important aspect for the user boating experience was cited as water quality, and the need for improved water quality also was the most cited response to improve recreational boating in the Delta among those surveyed (DBW 2002: Chapter 4).

3.16.2 Discussion

a) *No Impact.* Implementing the proposed project would not cause physical deterioration of existing recreational facilities. The proposed project would install and operate an underwater fish barrier and associated monitoring equipment in a Delta water channel; it would not increase the population in the vicinity of the proposed project by introducing new housing or employment opportunities, and thus it would not contribute to increased use of existing regional or local parks, marinas, or other recreational facilities, causing their deterioration. Therefore, no impact would occur.

b) *No Impact.* The proposed project does not include any recreational facilities and would not require the construction or expansion of recreational facilities. The BAFF would be operated as a behavioral deterrent to prevent juvenile salmonids from entering Georgiana Slough during emigration (primarily between October 1 through June 1). Therefore, no impact would occur.

c) *Less-than-Significant Impact.* Boating is a prevalent recreational use in the project area. In addition, marinas and resorts in the project area support recreational opportunities such as boating, swimming, and fishing. With the proposed project, the BAFF would be constructed each year for 8 years starting in late 2022/early 2023 through 2030 in the Sacramento River at Georgiana Slough and would be operated during the winter and spring periods. Additionally, if the Point Ranch Property is inaccessible for staging by the Georgiana Slough project site, a barge for staging would be located on the water and adjacent to the project site (Figure 2-2). This would increase the footprint of water surface used for the proposed project, which would reduce the existing (i.e., approximately 180 feet) navigational clearance by about half for vessels in the Sacramento River channel. Vessel passage in Georgiana Slough would also be reduced with the BAFF in place. Although channel access in the Sacramento River and Georgiana Slough in the project area would be temporarily narrowed, they would remain passable to boaters during project construction and operations. Fish would be released upstream of the BAFF, potentially in the City of Sacramento (under the Tower Bridge), downstream of Steamboat Slough junction, and in Georgiana Slough downstream of the Sacramento River junction; however, fish release activities would not affect vessel passage or interfere with recreation activities.

As described in Section 2.7, *Protective Environmental Measures*, navigational buoys, lights, and signage would be installed upstream and downstream of the Georgiana Slough project site to inform boaters of the presence of the project equipment and to maintain navigation along waters. DWR would coordinate with the U.S. Coast Guard on the positioning of buoys, lights, and signage. Impediments to navigation would have clear signage with telephone contact details for DWR personnel.

The Sacramento River channel in the area of the project site is speed controlled as a no wake/slow zone for vessels, which limits the type of recreation activities that occur around the project site. Therefore, the proposed project would not affect the type of recreation activities occurring around the project site, as use is already limited without the proposed project due to speed controls. The proposed project also would not interfere with use of existing recreation sites because channels in the project area would remain passable, access to existing marinas and boating facilities would be maintained, and alternate routes are available.

The proposed project would not substantially interfere with recreation activities in the Sacramento River or Georgina Slough or with the use of existing recreation sites because the channels in the project area would remain passable, the area is already speed controlled so the type of recreation activities occurring would not be affected, and alternate water routes are available to boaters. The BAFF also would not be permanent, with the primary annual installation/operation/removal period occurring between December and June, largely outside the summer peak season for boaters, although in-water construction could begin as early as August 1. Therefore, the impact would be less than significant.

3.17 Transportation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
TRANSPORTATION — Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 Environmental Setting

Roads in the vicinity of the Hood, Sutter Slough, and Steamboat Slough staging areas include SR 160, Island Road, River Road, Grand Island Road, and Sutter Slough Bridge Road.

Roads in the vicinity of the Georgiana Slough project site and the DCC staging area include River Road/County Road E13, Isleton Road, Andrus Island Road, SR 160, and Levee Road.

State Highways

SR 160 is the primary State highway providing access to the area of the proposed project.

Local Roadways

Local access to the project site would be provided by existing access roads to and within the Delta. Workers at the project site would access the Georgiana Slough site from River Road, Isleton Road, and Levee Road.

Bicycle Facilities, Public Transit Facilities, and Airports

No bicycle or public transit facilities or airports are located in the vicinity of the project site.

3.17.2 Discussion

a-b) *Less-than-Significant Impact.* Construction activities would temporarily increase vehicle trips on area roadways. Because of the limited size of the proposed project, the transport of materials and heavy equipment for construction would require a minimal number of truck trips; most materials and construction equipment would be brought to the project site by barges, and most construction would take place in the water. Therefore, the proposed project would not result in a substantial increase in traffic levels along the local roadways compared to existing conditions, and would not result in decreased travel times on roads in the vicinity of the proposed project. Further, the proposed project would not conflict with a plan, ordinance, or policy addressing the circulation system, including transit, or designated bicycle and pedestrian facilities. Boat traffic may be temporarily

limited to about one half of the Sacramento River channel during construction for safety reasons, but boaters would be able to pass through the project area. Because of the temporary nature of the project and the limited size of the proposed project, the Sacramento River and Georgiana Slough in the project area would remain passable to boaters during project construction and operations, and the impact would be less than significant.

c) *No Impact.* Most of the construction activities for the proposed project would occur in the river at the project site. The proposed project would not include any change to roadway design in the vicinity of the proposed project or introduce incompatible uses. Thus, the safety of the local transportation network would not be affected. Project operation would not change any land uses, would not alter the compatibility of uses served by the roadway network, or result in hazardous conditions due to a geometric design feature or incompatible uses. Therefore, no impact would occur.

d) *Less-than-Significant Impact.* Implementation of the proposed project would not require any road closures. Most of the construction and operation activities for the proposed project would occur in the river at the Georgiana Slough project site; therefore, no traffic flow would be significantly interrupted on any roadway. Construction-related traffic increases would be minimal relative to roadway capacity, would be temporary, and would occur in an area with low levels of existing traffic. The proposed project would not impair or interfere with emergency access to local roads, and would not result in traffic delays that could substantially increase emergency response times or reduce emergency vehicle access. Therefore, the impact would be less than significant.

3.18 Tribal Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
TRIBAL CULTURAL RESOURCES —				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources. Code Section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public 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.	☐	☒	☐	☐

3.18.1 Environmental Setting

This section examines the potential impacts of the proposed project on TCRs. Much of the background context and methods used for the analysis of potential impacts from the proposed project on TCRs and cultural resources are the same.

For the purposes of this analysis, the term *tribal cultural resource* is defined as follows:

> Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, in the National Register, California Register, or a local register of historical resources.

This section relies on the information and findings presented in *Georgiana Slough Salmonid Migratory Barrier Project, Sacramento County, California: Cultural Resources Inventory Report* (Hoffman 2021), as well as *Georgiana Slough Salmonid Migratory Barrier Project: Tribal Cultural Resources Evaluation Report* (TCRER) (Newland 2021). The former, available in confidential Appendix C, details the results of the cultural resources study, which examined the environmental, ethnographic, and historic background of the project area, emphasizing aspects of human occupation; the TCRER, available in confidential **Appendix D**, focuses on the identification and evaluation efforts for TCRs for the proposed project, including an evaluation of TCR P-34-000356 as California Register-eligible under Criterion 1 to 4.

Records Search

The methods for the CHRIS records searches are presented in Section 3.5, *Cultural Resources*. The following summarizes the results associated with Native American resources.

The CHRIS has record of 55 previously recorded cultural resources mapped within the 0.5-mile search area, 15 of which are mapped within 500 feet project area, and three of which are mapped in the project area. Of the previously recorded cultural resources mapped in or within 500 feet of the project area, one is a Native American archaeological site (P-34-000356). CHRIS records document P-34-000356 as the only Native American cultural resource within the project area. Soule recommended P-34-000356 as National Register-eligible in 1976 (Soule 1976), though it does not appear that any formal determination of National Register-eligibility has been made for the site. As part of TCR identification and evaluation efforts for the proposed project, P-34-000356 was determined to be a California Register-eligible TCR; this is discussed in more detail below.

In summary, one previously recorded Native American cultural resource, P-34-000356, has been documented within the project area, at the Georgiana Slough staging area.

Ethnographic Literature Research

A review of ethnographic literature for the proposed project revealed that a number of documented Native American villages (all Plains Miwok) are in the vicinity of the project area. With respect to the Steamboat Slough staging area, *Ochehamne* was situated approximately 1 mile east of the current Sacramento River channel, east of Paintersville and northeast of the project area, and *Chucumne* was situated along the east side of the current Sutter Slough channel, approximately 1.25 miles west of the project area (Heizer 1978). Regarding the Georgiana Slough staging area, *Junizumne* was between the current channels of the Sacramento River and Georgiana Slough, approximately 1 mile southwest of the project area (Heizer 1978).

Native American Correspondence

ESA contacted the NAHC on October 5, 2019 in request of a search of the NAHC's SLF and a list of Native American representatives who may have interest in the proposed project. The NAHC replied to ESA on October 22, 2019, in which they stated that the SLF has no record of sacred sites in the project area; the reply also included a list of Native American representatives to contact regarding these resources and who may be interested in the proposed project.

In support of required Native American consultation for the project pursuant to Public Resources Code Section 21080.3, as well as in accordance with the California Natural Resources Agency's *Final Tribal Consultation Policy* and DWR's *Tribal Engagement Policy*, DWR sent letters on December 23, 2019, via certified mail, to the following Native American representatives: Sara Dutschke Setshwaelo, Ione Band of Miwok Indians Chairperson; Ralph Hatch, Wilton Rancheria Director of Cultural Preservation; and Gene Whitehouse, UAIC Chairperson. These letters provided information on the project and requested that the recipients notify DWR if they would like to consult pursuant to Public Resources Code Section 21080.3. The only response from these individuals came via letter from Chairperson Whitehouse (UAIC) to DWR on February 3, 2020, stating that UAIC would like to consult on the project pursuant to Public Resources Code Section 21080.3, that UAIC views the project area as sensitive, and that UAIC would like to visit or survey the project area.

On September 1, 2020, DWR sent an email to Anna Starkey, a UAIC cultural resources representative, providing details on project changes, explaining that access is limited for the staging areas but that a field visit with UAIC could be arranged if they still wish to do so. The email also stated that ESA can provide the cultural resources technical report, with CHRIS records search results, to UAIC when it is complete. Consultation between DWR and UAIC is ongoing. On November 6, 2020, DWR sent UAIC, via email, an electronic version of a previous draft of the current report, with associated CHRIS records search results. On November 18, 2020, Starkey sent an email to William McLaughlin at DWR, stating that UAIC does not agree that P-34-000356 is outside the project area, that no ground disturbance or staging should occur within the site boundary, and that fencing should be placed around the site. UAIC, DWR, and ESA had a conference call on November 23, 2020 to discuss the project and potential impacts to cultural resources. During the call, UAIC representatives explained the sensitivity of P-34-000356, requested a site visit to P-34-000356, and requested to conduct construction monitoring of project activities at P-34-000356. On January 4, 2021, representatives from UAIC, DWR, and ESA conducted a site visit to P-34-000356. During the visit, proposed project activities at the site and cultural resources work (both previous and for the proposed project) conducted at the site were discussed. The UAIC representative reiterated that ground-disturbing project activities should not occur at the site; however, the UAIC representative acknowledged that the utility pole replacement and service pole installation likely have minimal potential to impact P-34-000356 due to previous ground disturbance, but that UAIC would like to monitor said work. Additional consultation between DWR and UAIC for the proposed project occurred through July 2021, focusing on the identification and evaluation efforts for TCRs, and cultural resources- and TCR-related impacts and associated mitigation measures for the proposed project. The cultural resources and TCR impacts and mitigation measures for the proposed project, as presented in the current document, were developed and reviewed by UAIC representatives. Note, P-34-000356 was determined to be a California Register-eligible TCR, under Criteria 1 to 4, as a result of Tribal consultation efforts conducted for the proposed project; these efforts and more details, including an evaluation of California Register-eligibility for P-34-000356, as a TCR, are provided in the TCRER, available upon request from DWR or the UAIC (Newland 2021). The Draft IS/MND was circulated to UAIC for review prior to public circulation; after completion of this review, UAIC agreed to conclude AB 52 consultation on the proposed project.

In accordance with the California Natural Resources Agency's *Final Tribal Consultation Policy* and DWR's *Tribal Engagement Policy*, DWR sent letters on December 23, 2019 to the following Native American representatives: Grayson Coney, Tsi Akim Maidu Cultural Director; Pamela Cubbler, Colfax-Todds Valley Consolidated Tribe Treasurer; Regina Cuellar, Shingle Springs Band of Miwok Indians Chairperson; Rhonda Morningstar Pope, Buena Vista Rancheria of Me-Wuk Indians Chairperson; Clyde Prout, Colfax-Todds Valley Consolidated Tribe Chairperson; Don Ryberg, Tsi Akim Maidu Chairperson; and Cosme A. Valdez, Nashville Enterprise Miwok-Maidu-Nishinam Tribe Chairperson. These letters provided information on the project and requested that the recipients notify DWR if they have any concerns regarding the project and effects to cultural resources. To date DWR has not received any replies from these individuals. Documentation of the project correspondence with Native American representatives to date is included in the cultural resources technical report, in Appendix C.

Field Survey

Reconnaissance Survey

On November 11, 2019, ESA conducted a cultural resources survey of the Steamboat Slough and Georgiana Slough staging areas. The survey used reconnaissance methods, consisting of inspecting staging area riverbanks from a boat at a distance of approximately 10 meters as well as inspecting the staging areas from public road right-of-way. The ground surface was surveyed remotely for cultural material (archaeological or architectural) or evidence thereof. Specific attention was given to the southern staging area at the Georgiana Slough staging area, where P-34-000356 had been previously recorded within the project area.

During the survey, ground visibility at the Steamboat Slough staging area was approximately 50 percent, while that at the Georgiana Slough staging area was approximately 15 percent. The Steamboat Slough staging area includes the area surrounding and under the north side of the Steamboat Slough Bridge and consists of a small slope with grasses and trees and a sandy riverbank/beach. The Georgiana Slough staging area consists of a densely vegetated riprap-lined bank. During the reconnaissance survey, no cultural resources, including any evidence of P-34-000356, which had been previously mapped within the project area, were identified in the project area.

Pedestrian Survey

On December 10, 2020, ESA conducted a pedestrian survey of the Georgiana Slough staging area. During the survey, intensive pedestrian methods were used, consisting of walking the ground surface in parallel transects no greater than 5 meters apart in accessible areas and inspecting the ground surface for evidence of cultural material. Particular attention was given to slopes/banks and informal trails, where exposed soil was present. Notes and photographs were recorded in the same fashion as with the reconnaissance survey. During the survey, ground visibility ranged from 5 to 40 percent, as dense vegetation and duff were present in many areas. Ground visibility along the Sacramento River bank portion of the staging area (where previous archaeological excavations had been conducted) averaged 25 percent. The areas on either side of the existing gravel drive in the southern portion of the staging area were not surveyed due to extremely dense vegetation. As observed during the reconnaissance survey at the Georgiana Slough staging area, the staging area consists of graveled paths and drives, some heavily vegetated areas, and rip-rap-lined river banks. During the pedestrian survey, no cultural resources, including any evidence of P-34-000356, which had been previously mapped within the project area, were identified in the project area.

Summary of Tribal Cultural Resources Identification Efforts

Through background research, Native American consultation, and field surveys conducted for the proposed project, one cultural resource, Native American archaeological site and TCR P-34-000356, was identified in the project area, at the Georgiana Slough staging area. As part of Tribal consultation efforts for the proposed project, P-34-000356 was evaluated as California Register-eligible, as a TCR, under Criteria 1 to 4; therefore, P-34-000356 is considered a TCR, under CEQA. In summary, one TCR, P-34-000356, has been identified in the project area.

3.18.2 Discussion

a.i, a.ii) *Less-than-Significant Impact with Mitigation.* One TCR, as defined in Public Resources Code Section 21074, has been identified in the project area: Native American site P-34-000356, at the Georgiana Slough staging area. The project proposes to replace a utility pole, install a service pole, and conduct staging activities within the boundaries of P-34-000356. Based on previous archaeological investigations at P-34-000356, CHRIS records search results, distribution of nearby archaeological sites, and environmental context, the proposed project activities at P-34-000356 have a high potential to impact P-34-000356, including potentially encountering human remains. Because the proposed project would involve ground-disturbing activities within the site boundary of P-34-000356, it is possible that such activities could unearth, expose, or disturb subsurface archaeological resources that have not been identified on the surface or during previous archaeological excavations. If any deposits were encountered, any resulting impacts of the proposed project on such deposits, as components of a TCR, would be potentially significant.

Such potentially significant impacts would be reduced to less than significant with mitigation incorporated by implementing Mitigation Measures TRI-1, TRI-2, and CUL-2 to CUL-6.

Mitigation Measure TRI-1: Conduct Pre-construction Tribal Cultural Resources Awareness and Sensitivity Training. Prior to project construction, DWR, in coordination with culturally affiliated California Native American Tribes, shall develop a Tribal Cultural Resources Awareness and Sensitivity Training Program for all construction and field workers involved in project ground-disturbing activities. The training program developed shall include a presentation and awareness brochure that covers, at minimum, the types of potential tribal cultural resources (TCRs) common to the area, consequences of violating State laws and regulations, regulatory protections for TCRs, and the protocol for unanticipated discovery of potential TCRs. Written materials associated with the program shall be provided to project personnel as appropriate. Personnel assigned to work in areas of project ground-disturbing activities shall receive the training before starting work within P-34-000356.

Mitigation Measure TRI-2: Unanticipated Discovery Protocol for Tribal Cultural Resources. If potential tribal cultural resources (TCRs) are encountered during project construction or operation, all activity within 100 feet of the find shall cease, the find shall be flagged for avoidance, and DWR shall be immediately informed of the discovery. DWR shall then contact California Native American Tribes with potential cultural affiliation with the potential TCR to determine whether the resource is a TCR. If DWR, in consultation with relevant California Native American Tribes, determines that the resource qualifies as a TCR, DWR shall consult with relevant California Native American Tribes to determine appropriate treatment of the TCR. Treatment measures may include the following:

- Avoidance and preservation of the resource in place, including, but not limited to:
    - Planning and construction to avoid the resource and protect the cultural and natural context.

  - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
  - Protecting the cultural character and integrity of the resource.
  - Protecting the traditional use of the resource.
  - Protecting the confidentiality of the resource.

- Permanent conservation easements or other interests in real property, with cultural appropriate management criteria for the purposes of preserving or utilizing the resource or place.

Any treatment measures implemented shall be documented and work may proceed in other parts of the project area while the mitigation is being carried out.

3.19 Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

The areas around the Georgiana Slough project site and DCC staging area are served by the California American Water Company. The areas around the Hood, Sutter Slough, and Steamboat Slough staging areas are not served by any public water supply system.

Regional San provides wastewater conveyance and treatment to Courtland and Walnut Grove, which would include the Georgiana Slough project site and the staging areas.

Landfills in the vicinity of the project site include the Kiefer Landfill in Sacramento County and the Yolo County Central Landfill in Yolo County. Both landfills accept municipal solid waste, construction and demolition debris, green materials, agricultural debris, and other nonhazardous-designated debris. According to the California Department of Resources Recovery and Recycling, the Kiefer Landfill and the Yolo County Central Landfill have permitted capacities to accept solid waste through January 1, 2064 and January 1, 2081, respectively (CalRecycle 2019).

All sites are served with electric power by the Sacramento Municipal Utility District.

3.19.2 Discussion

a) *No Impact.* The proposed project includes the temporary construction of a submerged fish structure and associated monitoring equipment and would not include any new development that would require water or wastewater treatment. DWR may also be

required to install a new power pole at Point Ranch Property to provide electricity to the potential staging area (adjacent to Georgiana Slough). On-site power or diesel generator(s) with on-site backup may supply the power necessary to operate the BAFF but would not include the construction of any electric power facilities.

The proposed project would not create or contribute runoff that would exceed the capacity of any stormwater drainage systems, because no such system exists in the vicinity of the proposed project. Furthermore, the proposed project would not include the construction of new impervious surfaces or other development that would require new stormwater drainage facilities or the expansion of existing facilities.

It is anticipated that workers would come from the local population and the project would not induce growth that would require expansion of public services. Thus, expansion of existing or construction of new water or wastewater facilities or stormwater drainage, electric power, natural gas, or telecommunications facilities would not be required. Therefore, no impact would occur.

b) *No Impact.* No new water supplies would be required for the proposed project. In addition, the proposed project would not include any new development that would require public water supplies. Therefore, no impact would occur.

c) *No Impact.* Proposed project activities would not generate wastewater that would require treatment. It is anticipated that the small number of workers during construction and operations would be drawn from the local population already served by wastewater treatment facilities. Therefore, no impact would occur.

d) *Less-than-Significant Impact.* Proposed project activities would not include demolition or other similar activities that would generate solid waste. Solid waste generated during the proposed project would be incidental and would not exceed State or local standards, the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, the impact would be less than significant.

e) *Less-than-Significant Impact.* Any solid waste generated during the proposed project would be incidental and would be disposed of in the Kiefer Landfill or the Yolo County Central Landfill. Transportation and disposal would be accordance with all applicable federal, State, and local statutes and regulations. Therefore, the impact would be less than significant.

3.20 Wildfire

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Environmental Setting

The project site and staging areas are located in Local Responsibility Areas (LRAs) that are not within designated fire hazard severity zones (FHSZs) (CAL FIRE 2019). They are located near Federal Responsibility Areas that are not within a designated FHSZ.

The project site and staging areas have no local emergency response/evacuation plan; however, the areas fall within jurisdiction of the Sacramento County Evacuation Plan (Sacramento County Office of Emergency Services 2018).

3.20.2 Discussion

a) *Less-than-Significant Impact.* The proposed project would use established land-based access routes, and the size of the construction area would be limited to the minimum area necessary to implement the project. As such, the proposed project would not require any road closures and would not substantially increase traffic in the area that would substantially impair any adopted emergency response plan or evacuation plan. Therefore, the impact would be less than significant.

b–c) *Less-than-Significant Impact.* Proposed project activities would require the use of vehicles and heavy equipment both on-shore and off-shore, and these vehicles and equipment could spark and ignite flammable vegetation. Additionally, on-site power or diesel generator(s) with on-site back up would be required to supply the power necessary to operate the BAFF. However, the risk of igniting a wildfire would be low because most construction activities would occur on the river, land-based activities would occur in previously disturbed areas, and vegetation would be limited in the immediate work areas.

Therefore, the proposed project would not exacerbate wildfire risk, and the impact would be less than significant.

d) *Less-than-Significant Impact.* The proposed project includes the installation of an underwater fish barrier and associated monitoring equipment in a Delta water channel in an area that has no immediate on-site residences or structures. Further, as described in Chapter 2, *Project Description*, erosion control measures would be implemented to manage the potential for erosion. Therefore, the proposed project would not expose people or structures to risk of downstream flooding or landslide or health risks that could be associated with wildfire, and the impact would be less than significant.

3.21 Mandatory Findings of Significance

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

3.21.1 Discussion

a) *Less-than-Significant Impact with Mitigation*. The proposed project would involve the construction and operation of a BAFF at the Georgiana Slough junction for 8 years to improve wild Sacramento River juvenile salmon survival by keeping them out of Georgiana Slough and preventing them from entering the central and south Delta during emigration (primarily between October 1 through June 1). The proposed project would not: substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce or restrict the range of rare or endangered plants or animals; or eliminate important examples of the major periods of California history or prehistory. As discussed in the analyses provided in this IS, adherence to federal and State regulations, protective environmental measures, and proposed mitigation measures AQ-1, AQ-2, AQ-3, BIO-1 through BIO-9, CUL-1 through CUL-6, GHG-1, NOI-1, TRI-1, and TRI-2 would reduce all potentially significant impacts to biological, cultural, and tribal cultural resources, as well as to other issue areas analyzed, to less-than-significant levels with mitigation incorporated.

b) *Less-than-Significant Impact with Mitigation*. As noted throughout this document, the potential impacts of the proposed project are largely restricted to temporary construction-related impacts and are site-specific. Other past, present, or probable future construction projects in the area whose effects could be viewed as cumulatively considerable, include road maintenance and repair, levee and bank repairs, and other maintenance activities. However, as noted above, all of the potential direct and indirect impacts of the proposed project were determined to be fully avoided or reduced to less than significant with

protective environmental measures and incorporation of mitigation measures AQ-1, AQ-2, AQ-3, BIO-1 through BIO-9, CUL-1 through CUL-6, GHG-1, NOI-1, TRI-1, and TRI-2. As a result, the potential impacts of the proposed project are not considered cumulatively considerable, and impacts would be less than significant with mitigation incorporated.

c) *Less-than-Significant Impact with Mitigation*. The potential impacts of the proposed project are temporary and site-specific. These impacts are all localized to the project area and include limited adverse effects on air quality, biological resources, cultural resources, greenhouse gas emissions, noise, and tribal cultural resources, which would be reduced to less than significant through implementation of mitigation measures. However, the proposed project would not include any activities or uses that may cause substantial adverse effects on human beings, either directly or indirectly, or on the physical environment. Compliance with applicable State and federal standards, protective environmental measures, as well as incorporation of project mitigation measures would result in less-than-significant impacts with mitigation incorporated.

CHAPTER 4
References

Chapter 1, Introduction

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Appendix A

Air Quality, Greenhouse Gas, Health Risk Assessment, and Energy Data

DWR Georgiana Slough Salmonid Migratory Barrier - BAFF

Sacramento Metropolitan AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.80	Acre	1.80	78,408.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Summed the Locke and Walnut Grove staging area acreages from PD. This is the only area with potential for soil movement.

Construction Phase - Schedule and work days from project description. Assumes a 10-hr, 7-day work week. Because marine construction must occur Aug-Sep, the previous year's removal is concurrent with the following year's site prep.

Off-road Equipment - Same as pile install except for pile driver.

Off-road Equipment - Running full-time during operation per the PM. Assuming a large air compressor to be conservative.

Off-road Equipment - Unit amount from 2011 study. Hours for crane, forklift, generator sets = 2011 hours x 2.5 (larger project). Other const. equip. = vibratory pile driver. 49 piles x 10 min per pile / 30 days

Off-road Equipment - Same as install except shorter hours because only a maximum of 20 piles will be removed each year. Assuming pile driver is needed to be conservative.

Off-road Equipment - Total hours of operation from 2011 (4) x 2.5 (larger project) / days in phase = 1.4 hr/day

Off-road Equipment - Same as Y1.
Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1 except shorter hours (maximum of 20 piles being installed).

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1 except longer hours because all 49 piles will be removed.

Off-road Equipment - Same as Y1.

Trips and VMT - Vendors are used to represent mobilization. Haul trips are used to represent pickup trucks in equipment list.

Grading -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - SMAQMD prescribed Basic Construction Emission Control Practices. Tier 4 for all to lower PM10 exhaust.

Vehicle Emission Factors -

Vehicle Emission Factors -

DWR Salmon Protection Tech Study - BAFF, Georgiana Slough - Sacramento Metropolitan AQMD Air District, Annual

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tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
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tblTripsAndVMT	WorkerTripNumber	33.00	30.00

tblTripsAndVMT	WorkerTripNumber	3.00	10.00
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tblTripsAndVMT	WorkerTripNumber	33.00	30.00
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tblTripsAndVMT	WorkerTripNumber	33.00	30.00
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tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
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tblTripsAndVMT	WorkerTripNumber	33.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0290	0.2398	0.2746	5.6000e-004	0.0109	0.0115	0.0224	2.8600e-003	0.0112	0.0141	0.0000	49.2717	49.2717	4.6300e-003	0.0000	49.3874
2023	0.1417	1.0271	1.5486	2.9500e-003	0.0220	0.0493	0.0713	5.8000e-003	0.0491	0.0549	0.0000	254.3589	254.3589	0.0134	0.0000	254.6946
2024	0.1329	0.9467	1.5432	2.9400e-003	0.0220	0.0427	0.0647	5.8000e-003	0.0425	0.0483	0.0000	253.7019	253.7019	0.0126	0.0000	254.0167
2025	0.1246	0.8727	1.5382	2.9300e-003	0.0220	0.0367	0.0586	5.8000e-003	0.0365	0.0423	0.0000	253.0523	253.0523	0.0119	0.0000	253.3506
2026	0.1234	0.8665	1.5241	2.9100e-003	0.0219	0.0364	0.0583	5.7900e-003	0.0362	0.0420	0.0000	250.7725	250.7725	0.0118	0.0000	251.0684
2027	0.1239	0.8719	1.5316	2.9200e-003	0.0220	0.0366	0.0586	5.8000e-003	0.0365	0.0423	0.0000	251.9547	251.9547	0.0119	0.0000	252.2516
2028	0.1235	0.8715	1.5289	2.9100e-003	0.0220	0.0366	0.0586	5.8000e-003	0.0364	0.0422	0.0000	251.4948	251.4948	0.0119	0.0000	251.7912
2029	0.1231	0.8712	1.5262	2.9100e-003	0.0220	0.0366	0.0586	5.8000e-003	0.0364	0.0422	0.0000	251.0872	251.0872	0.0118	0.0000	251.3831
2030	0.0823	0.5063	1.4009	2.6500e-003	0.0110	0.0132	0.0242	2.9400e-003	0.0132	0.0161	0.0000	227.8796	227.8796	6.5500e-003	0.0000	228.0432
Maximum	**0.1417**	**1.0271**	**1.5486**	**2.9500e-003**	**0.0220**	**0.0493**	**0.0713**	**5.8000e-003**	**0.0491**	**0.0549**	**0.0000**	**254.3589**	**254.3589**	**0.0134**	**0.0000**	**254.6946**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0126	0.1656	0.3123	5.6000e-004	9.9200e-003	7.2000e-004	0.0107	2.6400e-003	7.2000e-004	3.3600e-003	0.0000	49.2716	49.2716	4.6300e-003	0.0000	49.3874
2023	0.0488	0.9863	1.7495	2.9500e-003	0.0201	3.8300e-003	0.0239	5.3700e-003	3.8200e-003	9.1900e-003	0.0000	254.3586	254.3586	0.0134	0.0000	254.6943
2024	0.0483	0.9857	1.7452	2.9400e-003	0.0201	3.8300e-003	0.0239	5.3700e-003	3.8200e-003	9.1900e-003	0.0000	253.7016	253.7016	0.0126	0.0000	254.0164
2025	0.0479	0.9852	1.7412	2.9300e-003	0.0201	3.8300e-003	0.0239	5.3700e-003	3.8200e-003	9.1800e-003	0.0000	253.0521	253.0521	0.0119	0.0000	253.3503
2026	0.0473	0.9779	1.7256	2.9100e-003	0.0201	3.8000e-003	0.0239	5.3600e-003	3.7900e-003	9.1400e-003	0.0000	250.7723	250.7723	0.0118	0.0000	251.0682
2027	0.0472	0.9844	1.7346	2.9200e-003	0.0201	3.8200e-003	0.0239	5.3700e-003	3.8100e-003	9.1700e-003	0.0000	251.9544	251.9544	0.0119	0.0000	252.2514
2028	0.0469	0.9841	1.7318	2.9100e-003	0.0201	3.8100e-003	0.0239	5.3700e-003	3.8000e-003	9.1700e-003	0.0000	251.4946	251.4946	0.0119	0.0000	251.7910
2029	0.0464	0.9837	1.7292	2.9100e-003	0.0201	3.8000e-003	0.0239	5.3700e-003	3.7900e-003	9.1600e-003	0.0000	251.0870	251.0870	0.0118	0.0000	251.3829
2030	0.0400	0.9141	1.5939	2.6500e-003	0.0102	3.4800e-003	0.0137	2.7300e-003	3.4700e-003	6.2000e-003	0.0000	227.8793	227.8793	6.5500e-003	0.0000	228.0430
Maximum	**0.0488**	**0.9863**	**1.7495**	**2.9500e-003**	**0.0201**	**3.8300e-003**	**0.0239**	**5.3700e-003**	**3.8200e-003**	**9.1900e-003**	**0.0000**	**254.3586**	**254.3586**	**0.0134**	**0.0000**	**254.6943**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**61.63**	**-12.63**	**-13.26**	**0.00**	**8.43**	**89.68**	**59.65**	**7.42**	**89.65**	**78.57**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2022	10-31-2022	0.1375	0.0907

2	**11-1-2022**	**1-31-2023**	0.3742	0.3123
3	**2-1-2023**	**4-30-2023**	0.6960	0.6444
5	**8-1-2023**	**10-31-2023**	0.1097	0.0797
6	**11-1-2023**	**1-31-2024**	0.3448	0.3117
7	**2-1-2024**	**4-30-2024**	0.6414	0.6442
9	**8-1-2024**	**10-31-2024**	0.1023	0.0792
10	**11-1-2024**	**1-31-2025**	0.3192	0.3113
11	**2-1-2025**	**4-30-2025**	0.5913	0.6440
13	**8-1-2025**	**10-31-2025**	0.0952	0.0787
14	**11-1-2025**	**1-31-2026**	0.3115	0.3111
15	**2-1-2026**	**4-30-2026**	0.5845	0.6366
17	**8-1-2026**	**10-31-2026**	0.0948	0.0783
18	**11-1-2026**	**1-31-2027**	0.3112	0.3108
19	**2-1-2027**	**4-30-2027**	0.5910	0.6437
21	**8-1-2027**	**10-31-2027**	0.0944	0.0779
22	**11-1-2027**	**1-31-2028**	0.3110	0.3105
23	**2-1-2028**	**4-30-2028**	0.5908	0.6436
25	**8-1-2028**	**10-31-2028**	0.0940	0.0775
26	**11-1-2028**	**1-31-2029**	0.3108	0.3103
27	**2-1-2029**	**4-30-2029**	0.5907	0.6434
29	**8-1-2029**	**10-31-2029**	0.0936	0.0772
30	**11-1-2029**	**1-31-2030**	0.2390	0.3101
31	**2-1-2030**	**4-30-2030**	0.3853	0.6433
33	**8-1-2030**	**9-30-2030**	0.0694	0.0870
		Highest	0.6960	0.6444

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.4000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	5.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.4100e-003	0.0109	0.0279	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	7.0000e-005	3.4700e-003	0.0000	10.6770	10.6770	4.2000e-004	0.0000	10.6875
Waste						0.0000	0.0000		0.0000	0.0000	0.0305	0.0000	0.0305	1.8000e-003	0.0000	0.0754
Water						0.0000	0.0000		0.0000	0.0000	0.0000	2.1837	2.1837	1.0000e-004	2.0000e-005	2.1922
Total	**3.1500e-003**	**0.0109**	**0.0280**	**1.2000e-004**	**0.0127**	**8.0000e-005**	**0.0128**	**3.3900e-003**	**7.0000e-005**	**3.4700e-003**	**0.0305**	**12.8607**	**12.8911**	**2.3200e-003**	**2.0000e-005**	**12.9552**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.4000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	5.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.4100e-003	0.0109	0.0279	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	7.0000e-005	3.4700e-003	0.0000	10.6770	10.6770	4.2000e-004	0.0000	10.6875
Waste						0.0000	0.0000		0.0000	0.0000	0.0305	0.0000	0.0305	1.8000e-003	0.0000	0.0754
Water						0.0000	0.0000		0.0000	0.0000	0.0000	2.1837	2.1837	1.0000e-004	2.0000e-005	2.1922
Total	**3.1500e-003**	**0.0109**	**0.0280**	**1.2000e-004**	**0.0127**	**8.0000e-005**	**0.0128**	**3.3900e-003**	**7.0000e-005**	**3.4700e-003**	**0.0305**	**12.8607**	**12.8911**	**2.3200e-003**	**2.0000e-005**	**12.9552**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Y1 - Site Prep	Site Preparation	8/1/2022	8/7/2022	7	7	
2	Y1 - Pile Install	Building Construction	8/8/2022	9/6/2022	7	30	
3	Y1 - Barrier Install	Building Construction	12/1/2022	12/30/2022	7	30	

4	Y1 - Operation	Architectural Coating	1/1/2023	4/30/2023	7	120
5	Y1 - Removal	Building Construction	8/1/2023	8/30/2023	7	30
6	Y2 - Site Prep	Site Preparation	8/24/2023	8/30/2023	7	7
7	Y2 - Pile Install	Building Construction	8/31/2023	9/29/2023	7	30
8	Y2 - Barrier Install	Building Construction	12/1/2023	12/30/2023	7	30
9	Y2 - Operation	Architectural Coating	1/1/2024	4/29/2024	7	120
10	Y2 - Removal	Building Construction	8/1/2024	8/30/2024	7	30
11	Y3 - Site Prep	Site Preparation	8/24/2024	8/30/2024	7	7
12	Y3 - Pile Install	Building Construction	8/31/2024	9/29/2024	7	30
13	Y3 - Barrier Install	Building Construction	12/1/2024	12/30/2024	7	30
14	Y3 - Operation	Architectural Coating	1/1/2025	4/30/2025	7	120
15	Y3 - Removal	Building Construction	8/1/2025	8/30/2025	7	30
16	Y4 - Site Prep	Site Preparation	8/24/2025	8/30/2025	7	7
17	Y4 - Pile Install	Building Construction	8/31/2025	9/29/2025	7	30
18	Y4 - Barrier Install	Building Construction	12/1/2025	12/30/2025	7	30
19	Y4 - Operation	Architectural Coating	1/1/2026	4/29/2026	7	120
20	Y4 - Removal	Building Construction	8/1/2026	8/30/2026	7	30
21	Y5 - Site Prep	Site Preparation	8/24/2026	8/30/2026	7	7
22	Y5 - Pile Install	Building Construction	8/31/2026	9/29/2026	7	30
23	Y5 - Barrier Install	Building Construction	12/1/2026	12/30/2026	7	30
24	Y5 - Operation	Architectural Coating	1/1/2027	4/30/2027	7	120
25	Y5 - Removal	Building Construction	8/1/2027	8/30/2027	7	30
26	Y6 - Site Prep	Site Preparation	8/24/2027	8/30/2027	7	7
27	Y6 - Pile Install	Building Construction	8/31/2027	9/29/2027	7	30
28	Y6 - Barrier Install	Building Construction	12/1/2027	12/30/2027	7	30
29	Y6 - Operation	Architectural Coating	1/1/2028	4/29/2028	7	120
30	Y6 - Removal	Building Construction	8/1/2028	8/30/2028	7	30

31	Y7 - Site Prep	Site Preparation	8/24/2028	8/30/2028	7	7	
32	Y7 - Pile Install	Building Construction	8/31/2028	9/29/2028	7	30	
33	Y7 - Barrier Install	Building Construction	12/1/2028	12/30/2028	7	30	
34	Y7 - Operation	Architectural Coating	1/1/2029	4/30/2029	7	120	
35	Y7 - Removal	Building Construction	8/1/2029	8/30/2029	7	30	
36	Y8 - Site Prep	Site Preparation	8/24/2029	8/30/2029	7	7	
37	Y8 - Pile Install	Building Construction	8/31/2029	9/29/2029	7	30	
38	Y8 - Barrier Install	Building Construction	12/1/2029	12/30/2029	7	30	
39	Y8 - Operation	Architectural Coating	1/1/2030	4/30/2030	7	120	
40	Y8 - Removal	Building Construction	8/1/2030	8/30/2030	7	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Y1 - Site Prep	Graders	1	1.40	187	0.41
Y1 - Pile Install	Cranes	1	3.50	231	0.29
Y1 - Pile Install	Forklifts	1	3.50	89	0.20
Y1 - Pile Install	Generator Sets	5	2.90	84	0.74
Y1 - Pile Install	Other Construction Equipment	1	0.30	145	0.42
Y1 - Barrier Install	Cranes	1	3.50	231	0.29
Y1 - Barrier Install	Forklifts	1	3.50	89	0.20
Y1 - Barrier Install	Generator Sets	5	2.90	84	0.74

Y1 - Operation	Air Compressors	1	24.00	125	0.48
Y1 - Operation	Generator Sets	1	24.00	84	0.74
Y1 - Removal	Cranes	1	1.40	231	0.29
Y1 - Removal	Forklifts	1	1.40	89	0.20
Y1 - Removal	Generator Sets	5	1.20	84	0.74
Y1 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y2 - Site Prep	Graders	1	1.40	187	0.41
Y2 - Pile Install	Cranes	1	1.40	231	0.29
Y2 - Pile Install	Forklifts	1	1.40	89	0.20
Y2 - Pile Install	Generator Sets	5	1.20	84	0.74
Y2 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y2 - Barrier Install	Cranes	1	3.50	231	0.29
Y2 - Barrier Install	Forklifts	1	3.50	89	0.20
Y2 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y2 - Operation	Air Compressors	1	24.00	125	0.48
Y2 - Operation	Generator Sets	1	24.00	84	0.74
Y2 - Removal	Cranes	1	1.40	231	0.29
Y2 - Removal	Forklifts	1	1.40	89	0.20
Y2 - Removal	Generator Sets	5	1.20	84	0.74
Y2 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y3 - Site Prep	Graders	1	1.40	187	0.41
Y3 - Pile Install	Cranes	1	1.40	231	0.29
Y3 - Pile Install	Forklifts	1	1.40	89	0.20
Y3 - Pile Install	Generator Sets	5	1.20	84	0.74
Y3 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y3 - Barrier Install	Cranes	1	3.50	231	0.29
Y3 - Barrier Install	Forklifts	1	3.50	89	0.20

Y3 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y3 - Operation	Air Compressors	1	24.00	125	0.48
Y3 - Operation	Generator Sets	1	24.00	84	0.74
Y3 - Removal	Cranes	1	1.40	231	0.29
Y3 - Removal	Forklifts	1	1.40	89	0.20
Y3 - Removal	Generator Sets	5	1.20	84	0.74
Y3 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y4 - Site Prep	Graders	1	1.40	187	0.41
Y4 - Pile Install	Cranes	1	1.40	231	0.29
Y4 - Pile Install	Forklifts	1	1.40	89	0.20
Y4 - Pile Install	Generator Sets	5	1.20	84	0.74
Y4 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y4 - Barrier Install	Cranes	1	3.50	231	0.29
Y4 - Barrier Install	Forklifts	1	3.50	89	0.20
Y4 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y4 - Operation	Air Compressors	1	24.00	125	0.48
Y4 - Operation	Generator Sets	1	24.00	84	0.74
Y4 - Removal	Cranes	1	1.40	231	0.29
Y4 - Removal	Forklifts	1	1.40	89	0.20
Y4 - Removal	Generator Sets	5	1.20	84	0.74
Y4 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y5 - Site Prep	Graders	1	1.40	187	0.41
Y5 - Pile Install	Cranes	1	1.40	231	0.29
Y5 - Pile Install	Forklifts	1	1.40	89	0.20
Y5 - Pile Install	Generator Sets	5	1.20	84	0.74
Y5 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y5 - Barrier Install	Cranes	1	3.50	231	0.29

Y5 - Barrier Install	Forklifts	1	3.50	89	0.20
Y5 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y5 - Operation	Air Compressors	1	24.00	125	0.48
Y5 - Operation	Generator Sets	1	24.00	84	0.74
Y5 - Removal	Cranes	1	1.40	231	0.29
Y5 - Removal	Forklifts	1	1.40	89	0.20
Y5 - Removal	Generator Sets	5	1.20	84	0.74
Y5 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y6 - Site Prep	Graders	1	1.40	187	0.41
Y6 - Pile Install	Cranes	1	1.40	231	0.29
Y6 - Pile Install	Forklifts	1	1.40	89	0.20
Y6 - Pile Install	Generator Sets	5	1.20	84	0.74
Y6 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y6 - Barrier Install	Cranes	1	3.50	231	0.29
Y6 - Barrier Install	Forklifts	1	3.50	89	0.20
Y6 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y6 - Operation	Air Compressors	1	24.00	125	0.48
Y6 - Operation	Generator Sets	1	24.00	84	0.74
Y6 - Removal	Cranes	1	1.40	231	0.29
Y6 - Removal	Forklifts	1	1.40	89	0.20
Y6 - Removal	Generator Sets	5	1.20	84	0.74
Y6 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y7 - Site Prep	Graders	1	1.40	187	0.41
Y7 - Pile Install	Cranes	1	1.40	231	0.29
Y7 - Pile Install	Forklifts	1	1.40	89	0.20
Y7 - Pile Install	Generator Sets	5	1.20	84	0.74
Y7 - Pile Install	Other Construction Equipment	1	0.10	145	0.42

Y7 - Barrier Install	Cranes	1	3.50	231	0.29
Y7 - Barrier Install	Forklifts	1	3.50	89	0.20
Y7 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y7 - Operation	Air Compressors	1	24.00	125	0.48
Y7 - Operation	Generator Sets	1	24.00	84	0.74
Y7 - Removal	Cranes	1	1.40	231	0.29
Y7 - Removal	Forklifts	1	1.40	89	0.20
Y7 - Removal	Generator Sets	5	1.20	84	0.74
Y7 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y8 - Site Prep	Graders	1	1.40	187	0.41
Y8 - Pile Install	Cranes	1	1.40	231	0.29
Y8 - Pile Install	Forklifts	1	1.40	89	0.20
Y8 - Pile Install	Generator Sets	5	1.20	84	0.74
Y8 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y8 - Barrier Install	Cranes	1	3.50	231	0.29
Y8 - Barrier Install	Forklifts	1	3.50	89	0.20
Y8 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y8 - Operation	Air Compressors	1	24.00	125	0.48
Y8 - Operation	Generator Sets	1	24.00	84	0.74
Y8 - Removal	Cranes	1	3.50	231	0.29
Y8 - Removal	Forklifts	1	3.50	89	0.20
Y8 - Removal	Generator Sets	5	2.90	84	0.74
Y8 - Removal	Other Construction Equipment	1	0.30	145	0.42

Trips and VMT

DWR Salmon Protection Tech Study - BAFF, Georgiana Slough - Sacramento Metropolitan AQMD Air District, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Y1 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	20.00	LD_Mix	HDT_Mix	MHDT
Y1 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT

Y6 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Y1 - Site Prep - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5000e-004	3.2200e-003	1.0500e-003	0.0000		1.0000e-004	1.0000e-004		9.0000e-005	9.0000e-005	0.0000	0.3563	0.3563	1.2000e-004	0.0000	0.3592
Total	**2.5000e-004**	**3.2200e-003**	**1.0500e-003**	**0.0000**	**3.2000e-004**	**1.0000e-004**	**4.2000e-004**	**3.0000e-005**	**9.0000e-005**	**1.2000e-004**	**0.0000**	**0.3563**	**0.3563**	**1.2000e-004**	**0.0000**	**0.3592**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.8000e-004	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1014	0.1014	1.0000e-005	0.0000	0.1016
Worker	1.5000e-004	1.0000e-004	1.1400e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3148	0.3148	1.0000e-005	0.0000	0.3150
Total	**1.6000e-004**	**4.8000e-004**	**1.2400e-003**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4162**	**0.4162**	**2.0000e-005**	**0.0000**	**0.4166**

3.2 Y1 - Site Prep - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3563	0.3563	1.2000e-004	0.0000	0.3592
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3563**	**0.3563**	**1.2000e-004**	**0.0000**	**0.3592**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.8000e-004	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1014	0.1014	1.0000e-005	0.0000	0.1016
Worker	1.5000e-004	1.0000e-004	1.1400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3148	0.3148	1.0000e-005	0.0000	0.3150
Total	**1.6000e-004**	**4.8000e-004**	**1.2400e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4162**	**0.4162**	**2.0000e-005**	**0.0000**	**0.4166**

3.3 Y1 - Pile Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0123	0.1158	0.1218	2.3000e-004		5.6900e-003	5.6900e-003		5.5500e-003	5.5500e-003	0.0000	19.8322	19.8322	2.1700e-003	0.0000	19.8866
Total	**0.0123**	**0.1158**	**0.1218**	**2.3000e-004**		**5.6900e-003**	**5.6900e-003**		**5.5500e-003**	**5.5500e-003**	**0.0000**	**19.8322**	**19.8322**	**2.1700e-003**	**0.0000**	**19.8866**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.3000e-004	1.1000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0638	0.0638	0.0000	0.0000	0.0638
Vendor	5.0000e-005	1.6300e-003	4.3000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4347	0.4347	2.0000e-005	0.0000	0.4353
Worker	1.9700e-003	1.3100e-003	0.0147	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	4.0476	4.0476	1.0000e-004	0.0000	4.0499
Total	**2.0300e-003**	**3.1700e-003**	**0.0153**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.5460**	**4.5460**	**1.2000e-004**	**0.0000**	**4.5490**

3.3 Y1 - Pile Install - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1600e-003	0.0795	0.1403	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.8322	19.8322	2.1700e-003	0.0000	19.8865
Total	**4.1600e-003**	**0.0795**	**0.1403**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.8322**	**19.8322**	**2.1700e-003**	**0.0000**	**19.8865**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.3000e-004	1.1000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0638	0.0638	0.0000	0.0000	0.0638
Vendor	5.0000e-005	1.6300e-003	4.3000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4347	0.4347	2.0000e-005	0.0000	0.4353
Worker	1.9700e-003	1.3100e-003	0.0147	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	4.0476	4.0476	1.0000e-004	0.0000	4.0499
Total	**2.0300e-003**	**3.1700e-003**	**0.0153**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.3000e-003**	**0.0000**	**4.5460**	**4.5460**	**1.2000e-004**	**0.0000**	**4.5490**

3.4 Y1 - Barrier Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0122	0.1140	0.1199	2.3000e-004		5.5900e-003	5.5900e-003		5.4600e-003	5.4600e-003	0.0000	19.5748	19.5748	2.0900e-003	0.0000	19.6271
Total	**0.0122**	**0.1140**	**0.1199**	**2.3000e-004**		**5.5900e-003**	**5.5900e-003**		**5.4600e-003**	**5.4600e-003**	**0.0000**	**19.5748**	**19.5748**	**2.0900e-003**	**0.0000**	**19.6271**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.3000e-004	1.1000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0638	0.0638	0.0000	0.0000	0.0638
Vendor	5.0000e-005	1.6300e-003	4.3000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4347	0.4347	2.0000e-005	0.0000	0.4353
Worker	1.9700e-003	1.3100e-003	0.0147	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	4.0476	4.0476	1.0000e-004	0.0000	4.0499
Total	**2.0300e-003**	**3.1700e-003**	**0.0153**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.5460**	**4.5460**	**1.2000e-004**	**0.0000**	**4.5490**

3.4 Y1 - Barrier Install - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5748	19.5748	2.0900e-003	0.0000	19.6271
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5748**	**19.5748**	**2.0900e-003**	**0.0000**	**19.6271**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.3000e-004	1.1000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0638	0.0638	0.0000	0.0000	0.0638
Vendor	5.0000e-005	1.6300e-003	4.3000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4347	0.4347	2.0000e-005	0.0000	0.4353
Worker	1.9700e-003	1.3100e-003	0.0147	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	4.0476	4.0476	1.0000e-004	0.0000	4.0499
Total	**2.0300e-003**	**3.1700e-003**	**0.0153**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.3000e-003**	**0.0000**	**4.5460**	**4.5460**	**1.2000e-004**	**0.0000**	**4.5490**

3.5 Y1 - Operation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1128	0.8218	1.2695	2.3300e-003		0.0400	0.0400		0.0400	0.0400	0.0000	199.9394	199.9394	9.1400e-003	0.0000	200.1679
Total	**0.1128**	**0.8218**	**1.2695**	**2.3300e-003**		**0.0400**	**0.0400**		**0.0400**	**0.0400**	**0.0000**	**199.9394**	**199.9394**	**9.1400e-003**	**0.0000**	**200.1679**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2200e-003	1.4100e-003	0.0162	5.0000e-005	5.9500e-003	4.0000e-005	5.9800e-003	1.5800e-003	3.0000e-005	1.6200e-003	0.0000	4.6745	4.6745	1.0000e-004	0.0000	4.6771
Total	**2.2200e-003**	**1.4100e-003**	**0.0162**	**5.0000e-005**	**5.9500e-003**	**4.0000e-005**	**5.9800e-003**	**1.5800e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.6745**	**4.6745**	**1.0000e-004**	**0.0000**	**4.6771**

3.5 Y1 - Operation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	9.1400e-003	0.0000	200.1677
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**9.1400e-003**	**0.0000**	**200.1677**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2200e-003	1.4100e-003	0.0162	5.0000e-005	5.4800e-003	4.0000e-005	5.5200e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.6745	4.6745	1.0000e-004	0.0000	4.6771
Total	**2.2200e-003**	**1.4100e-003**	**0.0162**	**5.0000e-005**	**5.4800e-003**	**4.0000e-005**	**5.5200e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.6745**	**4.6745**	**1.0000e-004**	**0.0000**	**4.6771**

3.6 Y1 - Removal - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6900e-003	0.0436	0.0497	9.0000e-005		2.0500e-003	2.0500e-003		2.0000e-003	2.0000e-003	0.0000	8.1276	8.1276	8.5000e-004	0.0000	8.1489
Total	**4.6900e-003**	**0.0436**	**0.0497**	**9.0000e-005**		**2.0500e-003**	**2.0500e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**8.1276**	**8.1276**	**8.5000e-004**	**0.0000**	**8.1489**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0633	0.0633	0.0000	0.0000	0.0633
Vendor	4.0000e-005	1.3500e-003	3.8000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4268	0.4268	2.0000e-005	0.0000	0.4272
Worker	1.8500e-003	1.1800e-003	0.0135	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.8954	3.8954	9.0000e-005	0.0000	3.8976
Total	**1.9000e-003**	**2.7400e-003**	**0.0140**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.3854**	**4.3854**	**1.1000e-004**	**0.0000**	**4.3881**

3.6 Y1 - Removal - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1276	8.1276	8.5000e-004	0.0000	8.1489
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1276**	**8.1276**	**8.5000e-004**	**0.0000**	**8.1489**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0633	0.0633	0.0000	0.0000	0.0633
Vendor	4.0000e-005	1.3500e-003	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4268	0.4268	2.0000e-005	0.0000	0.4272
Worker	1.8500e-003	1.1800e-003	0.0135	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.8954	3.8954	9.0000e-005	0.0000	3.8976
Total	**1.9000e-003**	**2.7400e-003**	**0.0140**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.3854**	**4.3854**	**1.1000e-004**	**0.0000**	**4.3881**

3.7 Y2 - Site Prep - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-004	2.8500e-003	1.0400e-003	0.0000		9.0000e-005	9.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.3561	0.3561	1.2000e-004	0.0000	0.3590
Total	**2.3000e-004**	**2.8500e-003**	**1.0400e-003**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**4.1000e-004**	**3.0000e-005**	**8.0000e-005**	**1.1000e-004**	**0.0000**	**0.3561**	**0.3561**	**1.2000e-004**	**0.0000**	**0.3590**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.2000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0996	0.0996	0.0000	0.0000	0.0997
Worker	1.4000e-004	9.0000e-005	1.0500e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3030	0.3030	1.0000e-005	0.0000	0.3031
Total	**1.5000e-004**	**4.1000e-004**	**1.1400e-003**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4026**	**0.4026**	**1.0000e-005**	**0.0000**	**0.4028**

3.7 Y2 - Site Prep - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3561	0.3561	1.2000e-004	0.0000	0.3590
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3561**	**0.3561**	**1.2000e-004**	**0.0000**	**0.3590**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.2000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0996	0.0996	0.0000	0.0000	0.0997
Worker	1.4000e-004	9.0000e-005	1.0500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3030	0.3030	1.0000e-005	0.0000	0.3031
Total	**1.5000e-004**	**4.1000e-004**	**1.1400e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4026**	**0.4026**	**1.0000e-005**	**0.0000**	**0.4028**

3.8 Y2 - Pile Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6900e-003	0.0436	0.0497	9.0000e-005		2.0500e-003	2.0500e-003		2.0000e-003	2.0000e-003	0.0000	8.1276	8.1276	8.5000e-004	0.0000	8.1489
Total	**4.6900e-003**	**0.0436**	**0.0497**	**9.0000e-005**		**2.0500e-003**	**2.0500e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**8.1276**	**8.1276**	**8.5000e-004**	**0.0000**	**8.1489**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0633	0.0633	0.0000	0.0000	0.0633
Vendor	4.0000e-005	1.3500e-003	3.8000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4268	0.4268	2.0000e-005	0.0000	0.4272
Worker	1.8500e-003	1.1800e-003	0.0135	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.8954	3.8954	9.0000e-005	0.0000	3.8976
Total	**1.9000e-003**	**2.7400e-003**	**0.0140**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.3854**	**4.3854**	**1.1000e-004**	**0.0000**	**4.3881**

3.8 Y2 - Pile Install - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1276	8.1276	8.5000e-004	0.0000	8.1489
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1276**	**8.1276**	**8.5000e-004**	**0.0000**	**8.1489**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0633	0.0633	0.0000	0.0000	0.0633
Vendor	4.0000e-005	1.3500e-003	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4268	0.4268	2.0000e-005	0.0000	0.4272
Worker	1.8500e-003	1.1800e-003	0.0135	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.8954	3.8954	9.0000e-005	0.0000	3.8976
Total	**1.9000e-003**	**2.7400e-003**	**0.0140**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.3854**	**4.3854**	**1.1000e-004**	**0.0000**	**4.3881**

3.9 Y2 - Barrier Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1052	0.1193	2.3000e-004		4.9200e-003	4.9200e-003		4.8100e-003	4.8100e-003	0.0000	19.5747	19.5747	2.0400e-003	0.0000	19.6257
Total	**0.0113**	**0.1052**	**0.1193**	**2.3000e-004**		**4.9200e-003**	**4.9200e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**19.5747**	**19.5747**	**2.0400e-003**	**0.0000**	**19.6257**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0633	0.0633	0.0000	0.0000	0.0633
Vendor	4.0000e-005	1.3500e-003	3.8000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4268	0.4268	2.0000e-005	0.0000	0.4272
Worker	1.8500e-003	1.1800e-003	0.0135	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.8954	3.8954	9.0000e-005	0.0000	3.8976
Total	**1.9000e-003**	**2.7400e-003**	**0.0140**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.3854**	**4.3854**	**1.1000e-004**	**0.0000**	**4.3881**

3.9 Y2 - Barrier Install - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5747	19.5747	2.0400e-003	0.0000	19.6256
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5747**	**19.5747**	**2.0400e-003**	**0.0000**	**19.6256**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0633	0.0633	0.0000	0.0000	0.0633
Vendor	4.0000e-005	1.3500e-003	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4268	0.4268	2.0000e-005	0.0000	0.4272
Worker	1.8500e-003	1.1800e-003	0.0135	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.8954	3.8954	9.0000e-005	0.0000	3.8976
Total	**1.9000e-003**	**2.7400e-003**	**0.0140**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.3854**	**4.3854**	**1.1000e-004**	**0.0000**	**4.3881**

3.10 Y2 - Operation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1058	0.7554	1.2694	2.3300e-003		0.0346	0.0346		0.0346	0.0346	0.0000	199.9394	199.9394	8.4400e-003	0.0000	200.1504
Total	**0.1058**	**0.7554**	**1.2694**	**2.3300e-003**		**0.0346**	**0.0346**		**0.0346**	**0.0346**	**0.0000**	**199.9394**	**199.9394**	**8.4400e-003**	**0.0000**	**200.1504**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0900e-003	1.2800e-003	0.0151	5.0000e-005	5.9500e-003	4.0000e-005	5.9800e-003	1.5800e-003	3.0000e-005	1.6200e-003	0.0000	4.4927	4.4927	9.0000e-005	0.0000	4.4950
Total	**2.0900e-003**	**1.2800e-003**	**0.0151**	**5.0000e-005**	**5.9500e-003**	**4.0000e-005**	**5.9800e-003**	**1.5800e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.4927**	**4.4927**	**9.0000e-005**	**0.0000**	**4.4950**

3.10 Y2 - Operation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	8.4400e-003	0.0000	200.1501
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**8.4400e-003**	**0.0000**	**200.1501**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0900e-003	1.2800e-003	0.0151	5.0000e-005	5.4800e-003	4.0000e-005	5.5200e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.4927	4.4927	9.0000e-005	0.0000	4.4950
Total	**2.0900e-003**	**1.2800e-003**	**0.0151**	**5.0000e-005**	**5.4800e-003**	**4.0000e-005**	**5.5200e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.4927**	**4.4927**	**9.0000e-005**	**0.0000**	**4.4950**

3.11 Y2 - Removal - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3800e-003	0.0407	0.0495	9.0000e-005		1.7900e-003	1.7900e-003		1.7500e-003	1.7500e-003	0.0000	8.1276	8.1276	8.3000e-004	0.0000	8.1483
Total	**4.3800e-003**	**0.0407**	**0.0495**	**9.0000e-005**		**1.7900e-003**	**1.7900e-003**		**1.7500e-003**	**1.7500e-003**	**0.0000**	**8.1276**	**8.1276**	**8.3000e-004**	**0.0000**	**8.1483**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0630	0.0630	0.0000	0.0000	0.0631
Vendor	4.0000e-005	1.3200e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4244	0.4244	2.0000e-005	0.0000	0.4248
Worker	1.7400e-003	1.0700e-003	0.0125	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.7439	3.7439	8.0000e-005	0.0000	3.7458
Total	**1.7900e-003**	**2.6000e-003**	**0.0130**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.2313**	**4.2313**	**1.0000e-004**	**0.0000**	**4.2337**

3.11 Y2 - Removal - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1276	8.1276	8.3000e-004	0.0000	8.1483
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1276**	**8.1276**	**8.3000e-004**	**0.0000**	**8.1483**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0630	0.0630	0.0000	0.0000	0.0631
Vendor	4.0000e-005	1.3200e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4244	0.4244	2.0000e-005	0.0000	0.4248
Worker	1.7400e-003	1.0700e-003	0.0125	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7439	3.7439	8.0000e-005	0.0000	3.7458
Total	**1.7900e-003**	**2.6000e-003**	**0.0130**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.2313**	**4.2313**	**1.0000e-004**	**0.0000**	**4.2337**

3.12 Y3 - Site Prep - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2000e-004	2.5500e-003	1.0100e-003	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.3559	0.3559	1.2000e-004	0.0000	0.3588
Total	**2.2000e-004**	**2.5500e-003**	**1.0100e-003**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**4.0000e-004**	**3.0000e-005**	**8.0000e-005**	**1.1000e-004**	**0.0000**	**0.3559**	**0.3559**	**1.2000e-004**	**0.0000**	**0.3588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0990	0.0990	0.0000	0.0000	0.0991
Worker	1.4000e-004	8.0000e-005	9.8000e-004	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2912	0.2912	1.0000e-005	0.0000	0.2913
Total	**1.5000e-004**	**3.9000e-004**	**1.0600e-003**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3902**	**0.3902**	**1.0000e-005**	**0.0000**	**0.3905**

3.12 Y3 - Site Prep - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3559	0.3559	1.2000e-004	0.0000	0.3588
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3559**	**0.3559**	**1.2000e-004**	**0.0000**	**0.3588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0990	0.0990	0.0000	0.0000	0.0991
Worker	1.4000e-004	8.0000e-005	9.8000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2912	0.2912	1.0000e-005	0.0000	0.2913
Total	**1.5000e-004**	**3.9000e-004**	**1.0600e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3902**	**0.3902**	**1.0000e-005**	**0.0000**	**0.3905**

3.13 Y3 - Pile Install - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3800e-003	0.0407	0.0495	9.0000e-005		1.7900e-003	1.7900e-003		1.7500e-003	1.7500e-003	0.0000	8.1276	8.1276	8.3000e-004	0.0000	8.1483
Total	**4.3800e-003**	**0.0407**	**0.0495**	**9.0000e-005**		**1.7900e-003**	**1.7900e-003**		**1.7500e-003**	**1.7500e-003**	**0.0000**	**8.1276**	**8.1276**	**8.3000e-004**	**0.0000**	**8.1483**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0630	0.0630	0.0000	0.0000	0.0631
Vendor	4.0000e-005	1.3200e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4244	0.4244	2.0000e-005	0.0000	0.4248
Worker	1.7400e-003	1.0700e-003	0.0125	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.7439	3.7439	8.0000e-005	0.0000	3.7458
Total	**1.7900e-003**	**2.6000e-003**	**0.0130**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.2313**	**4.2313**	**1.0000e-004**	**0.0000**	**4.2337**

3.13 Y3 - Pile Install - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1276	8.1276	8.3000e-004	0.0000	8.1483
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1276**	**8.1276**	**8.3000e-004**	**0.0000**	**8.1483**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0630	0.0630	0.0000	0.0000	0.0631
Vendor	4.0000e-005	1.3200e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4244	0.4244	2.0000e-005	0.0000	0.4248
Worker	1.7400e-003	1.0700e-003	0.0125	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7439	3.7439	8.0000e-005	0.0000	3.7458
Total	**1.7900e-003**	**2.6000e-003**	**0.0130**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.2313**	**4.2313**	**1.0000e-004**	**0.0000**	**4.2337**

3.14 Y3 - Barrier Install - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0980	0.1187	2.3000e-004		4.3000e-003	4.3000e-003		4.2000e-003	4.2000e-003	0.0000	19.5747	19.5747	1.9800e-003	0.0000	19.6242
Total	**0.0105**	**0.0980**	**0.1187**	**2.3000e-004**		**4.3000e-003**	**4.3000e-003**		**4.2000e-003**	**4.2000e-003**	**0.0000**	**19.5747**	**19.5747**	**1.9800e-003**	**0.0000**	**19.6242**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0630	0.0630	0.0000	0.0000	0.0631
Vendor	4.0000e-005	1.3200e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4244	0.4244	2.0000e-005	0.0000	0.4248
Worker	1.7400e-003	1.0700e-003	0.0125	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.7439	3.7439	8.0000e-005	0.0000	3.7458
Total	**1.7900e-003**	**2.6000e-003**	**0.0130**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.2313**	**4.2313**	**1.0000e-004**	**0.0000**	**4.2337**

3.14 Y3 - Barrier Install - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5746	19.5746	1.9800e-003	0.0000	19.6242
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5746**	**19.5746**	**1.9800e-003**	**0.0000**	**19.6242**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0630	0.0630	0.0000	0.0000	0.0631
Vendor	4.0000e-005	1.3200e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4244	0.4244	2.0000e-005	0.0000	0.4248
Worker	1.7400e-003	1.0700e-003	0.0125	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7439	3.7439	8.0000e-005	0.0000	3.7458
Total	**1.7900e-003**	**2.6000e-003**	**0.0130**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.2313**	**4.2313**	**1.0000e-004**	**0.0000**	**4.2337**

3.15 Y3 - Operation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0992	0.6946	1.2692	2.3300e-003		0.0296	0.0296		0.0296	0.0296	0.0000	199.9394	199.9394	7.9100e-003	0.0000	200.1371
Total	**0.0992**	**0.6946**	**1.2692**	**2.3300e-003**		**0.0296**	**0.0296**		**0.0296**	**0.0296**	**0.0000**	**199.9394**	**199.9394**	**7.9100e-003**	**0.0000**	**200.1371**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9800e-003	1.1600e-003	0.0140	5.0000e-005	5.9500e-003	4.0000e-005	5.9800e-003	1.5800e-003	3.0000e-005	1.6100e-003	0.0000	4.3127	4.3127	8.0000e-005	0.0000	4.3148
Total	**1.9800e-003**	**1.1600e-003**	**0.0140**	**5.0000e-005**	**5.9500e-003**	**4.0000e-005**	**5.9800e-003**	**1.5800e-003**	**3.0000e-005**	**1.6100e-003**	**0.0000**	**4.3127**	**4.3127**	**8.0000e-005**	**0.0000**	**4.3148**

3.15 Y3 - Operation - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	7.9100e-003	0.0000	200.1368
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**7.9100e-003**	**0.0000**	**200.1368**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9800e-003	1.1600e-003	0.0140	5.0000e-005	5.4800e-003	4.0000e-005	5.5200e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.3127	4.3127	8.0000e-005	0.0000	4.3148
Total	**1.9800e-003**	**1.1600e-003**	**0.0140**	**5.0000e-005**	**5.4800e-003**	**4.0000e-005**	**5.5200e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.3127**	**4.3127**	**8.0000e-005**	**0.0000**	**4.3148**

3.16 Y3 - Removal - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0628	0.0628	0.0000	0.0000	0.0629
Vendor	4.0000e-005	1.3000e-003	3.4000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4221	0.4221	2.0000e-005	0.0000	0.4225
Worker	1.6500e-003	9.7000e-004	0.0116	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	**1.7000e-003**	**2.4800e-003**	**0.0120**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.3900e-003**	**0.0000**	**4.0788**	**4.0788**	**9.0000e-005**	**0.0000**	**4.0810**

3.16 Y3 - Removal - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0628	0.0628	0.0000	0.0000	0.0629
Vendor	4.0000e-005	1.3000e-003	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4221	0.4221	2.0000e-005	0.0000	0.4225
Worker	1.6500e-003	9.7000e-004	0.0116	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	**1.7000e-003**	**2.4800e-003**	**0.0120**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.0788**	**4.0788**	**9.0000e-005**	**0.0000**	**4.0810**

3.17 Y4 - Site Prep - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	2.1200e-003	9.8000e-004	0.0000		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**1.9000e-004**	**2.1200e-003**	**9.8000e-004**	**0.0000**	**3.2000e-004**	**7.0000e-005**	**3.9000e-004**	**3.0000e-005**	**6.0000e-005**	**9.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.0000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0985	0.0985	0.0000	0.0000	0.0986
Worker	1.3000e-004	8.0000e-005	9.0000e-004	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2795	0.2795	1.0000e-005	0.0000	0.2797
Total	**1.4000e-004**	**3.8000e-004**	**9.8000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3780**	**0.3780**	**1.0000e-005**	**0.0000**	**0.3783**

3.17 Y4 - Site Prep - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.0000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0985	0.0985	0.0000	0.0000	0.0986
Worker	1.3000e-004	8.0000e-005	9.0000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2795	0.2795	1.0000e-005	0.0000	0.2797
Total	**1.4000e-004**	**3.8000e-004**	**9.8000e-004**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3780**	**0.3780**	**1.0000e-005**	**0.0000**	**0.3783**

3.18 Y4 - Pile Install - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0628	0.0628	0.0000	0.0000	0.0629
Vendor	4.0000e-005	1.3000e-003	3.4000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4221	0.4221	2.0000e-005	0.0000	0.4225
Worker	1.6500e-003	9.7000e-004	0.0116	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	**1.7000e-003**	**2.4800e-003**	**0.0120**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.3900e-003**	**0.0000**	**4.0788**	**4.0788**	**9.0000e-005**	**0.0000**	**4.0810**

3.18 Y4 - Pile Install - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0628	0.0628	0.0000	0.0000	0.0629
Vendor	4.0000e-005	1.3000e-003	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4221	0.4221	2.0000e-005	0.0000	0.4225
Worker	1.6500e-003	9.7000e-004	0.0116	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	**1.7000e-003**	**2.4800e-003**	**0.0120**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.0788**	**4.0788**	**9.0000e-005**	**0.0000**	**4.0810**

3.19 Y4 - Barrier Install - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8700e-003	0.0913	0.1183	2.3000e-004		3.7600e-003	3.7600e-003		3.6700e-003	3.6700e-003	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**9.8700e-003**	**0.0913**	**0.1183**	**2.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0628	0.0628	0.0000	0.0000	0.0629
Vendor	4.0000e-005	1.3000e-003	3.4000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4221	0.4221	2.0000e-005	0.0000	0.4225
Worker	1.6500e-003	9.7000e-004	0.0116	4.0000e-005	4.9600e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	**1.7000e-003**	**2.4800e-003**	**0.0120**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1300e-003**	**1.3600e-003**	**3.0000e-005**	**1.3900e-003**	**0.0000**	**4.0788**	**4.0788**	**9.0000e-005**	**0.0000**	**4.0810**

3.19 Y4 - Barrier Install - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0628	0.0628	0.0000	0.0000	0.0629
Vendor	4.0000e-005	1.3000e-003	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4221	0.4221	2.0000e-005	0.0000	0.4225
Worker	1.6500e-003	9.7000e-004	0.0116	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	**1.7000e-003**	**2.4800e-003**	**0.0120**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**4.0788**	**4.0788**	**9.0000e-005**	**0.0000**	**4.0810**

3.20 Y4 - Operation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0984	0.6888	1.2586	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	198.2733	198.2733	7.8400e-003	0.0000	198.4693
Total	**0.0984**	**0.6888**	**1.2586**	**2.3100e-003**		**0.0293**	**0.0293**		**0.0293**	**0.0293**	**0.0000**	**198.2733**	**198.2733**	**7.8400e-003**	**0.0000**	**198.4693**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.0500e-003	0.0129	5.0000e-005	5.9000e-003	3.0000e-005	5.9300e-003	1.5700e-003	3.0000e-005	1.6000e-003	0.0000	4.1178	4.1178	8.0000e-005	0.0000	4.1197
Total	**1.8600e-003**	**1.0500e-003**	**0.0129**	**5.0000e-005**	**5.9000e-003**	**3.0000e-005**	**5.9300e-003**	**1.5700e-003**	**3.0000e-005**	**1.6000e-003**	**0.0000**	**4.1178**	**4.1178**	**8.0000e-005**	**0.0000**	**4.1197**

3.20 Y4 - Operation - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0329	0.8249	1.4230	2.3100e-003		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003	0.0000	198.2730	198.2730	7.8400e-003	0.0000	198.4690
Total	**0.0329**	**0.8249**	**1.4230**	**2.3100e-003**		**3.0800e-003**	**3.0800e-003**		**3.0800e-003**	**3.0800e-003**	**0.0000**	**198.2730**	**198.2730**	**7.8400e-003**	**0.0000**	**198.4690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.0500e-003	0.0129	5.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	4.1178	4.1178	8.0000e-005	0.0000	4.1197
Total	**1.8600e-003**	**1.0500e-003**	**0.0129**	**5.0000e-005**	**5.4400e-003**	**3.0000e-005**	**5.4700e-003**	**1.4600e-003**	**3.0000e-005**	**1.4900e-003**	**0.0000**	**4.1178**	**4.1178**	**8.0000e-005**	**0.0000**	**4.1197**

3.21 Y4 - Removal - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0626	0.0626	0.0000	0.0000	0.0626
Vendor	4.0000e-005	1.2700e-003	3.2000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4199	0.4199	2.0000e-005	0.0000	0.4204
Worker	1.5600e-003	8.9000e-004	0.0108	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	3.0000e-005	1.3400e-003	0.0000	3.4603	3.4603	6.0000e-005	0.0000	3.4619
Total	**1.6100e-003**	**2.3700e-003**	**0.0112**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**3.9428**	**3.9428**	**8.0000e-005**	**0.0000**	**3.9449**

3.21 Y4 - Removal - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0626	0.0626	0.0000	0.0000	0.0626
Vendor	4.0000e-005	1.2700e-003	3.2000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4199	0.4199	2.0000e-005	0.0000	0.4204
Worker	1.5600e-003	8.9000e-004	0.0108	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.4603	3.4603	6.0000e-005	0.0000	3.4619
Total	**1.6100e-003**	**2.3700e-003**	**0.0112**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**3.9428**	**3.9428**	**8.0000e-005**	**0.0000**	**3.9449**

3.22 Y5 - Site Prep - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	2.1200e-003	9.8000e-004	0.0000		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**1.9000e-004**	**2.1200e-003**	**9.8000e-004**	**0.0000**	**3.2000e-004**	**7.0000e-005**	**3.9000e-004**	**3.0000e-005**	**6.0000e-005**	**9.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.0000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0980	0.0980	0.0000	0.0000	0.0981
Worker	1.2000e-004	7.0000e-005	8.4000e-004	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2691	0.2691	0.0000	0.0000	0.2693
Total	**1.3000e-004**	**3.7000e-004**	**9.2000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3671**	**0.3671**	**0.0000**	**0.0000**	**0.3673**

3.22 Y5 - Site Prep - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.0000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0980	0.0980	0.0000	0.0000	0.0981
Worker	1.2000e-004	7.0000e-005	8.4000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2691	0.2691	0.0000	0.0000	0.2693
Total	**1.3000e-004**	**3.7000e-004**	**9.2000e-004**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3671**	**0.3671**	**0.0000**	**0.0000**	**0.3673**

3.23 Y5 - Pile Install - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0626	0.0626	0.0000	0.0000	0.0626
Vendor	4.0000e-005	1.2700e-003	3.2000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4199	0.4199	2.0000e-005	0.0000	0.4204
Worker	1.5600e-003	8.9000e-004	0.0108	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	3.0000e-005	1.3400e-003	0.0000	3.4603	3.4603	6.0000e-005	0.0000	3.4619
Total	**1.6100e-003**	**2.3700e-003**	**0.0112**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**3.9428**	**3.9428**	**8.0000e-005**	**0.0000**	**3.9449**

3.23 Y5 - Pile Install - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0626	0.0626	0.0000	0.0000	0.0626
Vendor	4.0000e-005	1.2700e-003	3.2000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4199	0.4199	2.0000e-005	0.0000	0.4204
Worker	1.5600e-003	8.9000e-004	0.0108	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.4603	3.4603	6.0000e-005	0.0000	3.4619
Total	**1.6100e-003**	**2.3700e-003**	**0.0112**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**3.9428**	**3.9428**	**8.0000e-005**	**0.0000**	**3.9449**

3.24 Y5 - Barrier Install - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8700e-003	0.0913	0.1183	2.3000e-004		3.7600e-003	3.7600e-003		3.6700e-003	3.6700e-003	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**9.8700e-003**	**0.0913**	**0.1183**	**2.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0626	0.0626	0.0000	0.0000	0.0626
Vendor	4.0000e-005	1.2700e-003	3.2000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4199	0.4199	2.0000e-005	0.0000	0.4204
Worker	1.5600e-003	8.9000e-004	0.0108	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	3.0000e-005	1.3400e-003	0.0000	3.4603	3.4603	6.0000e-005	0.0000	3.4619
Total	**1.6100e-003**	**2.3700e-003**	**0.0112**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**3.9428**	**3.9428**	**8.0000e-005**	**0.0000**	**3.9449**

3.24 Y5 - Barrier Install - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0626	0.0626	0.0000	0.0000	0.0626
Vendor	4.0000e-005	1.2700e-003	3.2000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4199	0.4199	2.0000e-005	0.0000	0.4204
Worker	1.5600e-003	8.9000e-004	0.0108	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.4603	3.4603	6.0000e-005	0.0000	3.4619
Total	**1.6100e-003**	**2.3700e-003**	**0.0112**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**3.9428**	**3.9428**	**8.0000e-005**	**0.0000**	**3.9449**

3.25 Y5 - Operation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0992	0.6946	1.2692	2.3300e-003		0.0296	0.0296		0.0296	0.0296	0.0000	199.9394	199.9394	7.9100e-003	0.0000	200.1371
Total	**0.0992**	**0.6946**	**1.2692**	**2.3300e-003**		**0.0296**	**0.0296**		**0.0296**	**0.0296**	**0.0000**	**199.9394**	**199.9394**	**7.9100e-003**	**0.0000**	**200.1371**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7800e-003	9.7000e-004	0.0121	4.0000e-005	5.9500e-003	3.0000e-005	5.9800e-003	1.5800e-003	3.0000e-005	1.6100e-003	0.0000	4.0090	4.0090	7.0000e-005	0.0000	4.0107
Total	**1.7800e-003**	**9.7000e-004**	**0.0121**	**4.0000e-005**	**5.9500e-003**	**3.0000e-005**	**5.9800e-003**	**1.5800e-003**	**3.0000e-005**	**1.6100e-003**	**0.0000**	**4.0090**	**4.0090**	**7.0000e-005**	**0.0000**	**4.0107**

3.25 Y5 - Operation - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	7.9100e-003	0.0000	200.1368
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**7.9100e-003**	**0.0000**	**200.1368**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7800e-003	9.7000e-004	0.0121	4.0000e-005	5.4800e-003	3.0000e-005	5.5200e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.0090	4.0090	7.0000e-005	0.0000	4.0107
Total	**1.7800e-003**	**9.7000e-004**	**0.0121**	**4.0000e-005**	**5.4800e-003**	**3.0000e-005**	**5.5200e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.0090**	**4.0090**	**7.0000e-005**	**0.0000**	**4.0107**

3.26 Y5 - Removal - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0624	0.0624	0.0000	0.0000	0.0624
Vendor	3.0000e-005	1.2500e-003	3.1000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4178	0.4178	2.0000e-005	0.0000	0.4183
Worker	1.4800e-003	8.1000e-004	0.0101	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	3.0000e-005	1.3400e-003	0.0000	3.3408	3.3408	6.0000e-005	0.0000	3.3423
Total	**1.5200e-003**	**2.2700e-003**	**0.0105**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**3.8210**	**3.8210**	**8.0000e-005**	**0.0000**	**3.8230**

3.26 Y5 - Removal - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0624	0.0624	0.0000	0.0000	0.0624
Vendor	3.0000e-005	1.2500e-003	3.1000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4178	0.4178	2.0000e-005	0.0000	0.4183
Worker	1.4800e-003	8.1000e-004	0.0101	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.3408	3.3408	6.0000e-005	0.0000	3.3423
Total	**1.5200e-003**	**2.2700e-003**	**0.0105**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**3.8210**	**3.8210**	**8.0000e-005**	**0.0000**	**3.8230**

3.27 Y6 - Site Prep - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	2.1200e-003	9.8000e-004	0.0000		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**1.9000e-004**	**2.1200e-003**	**9.8000e-004**	**0.0000**	**3.2000e-004**	**7.0000e-005**	**3.9000e-004**	**3.0000e-005**	**6.0000e-005**	**9.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0975	0.0975	0.0000	0.0000	0.0976
Worker	1.2000e-004	6.0000e-005	7.9000e-004	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2598	0.2598	0.0000	0.0000	0.2600
Total	**1.3000e-004**	**3.5000e-004**	**8.6000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3573**	**0.3573**	**0.0000**	**0.0000**	**0.3576**

3.27 Y6 - Site Prep - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0975	0.0975	0.0000	0.0000	0.0976
Worker	1.2000e-004	6.0000e-005	7.9000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2598	0.2598	0.0000	0.0000	0.2600
Total	**1.3000e-004**	**3.5000e-004**	**8.6000e-004**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3573**	**0.3573**	**0.0000**	**0.0000**	**0.3576**

3.28 Y6 - Pile Install - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0624	0.0624	0.0000	0.0000	0.0624
Vendor	3.0000e-005	1.2500e-003	3.1000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4178	0.4178	2.0000e-005	0.0000	0.4183
Worker	1.4800e-003	8.1000e-004	0.0101	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	3.0000e-005	1.3400e-003	0.0000	3.3408	3.3408	6.0000e-005	0.0000	3.3423
Total	**1.5200e-003**	**2.2700e-003**	**0.0105**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**3.8210**	**3.8210**	**8.0000e-005**	**0.0000**	**3.8230**

3.28 Y6 - Pile Install - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0624	0.0624	0.0000	0.0000	0.0624
Vendor	3.0000e-005	1.2500e-003	3.1000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4178	0.4178	2.0000e-005	0.0000	0.4183
Worker	1.4800e-003	8.1000e-004	0.0101	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.3408	3.3408	6.0000e-005	0.0000	3.3423
Total	**1.5200e-003**	**2.2700e-003**	**0.0105**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**3.8210**	**3.8210**	**8.0000e-005**	**0.0000**	**3.8230**

3.29 Y6 - Barrier Install - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8700e-003	0.0913	0.1183	2.3000e-004		3.7600e-003	3.7600e-003		3.6700e-003	3.6700e-003	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**9.8700e-003**	**0.0913**	**0.1183**	**2.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0624	0.0624	0.0000	0.0000	0.0624
Vendor	3.0000e-005	1.2500e-003	3.1000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4178	0.4178	2.0000e-005	0.0000	0.4183
Worker	1.4800e-003	8.1000e-004	0.0101	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	3.0000e-005	1.3400e-003	0.0000	3.3408	3.3408	6.0000e-005	0.0000	3.3423
Total	**1.5200e-003**	**2.2700e-003**	**0.0105**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**3.8210**	**3.8210**	**8.0000e-005**	**0.0000**	**3.8230**

3.29 Y6 - Barrier Install - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0624	0.0624	0.0000	0.0000	0.0624
Vendor	3.0000e-005	1.2500e-003	3.1000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4178	0.4178	2.0000e-005	0.0000	0.4183
Worker	1.4800e-003	8.1000e-004	0.0101	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.3408	3.3408	6.0000e-005	0.0000	3.3423
Total	**1.5200e-003**	**2.2700e-003**	**0.0105**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**0.0000**	**3.8210**	**3.8210**	**8.0000e-005**	**0.0000**	**3.8230**

3.30 Y6 - Operation - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0992	0.6946	1.2692	2.3300e-003		0.0296	0.0296		0.0296	0.0296	0.0000	199.9394	199.9394	7.9100e-003	0.0000	200.1371
Total	**0.0992**	**0.6946**	**1.2692**	**2.3300e-003**		**0.0296**	**0.0296**		**0.0296**	**0.0296**	**0.0000**	**199.9394**	**199.9394**	**7.9100e-003**	**0.0000**	**200.1371**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6800e-003	8.9000e-004	0.0114	4.0000e-005	5.9500e-003	3.0000e-005	5.9800e-003	1.5800e-003	3.0000e-005	1.6100e-003	0.0000	3.8817	3.8817	6.0000e-005	0.0000	3.8833
Total	**1.6800e-003**	**8.9000e-004**	**0.0114**	**4.0000e-005**	**5.9500e-003**	**3.0000e-005**	**5.9800e-003**	**1.5800e-003**	**3.0000e-005**	**1.6100e-003**	**0.0000**	**3.8817**	**3.8817**	**6.0000e-005**	**0.0000**	**3.8833**

3.30 Y6 - Operation - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	7.9100e-003	0.0000	200.1368
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**7.9100e-003**	**0.0000**	**200.1368**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6800e-003	8.9000e-004	0.0114	4.0000e-005	5.4800e-003	3.0000e-005	5.5100e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	3.8817	3.8817	6.0000e-005	0.0000	3.8833
Total	**1.6800e-003**	**8.9000e-004**	**0.0114**	**4.0000e-005**	**5.4800e-003**	**3.0000e-005**	**5.5100e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**3.8817**	**3.8817**	**6.0000e-005**	**0.0000**	**3.8833**

3.31 Y6 - Removal - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0623	0.0623	0.0000	0.0000	0.0623
Vendor	3.0000e-005	1.2300e-003	3.0000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4161	0.4161	2.0000e-005	0.0000	0.4166
Worker	1.4000e-003	7.4000e-004	9.4800e-003	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.2347	3.2347	5.0000e-005	0.0000	3.2361
Total	**1.4400e-003**	**2.1800e-003**	**9.8400e-003**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.7131**	**3.7131**	**7.0000e-005**	**0.0000**	**3.7149**

3.31 Y6 - Removal - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0623	0.0623	0.0000	0.0000	0.0623
Vendor	3.0000e-005	1.2300e-003	3.0000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4161	0.4161	2.0000e-005	0.0000	0.4166
Worker	1.4000e-003	7.4000e-004	9.4800e-003	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	2.0000e-005	1.2500e-003	0.0000	3.2347	3.2347	5.0000e-005	0.0000	3.2361
Total	**1.4400e-003**	**2.1800e-003**	**9.8400e-003**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**2.0000e-005**	**1.2900e-003**	**0.0000**	**3.7131**	**3.7131**	**7.0000e-005**	**0.0000**	**3.7149**

3.32 Y7 - Site Prep - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	2.1200e-003	9.8000e-004	0.0000		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**1.9000e-004**	**2.1200e-003**	**9.8000e-004**	**0.0000**	**3.2000e-004**	**7.0000e-005**	**3.9000e-004**	**3.0000e-005**	**6.0000e-005**	**9.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0971	0.0971	0.0000	0.0000	0.0972
Worker	1.1000e-004	6.0000e-005	7.4000e-004	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2516	0.2516	0.0000	0.0000	0.2517
Total	**1.2000e-004**	**3.5000e-004**	**8.1000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3487**	**0.3487**	**0.0000**	**0.0000**	**0.3489**

3.32 Y7 - Site Prep - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0971	0.0971	0.0000	0.0000	0.0972
Worker	1.1000e-004	6.0000e-005	7.4000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2516	0.2516	0.0000	0.0000	0.2517
Total	**1.2000e-004**	**3.5000e-004**	**8.1000e-004**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3487**	**0.3487**	**0.0000**	**0.0000**	**0.3489**

3.33 Y7 - Pile Install - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0623	0.0623	0.0000	0.0000	0.0623
Vendor	3.0000e-005	1.2300e-003	3.0000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4161	0.4161	2.0000e-005	0.0000	0.4166
Worker	1.4000e-003	7.4000e-004	9.4800e-003	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.2347	3.2347	5.0000e-005	0.0000	3.2361
Total	**1.4400e-003**	**2.1800e-003**	**9.8400e-003**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.7131**	**3.7131**	**7.0000e-005**	**0.0000**	**3.7149**

3.33 Y7 - Pile Install - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0623	0.0623	0.0000	0.0000	0.0623
Vendor	3.0000e-005	1.2300e-003	3.0000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4161	0.4161	2.0000e-005	0.0000	0.4166
Worker	1.4000e-003	7.4000e-004	9.4800e-003	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	2.0000e-005	1.2500e-003	0.0000	3.2347	3.2347	5.0000e-005	0.0000	3.2361
Total	**1.4400e-003**	**2.1800e-003**	**9.8400e-003**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**2.0000e-005**	**1.2900e-003**	**0.0000**	**3.7131**	**3.7131**	**7.0000e-005**	**0.0000**	**3.7149**

3.34 Y7 - Barrier Install - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8700e-003	0.0913	0.1183	2.3000e-004		3.7600e-003	3.7600e-003		3.6700e-003	3.6700e-003	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**9.8700e-003**	**0.0913**	**0.1183**	**2.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0623	0.0623	0.0000	0.0000	0.0623
Vendor	3.0000e-005	1.2300e-003	3.0000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4161	0.4161	2.0000e-005	0.0000	0.4166
Worker	1.4000e-003	7.4000e-004	9.4800e-003	4.0000e-005	4.9600e-003	3.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.2347	3.2347	5.0000e-005	0.0000	3.2361
Total	**1.4400e-003**	**2.1800e-003**	**9.8400e-003**	**4.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.7131**	**3.7131**	**7.0000e-005**	**0.0000**	**3.7149**

3.34 Y7 - Barrier Install - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0623	0.0623	0.0000	0.0000	0.0623
Vendor	3.0000e-005	1.2300e-003	3.0000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4161	0.4161	2.0000e-005	0.0000	0.4166
Worker	1.4000e-003	7.4000e-004	9.4800e-003	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2200e-003	2.0000e-005	1.2500e-003	0.0000	3.2347	3.2347	5.0000e-005	0.0000	3.2361
Total	**1.4400e-003**	**2.1800e-003**	**9.8400e-003**	**4.0000e-005**	**4.7000e-003**	**3.0000e-005**	**4.7300e-003**	**1.2600e-003**	**2.0000e-005**	**1.2900e-003**	**0.0000**	**3.7131**	**3.7131**	**7.0000e-005**	**0.0000**	**3.7149**

3.35 Y7 - Operation - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0992	0.6946	1.2692	2.3300e-003		0.0296	0.0296		0.0296	0.0296	0.0000	199.9394	199.9394	7.9100e-003	0.0000	200.1371
Total	**0.0992**	**0.6946**	**1.2692**	**2.3300e-003**		**0.0296**	**0.0296**		**0.0296**	**0.0296**	**0.0000**	**199.9394**	**199.9394**	**7.9100e-003**	**0.0000**	**200.1371**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5600e-003	8.2000e-004	0.0106	4.0000e-005	5.9500e-003	3.0000e-005	5.9800e-003	1.5800e-003	3.0000e-005	1.6100e-003	0.0000	3.7689	3.7689	6.0000e-005	0.0000	3.7703
Total	**1.5600e-003**	**8.2000e-004**	**0.0106**	**4.0000e-005**	**5.9500e-003**	**3.0000e-005**	**5.9800e-003**	**1.5800e-003**	**3.0000e-005**	**1.6100e-003**	**0.0000**	**3.7689**	**3.7689**	**6.0000e-005**	**0.0000**	**3.7703**

3.35 Y7 - Operation - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	7.9100e-003	0.0000	200.1368
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**7.9100e-003**	**0.0000**	**200.1368**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5600e-003	8.2000e-004	0.0106	4.0000e-005	5.4800e-003	3.0000e-005	5.5100e-003	1.4700e-003	3.0000e-005	1.4900e-003	0.0000	3.7689	3.7689	6.0000e-005	0.0000	3.7703
Total	**1.5600e-003**	**8.2000e-004**	**0.0106**	**4.0000e-005**	**5.4800e-003**	**3.0000e-005**	**5.5100e-003**	**1.4700e-003**	**3.0000e-005**	**1.4900e-003**	**0.0000**	**3.7689**	**3.7689**	**6.0000e-005**	**0.0000**	**3.7703**

3.36 Y7 - Removal - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0621	0.0621	0.0000	0.0000	0.0621
Vendor	3.0000e-005	1.2100e-003	2.9000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4145	0.4145	2.0000e-005	0.0000	0.4150
Worker	1.3000e-003	6.8000e-004	8.8700e-003	3.0000e-005	4.9600e-003	2.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.1407	3.1407	5.0000e-005	0.0000	3.1419
Total	**1.3400e-003**	**2.1000e-003**	**9.2200e-003**	**3.0000e-005**	**5.0900e-003**	**2.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.6173**	**3.6173**	**7.0000e-005**	**0.0000**	**3.6190**

3.36 Y7 - Removal - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0621	0.0621	0.0000	0.0000	0.0621
Vendor	3.0000e-005	1.2100e-003	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4145	0.4145	2.0000e-005	0.0000	0.4150
Worker	1.3000e-003	6.8000e-004	8.8700e-003	3.0000e-005	4.5700e-003	2.0000e-005	4.5900e-003	1.2200e-003	2.0000e-005	1.2500e-003	0.0000	3.1407	3.1407	5.0000e-005	0.0000	3.1419
Total	**1.3400e-003**	**2.1000e-003**	**9.2200e-003**	**3.0000e-005**	**4.7000e-003**	**2.0000e-005**	**4.7200e-003**	**1.2600e-003**	**2.0000e-005**	**1.2900e-003**	**0.0000**	**3.6173**	**3.6173**	**7.0000e-005**	**0.0000**	**3.6190**

3.37 Y8 - Site Prep - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	2.1200e-003	9.8000e-004	0.0000		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**1.9000e-004**	**2.1200e-003**	**9.8000e-004**	**0.0000**	**3.2000e-004**	**7.0000e-005**	**3.9000e-004**	**3.0000e-005**	**6.0000e-005**	**9.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0967	0.0967	0.0000	0.0000	0.0968
Worker	1.0000e-004	5.0000e-005	6.9000e-004	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2443	0.2443	0.0000	0.0000	0.2444
Total	**1.1000e-004**	**3.3000e-004**	**7.6000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3410**	**0.3410**	**0.0000**	**0.0000**	**0.3412**

3.37 Y8 - Site Prep - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	1.0700e-003	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.3558	0.3558	1.2000e-004	0.0000	0.3586
Total	**7.0000e-005**	**1.0700e-003**	**2.1500e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3558**	**0.3558**	**1.2000e-004**	**0.0000**	**0.3586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0967	0.0967	0.0000	0.0000	0.0968
Worker	1.0000e-004	5.0000e-005	6.9000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2443	0.2443	0.0000	0.0000	0.2444
Total	**1.1000e-004**	**3.3000e-004**	**7.6000e-004**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3410**	**0.3410**	**0.0000**	**0.0000**	**0.3412**

3.38 Y8 - Pile Install - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0900e-003	0.0379	0.0493	9.0000e-005		1.5600e-003	1.5600e-003		1.5200e-003	1.5200e-003	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**4.0900e-003**	**0.0379**	**0.0493**	**9.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0621	0.0621	0.0000	0.0000	0.0621
Vendor	3.0000e-005	1.2100e-003	2.9000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4145	0.4145	2.0000e-005	0.0000	0.4150
Worker	1.3000e-003	6.8000e-004	8.8700e-003	3.0000e-005	4.9600e-003	2.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.1407	3.1407	5.0000e-005	0.0000	3.1419
Total	**1.3400e-003**	**2.1000e-003**	**9.2200e-003**	**3.0000e-005**	**5.0900e-003**	**2.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.6173**	**3.6173**	**7.0000e-005**	**0.0000**	**3.6190**

3.38 Y8 - Pile Install - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0326	0.0575	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.1277	8.1277	8.1000e-004	0.0000	8.1479
Total	**1.7100e-003**	**0.0326**	**0.0575**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.1277**	**8.1277**	**8.1000e-004**	**0.0000**	**8.1479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0621	0.0621	0.0000	0.0000	0.0621
Vendor	3.0000e-005	1.2100e-003	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4145	0.4145	2.0000e-005	0.0000	0.4150
Worker	1.3000e-003	6.8000e-004	8.8700e-003	3.0000e-005	4.5700e-003	2.0000e-005	4.5900e-003	1.2200e-003	2.0000e-005	1.2500e-003	0.0000	3.1407	3.1407	5.0000e-005	0.0000	3.1419
Total	**1.3400e-003**	**2.1000e-003**	**9.2200e-003**	**3.0000e-005**	**4.7000e-003**	**2.0000e-005**	**4.7200e-003**	**1.2600e-003**	**2.0000e-005**	**1.2900e-003**	**0.0000**	**3.6173**	**3.6173**	**7.0000e-005**	**0.0000**	**3.6190**

3.39 Y8 - Barrier Install - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8700e-003	0.0913	0.1183	2.3000e-004		3.7600e-003	3.7600e-003		3.6700e-003	3.6700e-003	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**9.8700e-003**	**0.0913**	**0.1183**	**2.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0621	0.0621	0.0000	0.0000	0.0621
Vendor	3.0000e-005	1.2100e-003	2.9000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4145	0.4145	2.0000e-005	0.0000	0.4150
Worker	1.3000e-003	6.8000e-004	8.8700e-003	3.0000e-005	4.9600e-003	2.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.1407	3.1407	5.0000e-005	0.0000	3.1419
Total	**1.3400e-003**	**2.1000e-003**	**9.2200e-003**	**3.0000e-005**	**5.0900e-003**	**2.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.6173**	**3.6173**	**7.0000e-005**	**0.0000**	**3.6190**

3.39 Y8 - Barrier Install - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1300e-003	0.0782	0.1381	2.3000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.5748	19.5748	1.9300e-003	0.0000	19.6230
Total	**4.1300e-003**	**0.0782**	**0.1381**	**2.3000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.5748**	**19.5748**	**1.9300e-003**	**0.0000**	**19.6230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0621	0.0621	0.0000	0.0000	0.0621
Vendor	3.0000e-005	1.2100e-003	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4145	0.4145	2.0000e-005	0.0000	0.4150
Worker	1.3000e-003	6.8000e-004	8.8700e-003	3.0000e-005	4.5700e-003	2.0000e-005	4.5900e-003	1.2200e-003	2.0000e-005	1.2500e-003	0.0000	3.1407	3.1407	5.0000e-005	0.0000	3.1419
Total	**1.3400e-003**	**2.1000e-003**	**9.2200e-003**	**3.0000e-005**	**4.7000e-003**	**2.0000e-005**	**4.7200e-003**	**1.2600e-003**	**2.0000e-005**	**1.2900e-003**	**0.0000**	**3.6173**	**3.6173**	**7.0000e-005**	**0.0000**	**3.6190**

3.40 Y8 - Operation - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0719	0.4452	1.2649	2.3300e-003		0.0119	0.0119		0.0119	0.0119	0.0000	199.9394	199.9394	5.8000e-003	0.0000	200.0845
Total	**0.0719**	**0.4452**	**1.2649**	**2.3300e-003**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**199.9394**	**199.9394**	**5.8000e-003**	**0.0000**	**200.0845**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	7.5000e-004	9.9800e-003	4.0000e-005	5.9500e-003	3.0000e-005	5.9700e-003	1.5800e-003	2.0000e-005	1.6100e-003	0.0000	3.6695	3.6695	5.0000e-005	0.0000	3.6709
Total	**1.4500e-003**	**7.5000e-004**	**9.9800e-003**	**4.0000e-005**	**5.9500e-003**	**3.0000e-005**	**5.9700e-003**	**1.5800e-003**	**2.0000e-005**	**1.6100e-003**	**0.0000**	**3.6695**	**3.6695**	**5.0000e-005**	**0.0000**	**3.6709**

3.40 Y8 - Operation - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8318	1.4349	2.3300e-003		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	199.9392	199.9392	5.8000e-003	0.0000	200.0842
Total	**0.0331**	**0.8318**	**1.4349**	**2.3300e-003**		**3.1000e-003**	**3.1000e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**199.9392**	**199.9392**	**5.8000e-003**	**0.0000**	**200.0842**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	7.5000e-004	9.9800e-003	4.0000e-005	5.4800e-003	3.0000e-005	5.5100e-003	1.4700e-003	2.0000e-005	1.4900e-003	0.0000	3.6695	3.6695	5.0000e-005	0.0000	3.6709
Total	**1.4500e-003**	**7.5000e-004**	**9.9800e-003**	**4.0000e-005**	**5.4800e-003**	**3.0000e-005**	**5.5100e-003**	**1.4700e-003**	**2.0000e-005**	**1.4900e-003**	**0.0000**	**3.6695**	**3.6695**	**5.0000e-005**	**0.0000**	**3.6709**

3.41 Y8 - Removal - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7200e-003	0.0583	0.1175	2.4000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003	0.0000	20.7376	20.7376	6.3000e-004	0.0000	20.7533
Total	**7.7200e-003**	**0.0583**	**0.1175**	**2.4000e-004**		**1.2500e-003**	**1.2500e-003**		**1.2500e-003**	**1.2500e-003**	**0.0000**	**20.7376**	**20.7376**	**6.3000e-004**	**0.0000**	**20.7533**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0620	0.0620	0.0000	0.0000	0.0620
Vendor	3.0000e-005	1.1900e-003	2.8000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4131	0.4131	2.0000e-005	0.0000	0.4136
Worker	1.2100e-003	6.3000e-004	8.3200e-003	3.0000e-005	4.9600e-003	2.0000e-005	4.9800e-003	1.3200e-003	2.0000e-005	1.3400e-003	0.0000	3.0580	3.0580	4.0000e-005	0.0000	3.0591
Total	**1.2500e-003**	**2.0300e-003**	**8.6500e-003**	**3.0000e-005**	**5.0900e-003**	**2.0000e-005**	**5.1200e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**3.5330**	**3.5330**	**6.0000e-005**	**0.0000**	**3.5346**

3.41 Y8 - Removal - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1600e-003	0.0795	0.1403	2.4000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	20.7376	20.7376	6.3000e-004	0.0000	20.7533
Total	**4.1600e-003**	**0.0795**	**0.1403**	**2.4000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**20.7376**	**20.7376**	**6.3000e-004**	**0.0000**	**20.7533**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.1000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0620	0.0620	0.0000	0.0000	0.0620
Vendor	3.0000e-005	1.1900e-003	2.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4131	0.4131	2.0000e-005	0.0000	0.4136
Worker	1.2100e-003	6.3000e-004	8.3200e-003	3.0000e-005	4.5700e-003	2.0000e-005	4.5900e-003	1.2200e-003	2.0000e-005	1.2400e-003	0.0000	3.0580	3.0580	4.0000e-005	0.0000	3.0591
Total	**1.2500e-003**	**2.0300e-003**	**8.6500e-003**	**3.0000e-005**	**4.7000e-003**	**2.0000e-005**	**4.7200e-003**	**1.2600e-003**	**2.0000e-005**	**1.2800e-003**	**0.0000**	**3.5330**	**3.5330**	**6.0000e-005**	**0.0000**	**3.5346**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4100e-003	0.0109	0.0279	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	7.0000e-005	3.4700e-003	0.0000	10.6770	10.6770	4.2000e-004	0.0000	10.6875
Unmitigated	2.4100e-003	0.0109	0.0279	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	7.0000e-005	3.4700e-003	0.0000	10.6770	10.6770	4.2000e-004	0.0000	10.6875

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	3.40	40.95	30.13	34,019	34,019
Total	3.40	40.95	30.13	34,019	34,019

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	15.00	7.50	8.50	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.570990	0.036039	0.209774	0.110012	0.014862	0.004732	0.018347	0.024592	0.001934	0.001739	0.005654	0.000617	0.000710

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.4000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	7.4000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	5.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	5.0000e-005
Total	**7.4000e-004**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	5.0000e-005
Total	**7.4000e-004**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1837	1.0000e-004	2.0000e-005	2.1922
Unmitigated	2.1837	1.0000e-004	2.0000e-005	2.1922

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.14467	2.1837	1.0000e-004	2.0000e-005	2.1922
Total		**2.1837**	**1.0000e-004**	**2.0000e-005**	**2.1922**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.14467	2.1837	1.0000e-004	2.0000e-005	2.1922
Total		**2.1837**	**1.0000e-004**	**2.0000e-005**	**2.1922**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0305	1.8000e-003	0.0000	0.0754
Unmitigated	0.0305	1.8000e-003	0.0000	0.0754

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.15	0.0305	1.8000e-003	0.0000	0.0754
Total		**0.0305**	**1.8000e-003**	**0.0000**	**0.0754**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.15	0.0305	1.8000e-003	0.0000	0.0754
Total		**0.0305**	**1.8000e-003**	**0.0000**	**0.0754**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

DWR Georgiana Slough Salmonid Migratory Barrier - BAFF

Sacramento Metropolitan AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.80	Acre	1.80	78,408.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Summed the Locke and Walnut Grove staging area acreages from PD. This is the only area with potential for soil movement.

Construction Phase - Schedule and work days from project description. Assumes a 10-hr, 7-day work week. Because marine construction must occur Aug-Sep, the previous year's removal is concurrent with the following year's site prep.

Off-road Equipment - Same as pile install except for pile driver.

Off-road Equipment - Running full-time during operation per the PM. Assuming a large air compressor to be conservative.

Off-road Equipment - Unit amount from 2011 study. Hours for crane, forklift, generator sets = 2011 hours x 2.5 (larger project). Other const. equip. = vibratory pile driver. 49 piles x 10 min per pile / 30 days

Off-road Equipment - Same as install except shorter hours because only a maximum of 20 piles will be removed each year. Assuming pile driver is needed to be conservative.

Off-road Equipment - Total hours of operation from 2011 (4) x 2.5 (larger project) / days in phase = 1.4 hr/day

Off-road Equipment - Same as Y1.
Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1 except shorter hours (maximum of 20 piles being installed).

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1 except longer hours because all 49 piles will be removed.

Off-road Equipment - Same as Y1.

Trips and VMT - Vendors are used to represent mobilization. Haul trips are used to represent pickup trucks in equipment list.

Grading -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - SMAQMD prescribed Basic Construction Emission Control Practices. Tier 4 for all to lower PM10 exhaust.

Vehicle Emission Factors -

Vehicle Emission Factors -

DWR Salmon Protection Tech Study - BAFF, Georgiana Slough - Sacramento Metropolitan AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	128.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstructionPhase	NumDays	200.00	30.00
tblConstructionPhase	NumDays	10.00	120.00

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tblFleetMix	LDT2	0.21	0.21
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tblFleetMix	MDV	0.11	0.11
tblFleetMix	MH	6.1800e-004	7.1000e-004
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.8770e-003	1.9340e-003
tblFleetMix	SBUS	6.1000e-004	6.1700e-004
tblFleetMix	UBUS	1.5190e-003	1.7390e-003

tblOffRoadEquipment	HorsePower	78.00	125.00
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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.9738	7.9204	9.3406	0.0190	0.3517	0.3817	0.7333	0.0935	0.3724	0.4659	0.0000	1,823.5908	1,823.5908	0.1694	0.0000	1,827.8259
2023	1.9208	13.7174	21.4848	0.0397	0.5660	0.6680	0.7706	0.1360	0.6679	0.6952	0.0000	3,768.3172	3,768.3172	0.1701	0.0000	3,772.5693
2024	1.8018	12.6086	21.4608	0.0397	0.5660	0.5773	0.7118	0.1360	0.5772	0.6044	0.0000	3,764.6145	3,764.6145	0.1570	0.0000	3,768.5382
2025	1.6898	11.5945	21.4353	0.0397	0.5660	0.4931	0.6927	0.1360	0.4931	0.5203	0.0000	3,760.9498	3,760.9498	0.1491	0.0000	3,764.6252
2026	1.6879	11.5930	21.4164	0.0396	0.5660	0.4931	0.6926	0.1360	0.4930	0.5203	0.0000	3,757.6893	3,757.6893	0.1485	0.0000	3,761.3608
2027	1.6861	11.5916	21.3992	0.0396	0.5660	0.4931	0.6925	0.1360	0.4930	0.5202	0.0000	3,754.7753	3,754.7753	0.1480	0.0000	3,758.4432
2028	1.6842	11.5904	21.3841	0.0396	0.5660	0.4930	0.6923	0.1360	0.4930	0.5202	0.0000	3,752.1915	3,752.1915	0.1476	0.0000	3,755.8565
2029	1.6821	11.5893	21.3697	0.0396	0.5660	0.4930	0.6921	0.1360	0.4929	0.5202	0.0000	3,749.9051	3,749.9051	0.1472	0.0000	3,753.5672
2030	1.2250	7.4313	21.2843	0.0395	0.3517	0.1980	0.4369	0.0935	0.1980	0.2252	0.0000	3,747.8932	3,747.8932	0.1077	0.0000	3,750.5860
Maximum	**1.9208**	**13.7174**	**21.4848**	**0.0397**	**0.5660**	**0.6680**	**0.7706**	**0.1360**	**0.6679**	**0.6952**	**0.0000**	**3,768.3172**	**3,768.3172**	**0.1701**	**0.0000**	**3,772.5693**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4283	5.4999	10.5716	0.0190	0.3243	0.0240	0.3482	0.0868	0.0238	0.1106	0.0000	1,823.5908	1,823.5908	0.1694	0.0000	1,827.8259
2023	0.5935	13.8852	24.2427	0.0397	0.4784	0.0523	0.4921	0.1215	0.0523	0.1350	0.0000	3,768.3172	3,768.3172	0.1701	0.0000	3,772.5693
2024	0.5910	13.8832	24.2193	0.0397	0.4784	0.0523	0.4921	0.1215	0.0523	0.1349	0.0000	3,764.6145	3,764.6145	0.1570	0.0000	3,768.5382
2025	0.5889	13.8814	24.1974	0.0397	0.4784	0.0523	0.4920	0.1215	0.0523	0.1349	0.0000	3,760.9498	3,760.9498	0.1491	0.0000	3,764.6252
2026	0.5870	13.8799	24.1784	0.0396	0.4784	0.0523	0.4919	0.1215	0.0523	0.1348	0.0000	3,757.6893	3,757.6893	0.1485	0.0000	3,761.3608
2027	0.5851	13.8786	24.1613	0.0396	0.4784	0.0523	0.4918	0.1215	0.0522	0.1347	0.0000	3,754.7753	3,754.7753	0.1480	0.0000	3,758.4432
2028	0.5832	13.8774	24.1462	0.0396	0.4784	0.0522	0.4916	0.1215	0.0522	0.1345	0.0000	3,752.1915	3,752.1915	0.1476	0.0000	3,755.8565
2029	0.5811	13.8763	24.1317	0.0396	0.4784	0.0522	0.4914	0.1215	0.0522	0.1343	0.0000	3,749.9051	3,749.9051	0.1472	0.0000	3,753.5672
2030	0.5791	13.8753	24.1187	0.0395	0.3243	0.0522	0.3474	0.0868	0.0521	0.1097	0.0000	3,747.8932	3,747.8932	0.1077	0.0000	3,750.5860
Maximum	**0.5935**	**13.8852**	**24.2427**	**0.0397**	**0.4784**	**0.0523**	**0.4921**	**0.1215**	**0.0523**	**0.1350**	**0.0000**	**3,768.3172**	**3,768.3172**	**0.1701**	**0.0000**	**3,772.5693**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**64.34**	**-16.96**	**-12.95**	**0.00**	**14.33**	**89.70**	**32.32**	**10.10**	**89.68**	**74.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0549	0.1890	0.5662	2.2300e-003	0.2345	1.3800e-003	0.2359	0.0627	1.2900e-003	0.0639		226.7012	226.7012	8.4700e-003		226.9129
Total	**0.0589**	**0.1890**	**0.5664**	**2.2300e-003**	**0.2345**	**1.3800e-003**	**0.2359**	**0.0627**	**1.2900e-003**	**0.0639**		**226.7016**	**226.7016**	**8.4700e-003**	**0.0000**	**226.9134**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0549	0.1890	0.5662	2.2300e-003	0.2345	1.3800e-003	0.2359	0.0627	1.2900e-003	0.0639		226.7012	226.7012	8.4700e-003		226.9129
Total	**0.0589**	**0.1890**	**0.5664**	**2.2300e-003**	**0.2345**	**1.3800e-003**	**0.2359**	**0.0627**	**1.2900e-003**	**0.0639**		**226.7016**	**226.7016**	**8.4700e-003**	**0.0000**	**226.9134**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Y1 - Site Prep	Site Preparation	8/1/2022	8/7/2022	7	7	
2	Y1 - Pile Install	Building Construction	8/8/2022	9/6/2022	7	30	
3	Y1 - Barrier Install	Building Construction	12/1/2022	12/30/2022	7	30	
4	Y1 - Operation	Architectural Coating	1/1/2023	4/30/2023	7	120	
5	Y1 - Removal	Building Construction	8/1/2023	8/30/2023	7	30	
6	Y2 - Site Prep	Site Preparation	8/24/2023	8/30/2023	7	7	
7	Y2 - Pile Install	Building Construction	8/31/2023	9/29/2023	7	30	
8	Y2 - Barrier Install	Building Construction	12/1/2023	12/30/2023	7	30	
9	Y2 - Operation	Architectural Coating	1/1/2024	4/29/2024	7	120	
10	Y2 - Removal	Building Construction	8/1/2024	8/30/2024	7	30	
11	Y3 - Site Prep	Site Preparation	8/24/2024	8/30/2024	7	7	
12	Y3 - Pile Install	Building Construction	8/31/2024	9/29/2024	7	30	
13	Y3 - Barrier Install	Building Construction	12/1/2024	12/30/2024	7	30	
14	Y3 - Operation	Architectural Coating	1/1/2025	4/30/2025	7	120	
15	Y3 - Removal	Building Construction	8/1/2025	8/30/2025	7	30	
16	Y4 - Site Prep	Site Preparation	8/24/2025	8/30/2025	7	7	
17	Y4 - Pile Install	Building Construction	8/31/2025	9/29/2025	7	30	
18	Y4 - Barrier Install	Building Construction	12/1/2025	12/30/2025	7	30	
19	Y4 - Operation	Architectural Coating	1/1/2026	4/29/2026	7	120	

20	Y4 - Removal	Building Construction	8/1/2026	8/30/2026	7	30	
21	Y5 - Site Prep	Site Preparation	8/24/2026	8/30/2026	7	7	
22	Y5 - Pile Install	Building Construction	8/31/2026	9/29/2026	7	30	
23	Y5 - Barrier Install	Building Construction	12/1/2026	12/30/2026	7	30	
24	Y5 - Operation	Architectural Coating	1/1/2027	4/30/2027	7	120	
25	Y5 - Removal	Building Construction	8/1/2027	8/30/2027	7	30	
26	Y6 - Site Prep	Site Preparation	8/24/2027	8/30/2027	7	7	
27	Y6 - Pile Install	Building Construction	8/31/2027	9/29/2027	7	30	
28	Y6 - Barrier Install	Building Construction	12/1/2027	12/30/2027	7	30	
29	Y6 - Operation	Architectural Coating	1/1/2028	4/29/2028	7	120	
30	Y6 - Removal	Building Construction	8/1/2028	8/30/2028	7	30	
31	Y7 - Site Prep	Site Preparation	8/24/2028	8/30/2028	7	7	
32	Y7 - Pile Install	Building Construction	8/31/2028	9/29/2028	7	30	
33	Y7 - Barrier Install	Building Construction	12/1/2028	12/30/2028	7	30	
34	Y7 - Operation	Architectural Coating	1/1/2029	4/30/2029	7	120	
35	Y7 - Removal	Building Construction	8/1/2029	8/30/2029	7	30	
36	Y8 - Site Prep	Site Preparation	8/24/2029	8/30/2029	7	7	
37	Y8 - Pile Install	Building Construction	8/31/2029	9/29/2029	7	30	
38	Y8 - Barrier Install	Building Construction	12/1/2029	12/30/2029	7	30	
39	Y8 - Operation	Architectural Coating	1/1/2030	4/30/2030	7	120	
40	Y8 - Removal	Building Construction	8/1/2030	8/30/2030	7	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Y1 - Site Prep	Graders	1	1.40	187	0.41
Y1 - Pile Install	Cranes	1	3.50	231	0.29
Y1 - Pile Install	Forklifts	1	3.50	89	0.20
Y1 - Pile Install	Generator Sets	5	2.90	84	0.74
Y1 - Pile Install	Other Construction Equipment	1	0.30	145	0.42
Y1 - Barrier Install	Cranes	1	3.50	231	0.29
Y1 - Barrier Install	Forklifts	1	3.50	89	0.20
Y1 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y1 - Operation	Air Compressors	1	24.00	125	0.48
Y1 - Operation	Generator Sets	1	24.00	84	0.74
Y1 - Removal	Cranes	1	1.40	231	0.29
Y1 - Removal	Forklifts	1	1.40	89	0.20
Y1 - Removal	Generator Sets	5	1.20	84	0.74
Y1 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y2 - Site Prep	Graders	1	1.40	187	0.41
Y2 - Pile Install	Cranes	1	1.40	231	0.29
Y2 - Pile Install	Forklifts	1	1.40	89	0.20
Y2 - Pile Install	Generator Sets	5	1.20	84	0.74
Y2 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y2 - Barrier Install	Cranes	1	3.50	231	0.29
Y2 - Barrier Install	Forklifts	1	3.50	89	0.20
Y2 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y2 - Operation	Air Compressors	1	24.00	125	0.48
Y2 - Operation	Generator Sets	1	24.00	84	0.74

Y2 - Removal	Cranes	1	1.40	231	0.29
Y2 - Removal	Forklifts	1	1.40	89	0.20
Y2 - Removal	Generator Sets	5	1.20	84	0.74
Y2 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y3 - Site Prep	Graders	1	1.40	187	0.41
Y3 - Pile Install	Cranes	1	1.40	231	0.29
Y3 - Pile Install	Forklifts	1	1.40	89	0.20
Y3 - Pile Install	Generator Sets	5	1.20	84	0.74
Y3 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y3 - Barrier Install	Cranes	1	3.50	231	0.29
Y3 - Barrier Install	Forklifts	1	3.50	89	0.20
Y3 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y3 - Operation	Air Compressors	1	24.00	125	0.48
Y3 - Operation	Generator Sets	1	24.00	84	0.74
Y3 - Removal	Cranes	1	1.40	231	0.29
Y3 - Removal	Forklifts	1	1.40	89	0.20
Y3 - Removal	Generator Sets	5	1.20	84	0.74
Y3 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y4 - Site Prep	Graders	1	1.40	187	0.41
Y4 - Pile Install	Cranes	1	1.40	231	0.29
Y4 - Pile Install	Forklifts	1	1.40	89	0.20
Y4 - Pile Install	Generator Sets	5	1.20	84	0.74
Y4 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y4 - Barrier Install	Cranes	1	3.50	231	0.29
Y4 - Barrier Install	Forklifts	1	3.50	89	0.20
Y4 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y4 - Operation	Air Compressors	1	24.00	125	0.48

Y4 - Operation	Generator Sets	1	24.00	84	0.74
Y4 - Removal	Cranes	1	1.40	231	0.29
Y4 - Removal	Forklifts	1	1.40	89	0.20
Y4 - Removal	Generator Sets	5	1.20	84	0.74
Y4 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y5 - Site Prep	Graders	1	1.40	187	0.41
Y5 - Pile Install	Cranes	1	1.40	231	0.29
Y5 - Pile Install	Forklifts	1	1.40	89	0.20
Y5 - Pile Install	Generator Sets	5	1.20	84	0.74
Y5 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y5 - Barrier Install	Cranes	1	3.50	231	0.29
Y5 - Barrier Install	Forklifts	1	3.50	89	0.20
Y5 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y5 - Operation	Air Compressors	1	24.00	125	0.48
Y5 - Operation	Generator Sets	1	24.00	84	0.74
Y5 - Removal	Cranes	1	1.40	231	0.29
Y5 - Removal	Forklifts	1	1.40	89	0.20
Y5 - Removal	Generator Sets	5	1.20	84	0.74
Y5 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y6 - Site Prep	Graders	1	1.40	187	0.41
Y6 - Pile Install	Cranes	1	1.40	231	0.29
Y6 - Pile Install	Forklifts	1	1.40	89	0.20
Y6 - Pile Install	Generator Sets	5	1.20	84	0.74
Y6 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y6 - Barrier Install	Cranes	1	3.50	231	0.29
Y6 - Barrier Install	Forklifts	1	3.50	89	0.20
Y6 - Barrier Install	Generator Sets	5	2.90	84	0.74

Y6 - Operation	Air Compressors	1	24.00	125	0.48
Y6 - Operation	Generator Sets	1	24.00	84	0.74
Y6 - Removal	Cranes	1	1.40	231	0.29
Y6 - Removal	Forklifts	1	1.40	89	0.20
Y6 - Removal	Generator Sets	5	1.20	84	0.74
Y6 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y7 - Site Prep	Graders	1	1.40	187	0.41
Y7 - Pile Install	Cranes	1	1.40	231	0.29
Y7 - Pile Install	Forklifts	1	1.40	89	0.20
Y7 - Pile Install	Generator Sets	5	1.20	84	0.74
Y7 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y7 - Barrier Install	Cranes	1	3.50	231	0.29
Y7 - Barrier Install	Forklifts	1	3.50	89	0.20
Y7 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y7 - Operation	Air Compressors	1	24.00	125	0.48
Y7 - Operation	Generator Sets	1	24.00	84	0.74
Y7 - Removal	Cranes	1	1.40	231	0.29
Y7 - Removal	Forklifts	1	1.40	89	0.20
Y7 - Removal	Generator Sets	5	1.20	84	0.74
Y7 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y8 - Site Prep	Graders	1	1.40	187	0.41
Y8 - Pile Install	Cranes	1	1.40	231	0.29
Y8 - Pile Install	Forklifts	1	1.40	89	0.20
Y8 - Pile Install	Generator Sets	5	1.20	84	0.74
Y8 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y8 - Barrier Install	Cranes	1	3.50	231	0.29
Y8 - Barrier Install	Forklifts	1	3.50	89	0.20

Y8 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y8 - Operation	Air Compressors	1	24.00	125	0.48
Y8 - Operation	Generator Sets	1	24.00	84	0.74
Y8 - Removal	Cranes	1	3.50	231	0.29
Y8 - Removal	Forklifts	1	3.50	89	0.20
Y8 - Removal	Generator Sets	5	2.90	84	0.74
Y8 - Removal	Other Construction Equipment	1	0.30	145	0.42

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Y1 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	20.00	LD_Mix	HDT_Mix	MHDT
Y1 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT

Y4 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Y1 - Site Prep - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0726	0.9201	0.3013	1.1600e-003		0.0293	0.0293		0.0269	0.0269		112.2238	112.2238	0.0363		113.1312
Total	**0.0726**	**0.9201**	**0.3013**	**1.1600e-003**	**0.0924**	**0.0293**	**0.1217**	**9.9800e-003**	**0.0269**	**0.0369**		**112.2238**	**112.2238**	**0.0363**		**113.1312**

3.2 Y1 - Site Prep - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.3500e-003	0.1061	0.0271	3.0000e-004	7.8600e-003	3.0000e-004	8.1600e-003	2.2600e-003	2.9000e-004	2.5500e-003		32.2279	32.2279	1.5600e-003		32.2669
Worker	0.0489	0.0264	0.3948	1.1000e-003	0.1141	7.2000e-004	0.1148	0.0303	6.6000e-004	0.0309		109.7509	109.7509	2.6600e-003		109.8174
Total	**0.0523**	**0.1325**	**0.4219**	**1.4000e-003**	**0.1219**	**1.0200e-003**	**0.1229**	**0.0325**	**9.5000e-004**	**0.0335**		**141.9788**	**141.9788**	**4.2200e-003**		**142.0843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.2238	112.2238	0.0363		113.1312
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.2238**	**112.2238**	**0.0363**		**113.1312**

3.2 Y1 - Site Prep - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.3500e-003	0.1061	0.0271	3.0000e-004	7.3500e-003	3.0000e-004	7.6600e-003	2.1400e-003	2.9000e-004	2.4300e-003		32.2279	32.2279	1.5600e-003		32.2669
Worker	0.0489	0.0264	0.3948	1.1000e-003	0.1051	7.2000e-004	0.1059	0.0281	6.6000e-004	0.0287		109.7509	109.7509	2.6600e-003		109.8174
Total	**0.0523**	**0.1325**	**0.4219**	**1.4000e-003**	**0.1125**	**1.0200e-003**	**0.1135**	**0.0302**	**9.5000e-004**	**0.0312**		**141.9788**	**141.9788**	**4.2200e-003**		**142.0843**

3.3 Y1 - Pile Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8229	7.7202	8.1224	0.0153		0.3791	0.3791		0.3701	0.3701		1,457.4172	1,457.4172	0.1598		1,461.4119
Total	**0.8229**	**7.7202**	**8.1224**	**0.0153**		**0.3791**	**0.3791**		**0.3701**	**0.3701**		**1,457.4172**	**1,457.4172**	**0.1598**		**1,461.4119**

3.3 Y1 - Pile Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.4000e-004	0.0151	6.6500e-003	5.0000e-005	1.6400e-003	5.0000e-005	1.6800e-003	4.9000e-004	5.0000e-005	5.4000e-004		4.6931	4.6931	8.0000e-005		4.6951
Vendor	3.3500e-003	0.1061	0.0271	3.0000e-004	7.8600e-003	3.0000e-004	8.1600e-003	2.2600e-003	2.9000e-004	2.5500e-003		32.2279	32.2279	1.5600e-003		32.2669
Worker	0.1468	0.0790	1.1845	3.3100e-003	0.3422	2.1600e-003	0.3443	0.0907	1.9900e-003	0.0927		329.2527	329.2527	7.9700e-003		329.4521
Total	**0.1509**	**0.2002**	**1.2182**	**3.6600e-003**	**0.3517**	**2.5100e-003**	**0.3542**	**0.0935**	**2.3300e-003**	**0.0958**		**366.1736**	**366.1736**	**9.6100e-003**		**366.4141**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2775	5.2997	9.3533	0.0153		0.0215	0.0215		0.0215	0.0215	0.0000	1,457.4172	1,457.4172	0.1598		1,461.4119
Total	**0.2775**	**5.2997**	**9.3533**	**0.0153**		**0.0215**	**0.0215**		**0.0215**	**0.0215**	**0.0000**	**1,457.4172**	**1,457.4172**	**0.1598**		**1,461.4119**

3.3 Y1 - Pile Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.4000e-004	0.0151	6.6500e-003	5.0000e-005	1.5400e-003	5.0000e-005	1.5800e-003	4.7000e-004	5.0000e-005	5.1000e-004		4.6931	4.6931	8.0000e-005		4.6951
Vendor	3.3500e-003	0.1061	0.0271	3.0000e-004	7.3500e-003	3.0000e-004	7.6600e-003	2.1400e-003	2.9000e-004	2.4300e-003		32.2279	32.2279	1.5600e-003		32.2669
Worker	0.1468	0.0790	1.1845	3.3100e-003	0.3154	2.1600e-003	0.3176	0.0842	1.9900e-003	0.0862		329.2527	329.2527	7.9700e-003		329.4521
Total	**0.1509**	**0.2002**	**1.2182**	**3.6600e-003**	**0.3243**	**2.5100e-003**	**0.3268**	**0.0868**	**2.3300e-003**	**0.0891**		**366.1736**	**366.1736**	**9.6100e-003**		**366.4141**

3.4 Y1 - Barrier Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8110	7.5996	7.9953	0.0151		0.3729	0.3729		0.3643	0.3643		1,438.5019	1,438.5019	0.1537		1,442.3437
Total	**0.8110**	**7.5996**	**7.9953**	**0.0151**		**0.3729**	**0.3729**		**0.3643**	**0.3643**		**1,438.5019**	**1,438.5019**	**0.1537**		**1,442.3437**

3.4 Y1 - Barrier Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.4000e-004	0.0151	6.6500e-003	5.0000e-005	1.6400e-003	5.0000e-005	1.6800e-003	4.9000e-004	5.0000e-005	5.4000e-004		4.6931	4.6931	8.0000e-005		4.6951
Vendor	3.3500e-003	0.1061	0.0271	3.0000e-004	7.8600e-003	3.0000e-004	8.1600e-003	2.2600e-003	2.9000e-004	2.5500e-003		32.2279	32.2279	1.5600e-003		32.2669
Worker	0.1468	0.0790	1.1845	3.3100e-003	0.3422	2.1600e-003	0.3443	0.0907	1.9900e-003	0.0927		329.2527	329.2527	7.9700e-003		329.4521
Total	**0.1509**	**0.2002**	**1.2182**	**3.6600e-003**	**0.3517**	**2.5100e-003**	**0.3542**	**0.0935**	**2.3300e-003**	**0.0958**		**366.1736**	**366.1736**	**9.6100e-003**		**366.4141**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5019	1,438.5019	0.1537		1,442.3437
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5019**	**1,438.5019**	**0.1537**		**1,442.3437**

3.4 Y1 - Barrier Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.4000e-004	0.0151	6.6500e-003	5.0000e-005	1.5400e-003	5.0000e-005	1.5800e-003	4.7000e-004	5.0000e-005	5.1000e-004		4.6931	4.6931	8.0000e-005		4.6951
Vendor	3.3500e-003	0.1061	0.0271	3.0000e-004	7.3500e-003	3.0000e-004	7.6600e-003	2.1400e-003	2.9000e-004	2.4300e-003		32.2279	32.2279	1.5600e-003		32.2669
Worker	0.1468	0.0790	1.1845	3.3100e-003	0.3154	2.1600e-003	0.3176	0.0842	1.9900e-003	0.0862		329.2527	329.2527	7.9700e-003		329.4521
Total	**0.1509**	**0.2002**	**1.2182**	**3.6600e-003**	**0.3243**	**2.5100e-003**	**0.3268**	**0.0868**	**2.3300e-003**	**0.0891**		**366.1736**	**366.1736**	**9.6100e-003**		**366.4141**

3.5 Y1 - Operation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.8795	13.6960	21.1575	0.0388		0.6674	0.6674		0.6674	0.6674		3,673.2579	3,673.2579	0.1679		3,677.4564
Total	**1.8795**	**13.6960**	**21.1575**	**0.0388**		**0.6674**	**0.6674**		**0.6674**	**0.6674**		**3,673.2579**	**3,673.2579**	**0.1679**		**3,677.4564**

3.5 Y1 - Operation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0412	0.0214	0.3274	9.5000e-004	0.1027	6.3000e-004	0.1033	0.0272	5.8000e-004	0.0278		95.0593	95.0593	2.1500e-003		95.1130
Total	**0.0412**	**0.0214**	**0.3274**	**9.5000e-004**	**0.1027**	**6.3000e-004**	**0.1033**	**0.0272**	**5.8000e-004**	**0.0278**		**95.0593**	**95.0593**	**2.1500e-003**		**95.1130**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1679		3,677.4563
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1679**		**3,677.4563**

3.5 Y1 - Operation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0412	0.0214	0.3274	9.5000e-004	0.0946	6.3000e-004	0.0953	0.0253	5.8000e-004	0.0258		95.0593	95.0593	2.1500e-003		95.1130
Total	**0.0412**	**0.0214**	**0.3274**	**9.5000e-004**	**0.0946**	**6.3000e-004**	**0.0953**	**0.0253**	**5.8000e-004**	**0.0258**		**95.0593**	**95.0593**	**2.1500e-003**		**95.1130**

3.6 Y1 - Removal - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3125	2.9086	3.3156	6.2800e-003		0.1364	0.1364		0.1331	0.1331		597.2791	597.2791	0.0626		598.8441
Total	**0.3125**	**2.9086**	**3.3156**	**6.2800e-003**		**0.1364**	**0.1364**		**0.1331**	**0.1331**		**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.6 Y1 - Removal - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.1000e-004	0.0134	5.8500e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6542	4.6542	7.0000e-005		4.6560
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.1374	0.0712	1.0912	3.1800e-003	0.3422	2.1000e-003	0.3443	0.0907	1.9400e-003	0.0927		316.8644	316.8644	7.1500e-003		317.0432
Total	**0.1406**	**0.1732**	**1.1211**	**3.5200e-003**	**0.3517**	**2.2600e-003**	**0.3539**	**0.0935**	**2.1000e-003**	**0.0956**		**353.1553**	**353.1553**	**8.6300e-003**		**353.3711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2791	597.2791	0.0626		598.8441
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.6 Y1 - Removal - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.1000e-004	0.0134	5.8500e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6542	4.6542	7.0000e-005		4.6560
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.4000e-004	2.2700e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.1374	0.0712	1.0912	3.1800e-003	0.3154	2.1000e-003	0.3175	0.0842	1.9400e-003	0.0861		316.8644	316.8644	7.1500e-003		317.0432
Total	**0.1406**	**0.1732**	**1.1211**	**3.5200e-003**	**0.3243**	**2.2600e-003**	**0.3265**	**0.0868**	**2.1000e-003**	**0.0889**		**353.1553**	**353.1553**	**8.6300e-003**		**353.3711**

3.7 Y2 - Site Prep - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0671	0.8143	0.2962	1.1600e-003		0.0264	0.0264		0.0243	0.0243		112.1497	112.1497	0.0363		113.0564
Total	**0.0671**	**0.8143**	**0.2962**	**1.1600e-003**	**0.0924**	**0.0264**	**0.1188**	**9.9800e-003**	**0.0243**	**0.0343**		**112.1497**	**112.1497**	**0.0363**		**113.0564**

3.7 Y2 - Site Prep - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.0458	0.0237	0.3638	1.0600e-003	0.1141	7.0000e-004	0.1148	0.0303	6.5000e-004	0.0309		105.6215	105.6215	2.3800e-003		105.6811
Total	**0.0484**	**0.1123**	**0.3878**	**1.3600e-003**	**0.1219**	**8.4000e-004**	**0.1228**	**0.0325**	**7.9000e-004**	**0.0333**		**137.2581**	**137.2581**	**3.7900e-003**		**137.3530**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.1497	112.1497	0.0363		113.0564
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.1497**	**112.1497**	**0.0363**		**113.0564**

3.7 Y2 - Site Prep - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.4000e-004	2.2700e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.0458	0.0237	0.3638	1.0600e-003	0.1051	7.0000e-004	0.1058	0.0281	6.5000e-004	0.0287		105.6215	105.6215	2.3800e-003		105.6811
Total	**0.0484**	**0.1123**	**0.3878**	**1.3600e-003**	**0.1125**	**8.4000e-004**	**0.1133**	**0.0302**	**7.9000e-004**	**0.0310**		**137.2581**	**137.2581**	**3.7900e-003**		**137.3530**

3.8 Y2 - Pile Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3125	2.9086	3.3156	6.2800e-003		0.1364	0.1364		0.1331	0.1331		597.2791	597.2791	0.0626		598.8441
Total	**0.3125**	**2.9086**	**3.3156**	**6.2800e-003**		**0.1364**	**0.1364**		**0.1331**	**0.1331**		**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.8 Y2 - Pile Install - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.1000e-004	0.0134	5.8500e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6542	4.6542	7.0000e-005		4.6560
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.1374	0.0712	1.0912	3.1800e-003	0.3422	2.1000e-003	0.3443	0.0907	1.9400e-003	0.0927		316.8644	316.8644	7.1500e-003		317.0432
Total	**0.1406**	**0.1732**	**1.1211**	**3.5200e-003**	**0.3517**	**2.2600e-003**	**0.3539**	**0.0935**	**2.1000e-003**	**0.0956**		**353.1553**	**353.1553**	**8.6300e-003**		**353.3711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2791	597.2791	0.0626		598.8441
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.8 Y2 - Pile Install - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.1000e-004	0.0134	5.8500e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6542	4.6542	7.0000e-005		4.6560
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.4000e-004	2.2700e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.1374	0.0712	1.0912	3.1800e-003	0.3154	2.1000e-003	0.3175	0.0842	1.9400e-003	0.0861		316.8644	316.8644	7.1500e-003		317.0432
Total	**0.1406**	**0.1732**	**1.1211**	**3.5200e-003**	**0.3243**	**2.2600e-003**	**0.3265**	**0.0868**	**2.1000e-003**	**0.0889**		**353.1553**	**353.1553**	**8.6300e-003**		**353.3711**

3.9 Y2 - Barrier Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7530	7.0111	7.9541	0.0151		0.3281	0.3281		0.3205	0.3205		1,438.4971	1,438.4971	0.1497		1,442.2394
Total	**0.7530**	**7.0111**	**7.9541**	**0.0151**		**0.3281**	**0.3281**		**0.3205**	**0.3205**		**1,438.4971**	**1,438.4971**	**0.1497**		**1,442.2394**

3.9 Y2 - Barrier Install - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.1000e-004	0.0134	5.8500e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6542	4.6542	7.0000e-005		4.6560
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.1374	0.0712	1.0912	3.1800e-003	0.3422	2.1000e-003	0.3443	0.0907	1.9400e-003	0.0927		316.8644	316.8644	7.1500e-003		317.0432
Total	**0.1406**	**0.1732**	**1.1211**	**3.5200e-003**	**0.3517**	**2.2600e-003**	**0.3539**	**0.0935**	**2.1000e-003**	**0.0956**		**353.1553**	**353.1553**	**8.6300e-003**		**353.3711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.4971	1,438.4971	0.1497		1,442.2394
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.4971**	**1,438.4971**	**0.1497**		**1,442.2394**

3.9 Y2 - Barrier Install - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.1000e-004	0.0134	5.8500e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6542	4.6542	7.0000e-005		4.6560
Vendor	2.6300e-003	0.0885	0.0240	3.0000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.4000e-004	2.2700e-003		31.6366	31.6366	1.4100e-003		31.6720
Worker	0.1374	0.0712	1.0912	3.1800e-003	0.3154	2.1000e-003	0.3175	0.0842	1.9400e-003	0.0861		316.8644	316.8644	7.1500e-003		317.0432
Total	**0.1406**	**0.1732**	**1.1211**	**3.5200e-003**	**0.3243**	**2.2600e-003**	**0.3265**	**0.0868**	**2.1000e-003**	**0.0889**		**353.1553**	**353.1553**	**8.6300e-003**		**353.3711**

3.10 Y2 - Operation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.7631	12.5893	21.1569	0.0388		0.5766	0.5766		0.5766	0.5766		3,673.2579	3,673.2579	0.1550		3,677.1332
Total	**1.7631**	**12.5893**	**21.1569**	**0.0388**		**0.5766**	**0.5766**		**0.5766**	**0.5766**		**3,673.2579**	**3,673.2579**	**0.1550**		**3,677.1332**

3.10 Y2 - Operation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0388	0.0193	0.3039	9.2000e-004	0.1027	6.2000e-004	0.1033	0.0272	5.7000e-004	0.0278		91.3566	91.3566	1.9400e-003		91.4051
Total	**0.0388**	**0.0193**	**0.3039**	**9.2000e-004**	**0.1027**	**6.2000e-004**	**0.1033**	**0.0272**	**5.7000e-004**	**0.0278**		**91.3566**	**91.3566**	**1.9400e-003**		**91.4051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1550		3,677.1332
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1550**		**3,677.1332**

3.10 Y2 - Operation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0388	0.0193	0.3039	9.2000e-004	0.0946	6.2000e-004	0.0952	0.0253	5.7000e-004	0.0258		91.3566	91.3566	1.9400e-003		91.4051
Total	**0.0388**	**0.0193**	**0.3039**	**9.2000e-004**	**0.0946**	**6.2000e-004**	**0.0952**	**0.0253**	**5.7000e-004**	**0.0258**		**91.3566**	**91.3566**	**1.9400e-003**		**91.4051**

3.11 Y2 - Removal - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2918	2.7101	3.3002	6.2800e-003		0.1192	0.1192		0.1163	0.1163		597.2768	597.2768	0.0610		598.8007
Total	**0.2918**	**2.7101**	**3.3002**	**6.2800e-003**		**0.1192**	**0.1192**		**0.1163**	**0.1163**		**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.11 Y2 - Removal - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-004	0.0135	5.2400e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6393	4.6393	6.0000e-005		4.6409
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.1292	0.0644	1.0131	3.0600e-003	0.3422	2.0600e-003	0.3442	0.0907	1.9000e-003	0.0926		304.5221	304.5221	6.4600e-003		304.6835
Total	**0.1323**	**0.1647**	**1.0409**	**3.4000e-003**	**0.3517**	**2.2100e-003**	**0.3539**	**0.0935**	**2.0500e-003**	**0.0955**		**340.6194**	**340.6194**	**7.9200e-003**		**340.8172**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2768	597.2768	0.0610		598.8007
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.11 Y2 - Removal - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-004	0.0135	5.2400e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6393	4.6393	6.0000e-005		4.6409
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.3500e-003	1.3000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2600e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.1292	0.0644	1.0131	3.0600e-003	0.3154	2.0600e-003	0.3175	0.0842	1.9000e-003	0.0861		304.5221	304.5221	6.4600e-003		304.6835
Total	**0.1323**	**0.1647**	**1.0409**	**3.4000e-003**	**0.3243**	**2.2100e-003**	**0.3265**	**0.0868**	**2.0500e-003**	**0.0888**		**340.6194**	**340.6194**	**7.9200e-003**		**340.8172**

3.12 Y3 - Site Prep - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0621	0.7273	0.2899	1.1600e-003		0.0236	0.0236		0.0217	0.0217		112.0888	112.0888	0.0363		112.9951
Total	**0.0621**	**0.7273**	**0.2899**	**1.1600e-003**	**0.0924**	**0.0236**	**0.1160**	**9.9800e-003**	**0.0217**	**0.0317**		**112.0888**	**112.0888**	**0.0363**		**112.9951**

3.12 Y3 - Site Prep - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.0431	0.0215	0.3377	1.0200e-003	0.1141	6.9000e-004	0.1147	0.0303	6.3000e-004	0.0309		101.5074	101.5074	2.1500e-003		101.5612
Total	**0.0456**	**0.1082**	**0.3602**	**1.3200e-003**	**0.1219**	**8.2000e-004**	**0.1227**	**0.0325**	**7.6000e-004**	**0.0333**		**132.9653**	**132.9653**	**3.5500e-003**		**133.0540**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0888	112.0888	0.0363		112.9951
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0888**	**112.0888**	**0.0363**		**112.9951**

3.12 Y3 - Site Prep - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.3500e-003	1.3000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2600e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.0431	0.0215	0.3377	1.0200e-003	0.1051	6.9000e-004	0.1058	0.0281	6.3000e-004	0.0287		101.5074	101.5074	2.1500e-003		101.5612
Total	**0.0456**	**0.1082**	**0.3602**	**1.3200e-003**	**0.1125**	**8.2000e-004**	**0.1133**	**0.0302**	**7.6000e-004**	**0.0310**		**132.9653**	**132.9653**	**3.5500e-003**		**133.0540**

3.13 Y3 - Pile Install - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2918	2.7101	3.3002	6.2800e-003		0.1192	0.1192		0.1163	0.1163		597.2768	597.2768	0.0610		598.8007
Total	**0.2918**	**2.7101**	**3.3002**	**6.2800e-003**		**0.1192**	**0.1192**		**0.1163**	**0.1163**		**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.13 Y3 - Pile Install - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-004	0.0135	5.2400e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6393	4.6393	6.0000e-005		4.6409
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.1292	0.0644	1.0131	3.0600e-003	0.3422	2.0600e-003	0.3442	0.0907	1.9000e-003	0.0926		304.5221	304.5221	6.4600e-003		304.6835
Total	**0.1323**	**0.1647**	**1.0409**	**3.4000e-003**	**0.3517**	**2.2100e-003**	**0.3539**	**0.0935**	**2.0500e-003**	**0.0955**		**340.6194**	**340.6194**	**7.9200e-003**		**340.8172**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2768	597.2768	0.0610		598.8007
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.13 Y3 - Pile Install - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-004	0.0135	5.2400e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6393	4.6393	6.0000e-005		4.6409
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.3500e-003	1.3000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2600e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.1292	0.0644	1.0131	3.0600e-003	0.3154	2.0600e-003	0.3175	0.0842	1.9000e-003	0.0861		304.5221	304.5221	6.4600e-003		304.6835
Total	**0.1323**	**0.1647**	**1.0409**	**3.4000e-003**	**0.3243**	**2.2100e-003**	**0.3265**	**0.0868**	**2.0500e-003**	**0.0888**		**340.6194**	**340.6194**	**7.9200e-003**		**340.8172**

3.14 Y3 - Barrier Install - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7030	6.5317	7.9157	0.0151		0.2868	0.2868		0.2799	0.2799		1,438.4919	1,438.4919	0.1457		1,442.1348
Total	**0.7030**	**6.5317**	**7.9157**	**0.0151**		**0.2868**	**0.2868**		**0.2799**	**0.2799**		**1,438.4919**	**1,438.4919**	**0.1457**		**1,442.1348**

3.14 Y3 - Barrier Install - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-004	0.0135	5.2400e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6393	4.6393	6.0000e-005		4.6409
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.1292	0.0644	1.0131	3.0600e-003	0.3422	2.0600e-003	0.3442	0.0907	1.9000e-003	0.0926		304.5221	304.5221	6.4600e-003		304.6835
Total	**0.1323**	**0.1647**	**1.0409**	**3.4000e-003**	**0.3517**	**2.2100e-003**	**0.3539**	**0.0935**	**2.0500e-003**	**0.0955**		**340.6194**	**340.6194**	**7.9200e-003**		**340.8172**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.4919	1,438.4919	0.1457		1,442.1348
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.4919**	**1,438.4919**	**0.1457**		**1,442.1348**

3.14 Y3 - Barrier Install - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-004	0.0135	5.2400e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6393	4.6393	6.0000e-005		4.6409
Vendor	2.5100e-003	0.0867	0.0225	3.0000e-004	7.3500e-003	1.3000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2600e-003		31.4580	31.4580	1.4000e-003		31.4929
Worker	0.1292	0.0644	1.0131	3.0600e-003	0.3154	2.0600e-003	0.3175	0.0842	1.9000e-003	0.0861		304.5221	304.5221	6.4600e-003		304.6835
Total	**0.1323**	**0.1647**	**1.0409**	**3.4000e-003**	**0.3243**	**2.2100e-003**	**0.3265**	**0.0868**	**2.0500e-003**	**0.0888**		**340.6194**	**340.6194**	**7.9200e-003**		**340.8172**

3.15 Y3 - Operation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.15 Y3 - Operation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0176	0.2821	8.8000e-004	0.1027	6.1000e-004	0.1033	0.0272	5.6000e-004	0.0278		87.6920	87.6920	1.7600e-003		87.7359
Total	**0.0366**	**0.0176**	**0.2821**	**8.8000e-004**	**0.1027**	**6.1000e-004**	**0.1033**	**0.0272**	**5.6000e-004**	**0.0278**		**87.6920**	**87.6920**	**1.7600e-003**		**87.7359**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.15 Y3 - Operation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0176	0.2821	8.8000e-004	0.0946	6.1000e-004	0.0952	0.0253	5.6000e-004	0.0258		87.6920	87.6920	1.7600e-003		87.7359
Total	**0.0366**	**0.0176**	**0.2821**	**8.8000e-004**	**0.0946**	**6.1000e-004**	**0.0952**	**0.0253**	**5.6000e-004**	**0.0258**		**87.6920**	**87.6920**	**1.7600e-003**		**87.7359**

3.16 Y3 - Removal - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.16 Y3 - Removal - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0136	4.7800e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6239	4.6239	6.0000e-005		4.6254
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.1221	0.0586	0.9403	2.9300e-003	0.3422	2.0200e-003	0.3442	0.0907	1.8600e-003	0.0926		292.3065	292.3065	5.8600e-003		292.4529
Total	**0.1250**	**0.1572**	**0.9664**	**3.2600e-003**	**0.3517**	**2.1700e-003**	**0.3538**	**0.0935**	**1.9900e-003**	**0.0955**		**328.2164**	**328.2164**	**7.3000e-003**		**328.3987**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.16 Y3 - Removal - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0136	4.7800e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6239	4.6239	6.0000e-005		4.6254
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.1221	0.0586	0.9403	2.9300e-003	0.3154	2.0200e-003	0.3174	0.0842	1.8600e-003	0.0860		292.3065	292.3065	5.8600e-003		292.4529
Total	**0.1250**	**0.1572**	**0.9664**	**3.2600e-003**	**0.3243**	**2.1700e-003**	**0.3264**	**0.0868**	**1.9900e-003**	**0.0888**		**328.2164**	**328.2164**	**7.3000e-003**		**328.3987**

3.17 Y4 - Site Prep - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.17 Y4 - Site Prep - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.0407	0.0195	0.3134	9.8000e-004	0.1141	6.7000e-004	0.1147	0.0303	6.2000e-004	0.0309		97.4355	97.4355	1.9500e-003		97.4843
Total	**0.0431**	**0.1045**	**0.3348**	**1.2700e-003**	**0.1219**	**8.0000e-004**	**0.1227**	**0.0325**	**7.4000e-004**	**0.0333**		**128.7215**	**128.7215**	**3.3300e-003**		**128.8047**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.17 Y4 - Site Prep - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.0407	0.0195	0.3134	9.8000e-004	0.1051	6.7000e-004	0.1058	0.0281	6.2000e-004	0.0287		97.4355	97.4355	1.9500e-003		97.4843
Total	**0.0431**	**0.1045**	**0.3348**	**1.2700e-003**	**0.1125**	**8.0000e-004**	**0.1133**	**0.0302**	**7.4000e-004**	**0.0309**		**128.7215**	**128.7215**	**3.3300e-003**		**128.8047**

3.18 Y4 - Pile Install - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.18 Y4 - Pile Install - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0136	4.7800e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6239	4.6239	6.0000e-005		4.6254
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.1221	0.0586	0.9403	2.9300e-003	0.3422	2.0200e-003	0.3442	0.0907	1.8600e-003	0.0926		292.3065	292.3065	5.8600e-003		292.4529
Total	**0.1250**	**0.1572**	**0.9664**	**3.2600e-003**	**0.3517**	**2.1700e-003**	**0.3538**	**0.0935**	**1.9900e-003**	**0.0955**		**328.2164**	**328.2164**	**7.3000e-003**		**328.3987**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.18 Y4 - Pile Install - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0136	4.7800e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6239	4.6239	6.0000e-005		4.6254
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.1221	0.0586	0.9403	2.9300e-003	0.3154	2.0200e-003	0.3174	0.0842	1.8600e-003	0.0860		292.3065	292.3065	5.8600e-003		292.4529
Total	**0.1250**	**0.1572**	**0.9664**	**3.2600e-003**	**0.3243**	**2.1700e-003**	**0.3264**	**0.0868**	**1.9900e-003**	**0.0888**		**328.2164**	**328.2164**	**7.3000e-003**		**328.3987**

3.19 Y4 - Barrier Install - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.19 Y4 - Barrier Install - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0136	4.7800e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6239	4.6239	6.0000e-005		4.6254
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.1221	0.0586	0.9403	2.9300e-003	0.3422	2.0200e-003	0.3442	0.0907	1.8600e-003	0.0926		292.3065	292.3065	5.8600e-003		292.4529
Total	**0.1250**	**0.1572**	**0.9664**	**3.2600e-003**	**0.3517**	**2.1700e-003**	**0.3538**	**0.0935**	**1.9900e-003**	**0.0955**		**328.2164**	**328.2164**	**7.3000e-003**		**328.3987**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.19 Y4 - Barrier Install - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0136	4.7800e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6239	4.6239	6.0000e-005		4.6254
Vendor	2.4200e-003	0.0850	0.0214	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		31.2860	31.2860	1.3800e-003		31.3204
Worker	0.1221	0.0586	0.9403	2.9300e-003	0.3154	2.0200e-003	0.3174	0.0842	1.8600e-003	0.0860		292.3065	292.3065	5.8600e-003		292.4529
Total	**0.1250**	**0.1572**	**0.9664**	**3.2600e-003**	**0.3243**	**2.1700e-003**	**0.3264**	**0.0868**	**1.9900e-003**	**0.0888**		**328.2164**	**328.2164**	**7.3000e-003**		**328.3987**

3.20 Y4 - Operation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.20 Y4 - Operation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0161	0.2631	8.5000e-004	0.1027	5.9000e-004	0.1032	0.0272	5.4000e-004	0.0278		84.4315	84.4315	1.6000e-003		84.4715
Total	**0.0347**	**0.0161**	**0.2631**	**8.5000e-004**	**0.1027**	**5.9000e-004**	**0.1032**	**0.0272**	**5.4000e-004**	**0.0278**		**84.4315**	**84.4315**	**1.6000e-003**		**84.4715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.20 Y4 - Operation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0161	0.2631	8.5000e-004	0.0946	5.9000e-004	0.0952	0.0253	5.4000e-004	0.0258		84.4315	84.4315	1.6000e-003		84.4715
Total	**0.0347**	**0.0161**	**0.2631**	**8.5000e-004**	**0.0946**	**5.9000e-004**	**0.0952**	**0.0253**	**5.4000e-004**	**0.0258**		**84.4315**	**84.4315**	**1.6000e-003**		**84.4715**

3.21 Y4 - Removal - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.21 Y4 - Removal - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0137	4.4100e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6089	4.6089	6.0000e-005		4.6103
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.1158	0.0536	0.8770	2.8200e-003	0.3422	1.9600e-003	0.3441	0.0907	1.8000e-003	0.0926		281.4382	281.4382	5.3400e-003		281.5716
Total	**0.1186**	**0.1506**	**0.9019**	**3.1500e-003**	**0.3517**	**2.0900e-003**	**0.3538**	**0.0935**	**1.9300e-003**	**0.0954**		**317.1702**	**317.1702**	**6.7600e-003**		**317.3391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.21 Y4 - Removal - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0137	4.4100e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6089	4.6089	6.0000e-005		4.6103
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.1158	0.0536	0.8770	2.8200e-003	0.3154	1.9600e-003	0.3174	0.0842	1.8000e-003	0.0860		281.4382	281.4382	5.3400e-003		281.5716
Total	**0.1186**	**0.1506**	**0.9019**	**3.1500e-003**	**0.3243**	**2.0900e-003**	**0.3264**	**0.0868**	**1.9300e-003**	**0.0887**		**317.1702**	**317.1702**	**6.7600e-003**		**317.3391**

3.22 Y5 - Site Prep - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.22 Y5 - Site Prep - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.0386	0.0179	0.2923	9.4000e-004	0.1141	6.5000e-004	0.1147	0.0303	6.0000e-004	0.0309		93.8127	93.8127	1.7800e-003		93.8572
Total	**0.0409**	**0.1012**	**0.3128**	**1.2300e-003**	**0.1219**	**7.7000e-004**	**0.1227**	**0.0325**	**7.2000e-004**	**0.0332**		**124.9357**	**124.9357**	**3.1400e-003**		**125.0143**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.22 Y5 - Site Prep - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.0386	0.0179	0.2923	9.4000e-004	0.1051	6.5000e-004	0.1058	0.0281	6.0000e-004	0.0287		93.8127	93.8127	1.7800e-003		93.8572
Total	**0.0409**	**0.1012**	**0.3128**	**1.2300e-003**	**0.1125**	**7.7000e-004**	**0.1133**	**0.0302**	**7.2000e-004**	**0.0309**		**124.9357**	**124.9357**	**3.1400e-003**		**125.0143**

3.23 Y5 - Pile Install - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.23 Y5 - Pile Install - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0137	4.4100e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6089	4.6089	6.0000e-005		4.6103
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.1158	0.0536	0.8770	2.8200e-003	0.3422	1.9600e-003	0.3441	0.0907	1.8000e-003	0.0926		281.4382	281.4382	5.3400e-003		281.5716
Total	**0.1186**	**0.1506**	**0.9019**	**3.1500e-003**	**0.3517**	**2.0900e-003**	**0.3538**	**0.0935**	**1.9300e-003**	**0.0954**		**317.1702**	**317.1702**	**6.7600e-003**		**317.3391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.23 Y5 - Pile Install - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0137	4.4100e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6089	4.6089	6.0000e-005		4.6103
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.1158	0.0536	0.8770	2.8200e-003	0.3154	1.9600e-003	0.3174	0.0842	1.8000e-003	0.0860		281.4382	281.4382	5.3400e-003		281.5716
Total	**0.1186**	**0.1506**	**0.9019**	**3.1500e-003**	**0.3243**	**2.0900e-003**	**0.3264**	**0.0868**	**1.9300e-003**	**0.0887**		**317.1702**	**317.1702**	**6.7600e-003**		**317.3391**

3.24 Y5 - Barrier Install - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.24 Y5 - Barrier Install - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0137	4.4100e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6089	4.6089	6.0000e-005		4.6103
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.1158	0.0536	0.8770	2.8200e-003	0.3422	1.9600e-003	0.3441	0.0907	1.8000e-003	0.0926		281.4382	281.4382	5.3400e-003		281.5716
Total	**0.1186**	**0.1506**	**0.9019**	**3.1500e-003**	**0.3517**	**2.0900e-003**	**0.3538**	**0.0935**	**1.9300e-003**	**0.0954**		**317.1702**	**317.1702**	**6.7600e-003**		**317.3391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.24 Y5 - Barrier Install - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0137	4.4100e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6089	4.6089	6.0000e-005		4.6103
Vendor	2.3300e-003	0.0834	0.0205	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		31.1230	31.1230	1.3600e-003		31.1571
Worker	0.1158	0.0536	0.8770	2.8200e-003	0.3154	1.9600e-003	0.3174	0.0842	1.8000e-003	0.0860		281.4382	281.4382	5.3400e-003		281.5716
Total	**0.1186**	**0.1506**	**0.9019**	**3.1500e-003**	**0.3243**	**2.0900e-003**	**0.3264**	**0.0868**	**1.9300e-003**	**0.0887**		**317.1702**	**317.1702**	**6.7600e-003**		**317.3391**

3.25 Y5 - Operation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.25 Y5 - Operation - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0329	0.0147	0.2460	8.2000e-004	0.1027	5.6000e-004	0.1032	0.0272	5.1000e-004	0.0277		81.5174	81.5174	1.4600e-003		81.5539
Total	**0.0329**	**0.0147**	**0.2460**	**8.2000e-004**	**0.1027**	**5.6000e-004**	**0.1032**	**0.0272**	**5.1000e-004**	**0.0277**		**81.5174**	**81.5174**	**1.4600e-003**		**81.5539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.25 Y5 - Operation - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0329	0.0147	0.2460	8.2000e-004	0.0946	5.6000e-004	0.0952	0.0253	5.1000e-004	0.0258		81.5174	81.5174	1.4600e-003		81.5539
Total	**0.0329**	**0.0147**	**0.2460**	**8.2000e-004**	**0.0946**	**5.6000e-004**	**0.0952**	**0.0253**	**5.1000e-004**	**0.0258**		**81.5174**	**81.5174**	**1.4600e-003**		**81.5539**

3.26 Y5 - Removal - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.26 Y5 - Removal - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0137	4.0800e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5938	4.5938	5.0000e-005		4.5952
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.1096	0.0491	0.8199	2.7300e-003	0.3422	1.8600e-003	0.3440	0.0907	1.7100e-003	0.0925		271.7246	271.7246	4.8700e-003		271.8463
Total	**0.1123**	**0.1446**	**0.8436**	**3.0600e-003**	**0.3517**	**1.9900e-003**	**0.3537**	**0.0935**	**1.8300e-003**	**0.0953**		**307.2880**	**307.2880**	**6.2700e-003**		**307.4447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.26 Y5 - Removal - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0137	4.0800e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5938	4.5938	5.0000e-005		4.5952
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.1096	0.0491	0.8199	2.7300e-003	0.3154	1.8600e-003	0.3173	0.0842	1.7100e-003	0.0859		271.7246	271.7246	4.8700e-003		271.8463
Total	**0.1123**	**0.1446**	**0.8436**	**3.0600e-003**	**0.3243**	**1.9900e-003**	**0.3263**	**0.0868**	**1.8300e-003**	**0.0886**		**307.2880**	**307.2880**	**6.2700e-003**		**307.4447**

3.27 Y6 - Site Prep - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.27 Y6 - Site Prep - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.0365	0.0164	0.2733	9.1000e-004	0.1141	6.2000e-004	0.1147	0.0303	5.7000e-004	0.0308		90.5749	90.5749	1.6200e-003		90.6154
Total	**0.0388**	**0.0982**	**0.2930**	**1.2000e-003**	**0.1219**	**7.4000e-004**	**0.1227**	**0.0325**	**6.8000e-004**	**0.0332**		**121.5444**	**121.5444**	**2.9700e-003**		**121.6187**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.27 Y6 - Site Prep - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.0365	0.0164	0.2733	9.1000e-004	0.1051	6.2000e-004	0.1058	0.0281	5.7000e-004	0.0286		90.5749	90.5749	1.6200e-003		90.6154
Total	**0.0388**	**0.0982**	**0.2930**	**1.2000e-003**	**0.1125**	**7.4000e-004**	**0.1132**	**0.0302**	**6.8000e-004**	**0.0309**		**121.5444**	**121.5444**	**2.9700e-003**		**121.6187**

3.28 Y6 - Pile Install - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.28 Y6 - Pile Install - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0137	4.0800e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5938	4.5938	5.0000e-005		4.5952
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.1096	0.0491	0.8199	2.7300e-003	0.3422	1.8600e-003	0.3440	0.0907	1.7100e-003	0.0925		271.7246	271.7246	4.8700e-003		271.8463
Total	**0.1123**	**0.1446**	**0.8436**	**3.0600e-003**	**0.3517**	**1.9900e-003**	**0.3537**	**0.0935**	**1.8300e-003**	**0.0953**		**307.2880**	**307.2880**	**6.2700e-003**		**307.4447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.28 Y6 - Pile Install - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0137	4.0800e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5938	4.5938	5.0000e-005		4.5952
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.1096	0.0491	0.8199	2.7300e-003	0.3154	1.8600e-003	0.3173	0.0842	1.7100e-003	0.0859		271.7246	271.7246	4.8700e-003		271.8463
Total	**0.1123**	**0.1446**	**0.8436**	**3.0600e-003**	**0.3243**	**1.9900e-003**	**0.3263**	**0.0868**	**1.8300e-003**	**0.0886**		**307.2880**	**307.2880**	**6.2700e-003**		**307.4447**

3.29 Y6 - Barrier Install - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.29 Y6 - Barrier Install - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0137	4.0800e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5938	4.5938	5.0000e-005		4.5952
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.1096	0.0491	0.8199	2.7300e-003	0.3422	1.8600e-003	0.3440	0.0907	1.7100e-003	0.0925		271.7246	271.7246	4.8700e-003		271.8463
Total	**0.1123**	**0.1446**	**0.8436**	**3.0600e-003**	**0.3517**	**1.9900e-003**	**0.3537**	**0.0935**	**1.8300e-003**	**0.0953**		**307.2880**	**307.2880**	**6.2700e-003**		**307.4447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.29 Y6 - Barrier Install - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0137	4.0800e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5938	4.5938	5.0000e-005		4.5952
Vendor	2.2500e-003	0.0819	0.0197	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.9695	30.9695	1.3500e-003		31.0033
Worker	0.1096	0.0491	0.8199	2.7300e-003	0.3154	1.8600e-003	0.3173	0.0842	1.7100e-003	0.0859		271.7246	271.7246	4.8700e-003		271.8463
Total	**0.1123**	**0.1446**	**0.8436**	**3.0600e-003**	**0.3243**	**1.9900e-003**	**0.3263**	**0.0868**	**1.8300e-003**	**0.0886**		**307.2880**	**307.2880**	**6.2700e-003**		**307.4447**

3.30 Y6 - Operation - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.30 Y6 - Operation - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0135	0.2309	7.9000e-004	0.1027	5.2000e-004	0.1032	0.0272	4.8000e-004	0.0277		78.9337	78.9337	1.3400e-003		78.9671
Total	**0.0310**	**0.0135**	**0.2309**	**7.9000e-004**	**0.1027**	**5.2000e-004**	**0.1032**	**0.0272**	**4.8000e-004**	**0.0277**		**78.9337**	**78.9337**	**1.3400e-003**		**78.9671**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.30 Y6 - Operation - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0135	0.2309	7.9000e-004	0.0946	5.2000e-004	0.0951	0.0253	4.8000e-004	0.0257		78.9337	78.9337	1.3400e-003		78.9671
Total	**0.0310**	**0.0135**	**0.2309**	**7.9000e-004**	**0.0946**	**5.2000e-004**	**0.0951**	**0.0253**	**4.8000e-004**	**0.0257**		**78.9337**	**78.9337**	**1.3400e-003**		**78.9671**

3.31 Y6 - Removal - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.31 Y6 - Removal - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5000e-004	0.0137	3.8100e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5822	4.5822	5.0000e-005		4.5835
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.1032	0.0451	0.7695	2.6400e-003	0.3422	1.7300e-003	0.3439	0.0907	1.6000e-003	0.0923		263.1122	263.1122	4.4600e-003		263.2237
Total	**0.1058**	**0.1394**	**0.7923**	**2.9700e-003**	**0.3517**	**1.8500e-003**	**0.3535**	**0.0935**	**1.7200e-003**	**0.0952**		**298.5343**	**298.5343**	**5.8500e-003**		**298.6805**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.31 Y6 - Removal - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5000e-004	0.0137	3.8100e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5822	4.5822	5.0000e-005		4.5835
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.1032	0.0451	0.7695	2.6400e-003	0.3154	1.7300e-003	0.3171	0.0842	1.6000e-003	0.0858		263.1122	263.1122	4.4600e-003		263.2237
Total	**0.1058**	**0.1394**	**0.7923**	**2.9700e-003**	**0.3243**	**1.8500e-003**	**0.3261**	**0.0868**	**1.7200e-003**	**0.0885**		**298.5343**	**298.5343**	**5.8500e-003**		**298.6805**

3.32 Y7 - Site Prep - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.32 Y7 - Site Prep - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.0344	0.0150	0.2565	8.8000e-004	0.1141	5.8000e-004	0.1146	0.0303	5.3000e-004	0.0308		87.7041	87.7041	1.4900e-003		87.7412
Total	**0.0366**	**0.0956**	**0.2755**	**1.1700e-003**	**0.1219**	**6.9000e-004**	**0.1226**	**0.0325**	**6.4000e-004**	**0.0332**		**118.5440**	**118.5440**	**2.8300e-003**		**118.6146**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.32 Y7 - Site Prep - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.0344	0.0150	0.2565	8.8000e-004	0.1051	5.8000e-004	0.1057	0.0281	5.3000e-004	0.0286		87.7041	87.7041	1.4900e-003		87.7412
Total	**0.0366**	**0.0956**	**0.2755**	**1.1700e-003**	**0.1125**	**6.9000e-004**	**0.1132**	**0.0302**	**6.4000e-004**	**0.0308**		**118.5440**	**118.5440**	**2.8300e-003**		**118.6146**

3.33 Y7 - Pile Install - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.33 Y7 - Pile Install - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5000e-004	0.0137	3.8100e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5822	4.5822	5.0000e-005		4.5835
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.1032	0.0451	0.7695	2.6400e-003	0.3422	1.7300e-003	0.3439	0.0907	1.6000e-003	0.0923		263.1122	263.1122	4.4600e-003		263.2237
Total	**0.1058**	**0.1394**	**0.7923**	**2.9700e-003**	**0.3517**	**1.8500e-003**	**0.3535**	**0.0935**	**1.7200e-003**	**0.0952**		**298.5343**	**298.5343**	**5.8500e-003**		**298.6805**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.33 Y7 - Pile Install - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5000e-004	0.0137	3.8100e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5822	4.5822	5.0000e-005		4.5835
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.1032	0.0451	0.7695	2.6400e-003	0.3154	1.7300e-003	0.3171	0.0842	1.6000e-003	0.0858		263.1122	263.1122	4.4600e-003		263.2237
Total	**0.1058**	**0.1394**	**0.7923**	**2.9700e-003**	**0.3243**	**1.8500e-003**	**0.3261**	**0.0868**	**1.7200e-003**	**0.0885**		**298.5343**	**298.5343**	**5.8500e-003**		**298.6805**

3.34 Y7 - Barrier Install - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.34 Y7 - Barrier Install - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5000e-004	0.0137	3.8100e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5822	4.5822	5.0000e-005		4.5835
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.1032	0.0451	0.7695	2.6400e-003	0.3422	1.7300e-003	0.3439	0.0907	1.6000e-003	0.0923		263.1122	263.1122	4.4600e-003		263.2237
Total	**0.1058**	**0.1394**	**0.7923**	**2.9700e-003**	**0.3517**	**1.8500e-003**	**0.3535**	**0.0935**	**1.7200e-003**	**0.0952**		**298.5343**	**298.5343**	**5.8500e-003**		**298.6805**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.34 Y7 - Barrier Install - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5000e-004	0.0137	3.8100e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5822	4.5822	5.0000e-005		4.5835
Vendor	2.1900e-003	0.0806	0.0190	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.8399	30.8399	1.3400e-003		30.8733
Worker	0.1032	0.0451	0.7695	2.6400e-003	0.3154	1.7300e-003	0.3171	0.0842	1.6000e-003	0.0858		263.1122	263.1122	4.4600e-003		263.2237
Total	**0.1058**	**0.1394**	**0.7923**	**2.9700e-003**	**0.3243**	**1.8500e-003**	**0.3261**	**0.0868**	**1.7200e-003**	**0.0885**		**298.5343**	**298.5343**	**5.8500e-003**		**298.6805**

3.35 Y7 - Operation - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.35 Y7 - Operation - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0124	0.2164	7.7000e-004	0.1027	4.8000e-004	0.1031	0.0272	4.5000e-004	0.0277		76.6473	76.6473	1.2200e-003		76.6778
Total	**0.0289**	**0.0124**	**0.2164**	**7.7000e-004**	**0.1027**	**4.8000e-004**	**0.1031**	**0.0272**	**4.5000e-004**	**0.0277**		**76.6473**	**76.6473**	**1.2200e-003**		**76.6778**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.35 Y7 - Operation - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0124	0.2164	7.7000e-004	0.0946	4.8000e-004	0.0951	0.0253	4.5000e-004	0.0257		76.6473	76.6473	1.2200e-003		76.6778
Total	**0.0289**	**0.0124**	**0.2164**	**7.7000e-004**	**0.0946**	**4.8000e-004**	**0.0951**	**0.0253**	**4.5000e-004**	**0.0257**		**76.6473**	**76.6473**	**1.2200e-003**		**76.6778**

3.36 Y7 - Removal - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.36 Y7 - Removal - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3000e-004	0.0138	3.5700e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5717	4.5717	5.0000e-005		4.5729
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.8600e-003	1.1000e-004	7.9600e-003	2.2600e-003	1.0000e-004	2.3600e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0962	0.0414	0.7213	2.5600e-003	0.3422	1.6100e-003	0.3438	0.0907	1.4900e-003	0.0922		255.4909	255.4909	4.0800e-003		255.5928
Total	**0.0987**	**0.1345**	**0.7433**	**2.8900e-003**	**0.3517**	**1.7300e-003**	**0.3534**	**0.0935**	**1.6000e-003**	**0.0951**		**290.7845**	**290.7845**	**5.4500e-003**		**290.9207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.36 Y7 - Removal - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3000e-004	0.0138	3.5700e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5717	4.5717	5.0000e-005		4.5729
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.0000e-004	2.2400e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0962	0.0414	0.7213	2.5600e-003	0.3154	1.6100e-003	0.3170	0.0842	1.4900e-003	0.0857		255.4909	255.4909	4.0800e-003		255.5928
Total	**0.0987**	**0.1345**	**0.7433**	**2.8900e-003**	**0.3243**	**1.7300e-003**	**0.3260**	**0.0868**	**1.6000e-003**	**0.0884**		**290.7845**	**290.7845**	**5.4500e-003**		**290.9207**

3.37 Y8 - Site Prep - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.37 Y8 - Site Prep - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.8600e-003	1.1000e-004	7.9600e-003	2.2600e-003	1.0000e-004	2.3600e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0321	0.0138	0.2404	8.5000e-004	0.1141	5.4000e-004	0.1146	0.0303	5.0000e-004	0.0307		85.1636	85.1636	1.3600e-003		85.1976
Total	**0.0342**	**0.0931**	**0.2589**	**1.1400e-003**	**0.1219**	**6.5000e-004**	**0.1226**	**0.0325**	**6.0000e-004**	**0.0331**		**115.8855**	**115.8855**	**2.6800e-003**		**115.9525**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.37 Y8 - Site Prep - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.0000e-004	2.2400e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0321	0.0138	0.2404	8.5000e-004	0.1051	5.4000e-004	0.1057	0.0281	5.0000e-004	0.0286		85.1636	85.1636	1.3600e-003		85.1976
Total	**0.0342**	**0.0931**	**0.2589**	**1.1400e-003**	**0.1125**	**6.5000e-004**	**0.1131**	**0.0302**	**6.0000e-004**	**0.0308**		**115.8855**	**115.8855**	**2.6800e-003**		**115.9525**

3.38 Y8 - Pile Install - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.38 Y8 - Pile Install - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3000e-004	0.0138	3.5700e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5717	4.5717	5.0000e-005		4.5729
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.8600e-003	1.1000e-004	7.9600e-003	2.2600e-003	1.0000e-004	2.3600e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0962	0.0414	0.7213	2.5600e-003	0.3422	1.6100e-003	0.3438	0.0907	1.4900e-003	0.0922		255.4909	255.4909	4.0800e-003		255.5928
Total	**0.0987**	**0.1345**	**0.7433**	**2.8900e-003**	**0.3517**	**1.7300e-003**	**0.3534**	**0.0935**	**1.6000e-003**	**0.0951**		**290.7845**	**290.7845**	**5.4500e-003**		**290.9207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.38 Y8 - Pile Install - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3000e-004	0.0138	3.5700e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5717	4.5717	5.0000e-005		4.5729
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.0000e-004	2.2400e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0962	0.0414	0.7213	2.5600e-003	0.3154	1.6100e-003	0.3170	0.0842	1.4900e-003	0.0857		255.4909	255.4909	4.0800e-003		255.5928
Total	**0.0987**	**0.1345**	**0.7433**	**2.8900e-003**	**0.3243**	**1.7300e-003**	**0.3260**	**0.0868**	**1.6000e-003**	**0.0884**		**290.7845**	**290.7845**	**5.4500e-003**		**290.9207**

3.39 Y8 - Barrier Install - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.39 Y8 - Barrier Install - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3000e-004	0.0138	3.5700e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5717	4.5717	5.0000e-005		4.5729
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.8600e-003	1.1000e-004	7.9600e-003	2.2600e-003	1.0000e-004	2.3600e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0962	0.0414	0.7213	2.5600e-003	0.3422	1.6100e-003	0.3438	0.0907	1.4900e-003	0.0922		255.4909	255.4909	4.0800e-003		255.5928
Total	**0.0987**	**0.1345**	**0.7433**	**2.8900e-003**	**0.3517**	**1.7300e-003**	**0.3534**	**0.0935**	**1.6000e-003**	**0.0951**		**290.7845**	**290.7845**	**5.4500e-003**		**290.9207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.39 Y8 - Barrier Install - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3000e-004	0.0138	3.5700e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5717	4.5717	5.0000e-005		4.5729
Vendor	2.1300e-003	0.0794	0.0184	2.9000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.0000e-004	2.2400e-003		30.7219	30.7219	1.3200e-003		30.7549
Worker	0.0962	0.0414	0.7213	2.5600e-003	0.3154	1.6100e-003	0.3170	0.0842	1.4900e-003	0.0857		255.4909	255.4909	4.0800e-003		255.5928
Total	**0.0987**	**0.1345**	**0.7433**	**2.8900e-003**	**0.3243**	**1.7300e-003**	**0.3260**	**0.0868**	**1.6000e-003**	**0.0884**		**290.7845**	**290.7845**	**5.4500e-003**		**290.9207**

3.40 Y8 - Operation - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1981	7.4199	21.0809	0.0388		0.1975	0.1975		0.1975	0.1975		3,673.2579	3,673.2579	0.1066		3,675.9227
Total	**1.1981**	**7.4199**	**21.0809**	**0.0388**		**0.1975**	**0.1975**		**0.1975**	**0.1975**		**3,673.2579**	**3,673.2579**	**0.1066**		**3,675.9227**

3.40 Y8 - Operation - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0268	0.0114	0.2034	7.5000e-004	0.1027	4.5000e-004	0.1031	0.0272	4.1000e-004	0.0276		74.6353	74.6353	1.1200e-003		74.6634
Total	**0.0268**	**0.0114**	**0.2034**	**7.5000e-004**	**0.1027**	**4.5000e-004**	**0.1031**	**0.0272**	**4.1000e-004**	**0.0276**		**74.6353**	**74.6353**	**1.1200e-003**		**74.6634**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1066		3,675.9227
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1066**		**3,675.9227**

3.40 Y8 - Operation - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0268	0.0114	0.2034	7.5000e-004	0.0946	4.5000e-004	0.0951	0.0253	4.1000e-004	0.0257		74.6353	74.6353	1.1200e-003		74.6634
Total	**0.0268**	**0.0114**	**0.2034**	**7.5000e-004**	**0.0946**	**4.5000e-004**	**0.0951**	**0.0253**	**4.1000e-004**	**0.0257**		**74.6353**	**74.6353**	**1.1200e-003**		**74.6634**

3.41 Y8 - Removal - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5148	3.8874	7.8298	0.0161		0.0836	0.0836		0.0836	0.0836		1,523.9527	1,523.9527	0.0461		1,525.1060
Total	**0.5148**	**3.8874**	**7.8298**	**0.0161**		**0.0836**	**0.0836**		**0.0836**	**0.0836**		**1,523.9527**	**1,523.9527**	**0.0461**		**1,525.1060**

3.41 Y8 - Removal - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1000e-004	0.0138	3.3600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5618	4.5618	5.0000e-005		4.5630
Vendor	2.0700e-003	0.0782	0.0180	2.9000e-004	7.8600e-003	1.0000e-004	7.9600e-003	2.2600e-003	1.0000e-004	2.3600e-003		30.6158	30.6158	1.3100e-003		30.6485
Worker	0.0894	0.0380	0.6780	2.4900e-003	0.3422	1.5000e-003	0.3437	0.0907	1.3800e-003	0.0921		248.7844	248.7844	3.7400e-003		248.8778
Total	**0.0919**	**0.1300**	**0.6993**	**2.8200e-003**	**0.3517**	**1.6100e-003**	**0.3533**	**0.0935**	**1.4900e-003**	**0.0950**		**283.9620**	**283.9620**	**5.1000e-003**		**284.0893**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2775	5.2997	9.3533	0.0161		0.0215	0.0215		0.0215	0.0215	0.0000	1,523.9527	1,523.9527	0.0461		1,525.1060
Total	**0.2775**	**5.2997**	**9.3533**	**0.0161**		**0.0215**	**0.0215**		**0.0215**	**0.0215**	**0.0000**	**1,523.9527**	**1,523.9527**	**0.0461**		**1,525.1060**

3.41 Y8 - Removal - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1000e-004	0.0138	3.3600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5618	4.5618	5.0000e-005		4.5630
Vendor	2.0700e-003	0.0782	0.0180	2.9000e-004	7.3500e-003	1.0000e-004	7.4500e-003	2.1300e-003	1.0000e-004	2.2300e-003		30.6158	30.6158	1.3100e-003		30.6485
Worker	0.0894	0.0380	0.6780	2.4900e-003	0.3154	1.5000e-003	0.3169	0.0842	1.3800e-003	0.0856		248.7844	248.7844	3.7400e-003		248.8778
Total	**0.0919**	**0.1300**	**0.6993**	**2.8200e-003**	**0.3243**	**1.6100e-003**	**0.3259**	**0.0868**	**1.4900e-003**	**0.0883**		**283.9620**	**283.9620**	**5.1000e-003**		**284.0893**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0549	0.1890	0.5662	2.2300e-003	0.2345	1.3800e-003	0.2359	0.0627	1.2900e-003	0.0639		226.7012	226.7012	8.4700e-003		226.9129
Unmitigated	0.0549	0.1890	0.5662	2.2300e-003	0.2345	1.3800e-003	0.2359	0.0627	1.2900e-003	0.0639		226.7012	226.7012	8.4700e-003		226.9129

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	3.40	40.95	30.13	34,019	34,019
Total	3.40	40.95	30.13	34,019	34,019

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	15.00	7.50	8.50	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.570990	0.036039	0.209774	0.110012	0.014862	0.004732	0.018347	0.024592	0.001934	0.001739	0.005654	0.000617	0.000710

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Unmitigated	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Total	**4.0600e-003**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.9000e-004**	**3.9000e-004**	**0.0000**		**4.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Total	**4.0600e-003**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.9000e-004**	**3.9000e-004**	**0.0000**		**4.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

DWR Georgiana Slough Salmonid Migratory Barrier - BAFF

Sacramento Metropolitan AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.80	Acre	1.80	78,408.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Summed the Locke and Walnut Grove staging area acreages from PD. This is the only area with potential for soil movement.

Construction Phase - Schedule and work days from project description. Assumes a 10-hr, 7-day work week. Because marine construction must occur Aug-Sep, the previous year's removal is concurrent with the following year's site prep.

Off-road Equipment - Same as pile install except for pile driver.

Off-road Equipment - Running full-time during operation per the PM. Assuming a large air compressor to be conservative.

Off-road Equipment - Unit amount from 2011 study. Hours for crane, forklift, generator sets = 2011 hours x 2.5 (larger project). Other const. equip. = vibratory pile driver. 49 piles x 10 min per pile / 30 days

Off-road Equipment - Same as install except shorter hours because only a maximum of 20 piles will be removed each year. Assuming pile driver is needed to be conservative.

Off-road Equipment - Total hours of operation from 2011 (4) x 2.5 (larger project) / days in phase = 1.4 hr/day

Off-road Equipment - Same as Y1.
Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1 except shorter hours (maximum of 20 piles being installed).

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y1.

Off-road Equipment - Same as Y2.

Off-road Equipment - Same as Y1 except longer hours because all 49 piles will be removed.

Off-road Equipment - Same as Y1.

Trips and VMT - Vendors are used to represent mobilization. Haul trips are used to represent pickup trucks in equipment list.

Grading -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - SMAQMD prescribed Basic Construction Emission Control Practices. Tier 4 for all to lower PM10 exhaust.

Vehicle Emission Factors -

Vehicle Emission Factors -

DWR Salmon Protection Tech Study - BAFF, Georgiana Slough - Sacramento Metropolitan AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
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tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT

tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
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tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
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tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
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tblTripsAndVMT	VendorTripNumber	13.00	1.00
tblTripsAndVMT	VendorTripNumber	13.00	1.00
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tblTripsAndVMT	VendorTripNumber	13.00	1.00
tblTripsAndVMT	VendorTripNumber	13.00	1.00
tblTripsAndVMT	VendorTripNumber	13.00	1.00
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tblTripsAndVMT	VendorTripNumber	13.00	1.00
tblTripsAndVMT	VendorTripNumber	13.00	1.00
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tblTripsAndVMT	VendorTripNumber	13.00	1.00

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tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	10.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
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tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00

tblTripsAndVMT	WorkerTripNumber	3.00	10.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	10.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	10.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00
tblTripsAndVMT	WorkerTripNumber	7.00	9.00
tblTripsAndVMT	WorkerTripNumber	33.00	30.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.9705	7.9421	9.1321	0.0186	0.3517	0.3817	0.7333	0.0935	0.3725	0.4660	0.0000	1,782.5699	1,782.5699	0.1684	0.0000	1,786.7799
2023	1.9199	13.7224	21.4248	0.0396	0.5660	0.6680	0.7706	0.1360	0.6679	0.6952	0.0000	3,756.6767	3,756.6767	0.1698	0.0000	3,760.9212
2024	1.8012	12.6131	21.4044	0.0396	0.5660	0.5773	0.7119	0.1360	0.5772	0.6044	0.0000	3,753.4327	3,753.4327	0.1567	0.0000	3,757.3495
2025	1.6893	11.5986	21.3825	0.0396	0.5660	0.4931	0.6927	0.1360	0.4931	0.5203	0.0000	3,750.2219	3,750.2219	0.1483	0.0000	3,753.8909
2026	1.6876	11.5967	21.3666	0.0395	0.5660	0.4931	0.6926	0.1360	0.4930	0.5203	0.0000	3,747.3618	3,747.3618	0.1478	0.0000	3,751.0275
2027	1.6858	11.5950	21.3522	0.0395	0.5660	0.4931	0.6925	0.1360	0.4930	0.5202	0.0000	3,744.8013	3,744.8013	0.1474	0.0000	3,748.4639
2028	1.6840	11.5936	21.3396	0.0395	0.5660	0.4930	0.6923	0.1360	0.4930	0.5202	0.0000	3,742.5283	3,742.5283	0.1470	0.0000	3,746.1883
2029	1.6819	11.5922	21.3274	0.0395	0.5660	0.4930	0.6921	0.1360	0.4929	0.5202	0.0000	3,740.5137	3,740.5137	0.1467	0.0000	3,744.1711
2030	1.2249	7.4339	21.2441	0.0394	0.3517	0.1980	0.4369	0.0935	0.1980	0.2252	0.0000	3,738.7389	3,738.7389	0.1075	0.0000	3,741.4275
Maximum	**1.9199**	**13.7224**	**21.4248**	**0.0396**	**0.5660**	**0.6680**	**0.7706**	**0.1360**	**0.6679**	**0.6952**	**0.0000**	**3,756.6767**	**3,756.6767**	**0.1698**	**0.0000**	**3,760.9212**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4251	5.5215	10.3630	0.0186	0.3243	0.0240	0.3483	0.0868	0.0238	0.1106	0.0000	1,782.5699	1,782.5699	0.1684	0.0000	1,786.7799
2023	0.5926	13.8902	24.1827	0.0396	0.4784	0.0523	0.4921	0.1215	0.0523	0.1350	0.0000	3,756.6767	3,756.6767	0.1698	0.0000	3,760.9212
2024	0.5904	13.8877	24.1628	0.0396	0.4784	0.0523	0.4921	0.1215	0.0523	0.1349	0.0000	3,753.4327	3,753.4327	0.1567	0.0000	3,757.3495
2025	0.5884	13.8855	24.1445	0.0396	0.4784	0.0523	0.4920	0.1215	0.0523	0.1349	0.0000	3,750.2219	3,750.2219	0.1483	0.0000	3,753.8909
2026	0.5866	13.8837	24.1286	0.0395	0.4784	0.0523	0.4919	0.1215	0.0523	0.1348	0.0000	3,747.3618	3,747.3618	0.1478	0.0000	3,751.0275
2027	0.5849	13.8820	24.1142	0.0395	0.4784	0.0523	0.4918	0.1215	0.0522	0.1347	0.0000	3,744.8013	3,744.8013	0.1474	0.0000	3,748.4639
2028	0.5830	13.8805	24.1016	0.0395	0.4784	0.0522	0.4916	0.1215	0.0522	0.1345	0.0000	3,742.5283	3,742.5283	0.1470	0.0000	3,746.1883
2029	0.5810	13.8791	24.0894	0.0395	0.4784	0.0522	0.4914	0.1215	0.0522	0.1343	0.0000	3,740.5137	3,740.5137	0.1467	0.0000	3,744.1711
2030	0.5790	13.8779	24.0785	0.0394	0.3243	0.0522	0.3474	0.0868	0.0521	0.1097	0.0000	3,738.7389	3,738.7389	0.1075	0.0000	3,741.4275
Maximum	**0.5926**	**13.8902**	**24.1827**	**0.0396**	**0.4784**	**0.0523**	**0.4921**	**0.1215**	**0.0523**	**0.1350**	**0.0000**	**3,756.6767**	**3,756.6767**	**0.1698**	**0.0000**	**3,760.9212**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**64.37**	**-16.95**	**-13.00**	**0.00**	**14.33**	**89.69**	**32.32**	**10.10**	**89.68**	**74.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0402	0.1991	0.5125	2.0200e-003	0.2345	1.3900e-003	0.2359	0.0627	1.2900e-003	0.0640		205.8009	205.8009	8.5000e-003		206.0134
Total	**0.0442**	**0.1991**	**0.5127**	**2.0200e-003**	**0.2345**	**1.3900e-003**	**0.2359**	**0.0627**	**1.2900e-003**	**0.0640**		**205.8013**	**205.8013**	**8.5000e-003**	**0.0000**	**206.0138**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0402	0.1991	0.5125	2.0200e-003	0.2345	1.3900e-003	0.2359	0.0627	1.2900e-003	0.0640		205.8009	205.8009	8.5000e-003		206.0134
Total	**0.0442**	**0.1991**	**0.5127**	**2.0200e-003**	**0.2345**	**1.3900e-003**	**0.2359**	**0.0627**	**1.2900e-003**	**0.0640**		**205.8013**	**205.8013**	**8.5000e-003**	**0.0000**	**206.0138**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Y1 - Site Prep	Site Preparation	8/1/2022	8/7/2022	7	7	
2	Y1 - Pile Install	Building Construction	8/8/2022	9/6/2022	7	30	
3	Y1 - Barrier Install	Building Construction	12/1/2022	12/30/2022	7	30	
4	Y1 - Operation	Architectural Coating	1/1/2023	4/30/2023	7	120	
5	Y1 - Removal	Building Construction	8/1/2023	8/30/2023	7	30	
6	Y2 - Site Prep	Site Preparation	8/24/2023	8/30/2023	7	7	
7	Y2 - Pile Install	Building Construction	8/31/2023	9/29/2023	7	30	
8	Y2 - Barrier Install	Building Construction	12/1/2023	12/30/2023	7	30	
9	Y2 - Operation	Architectural Coating	1/1/2024	4/29/2024	7	120	
10	Y2 - Removal	Building Construction	8/1/2024	8/30/2024	7	30	
11	Y3 - Site Prep	Site Preparation	8/24/2024	8/30/2024	7	7	
12	Y3 - Pile Install	Building Construction	8/31/2024	9/29/2024	7	30	
13	Y3 - Barrier Install	Building Construction	12/1/2024	12/30/2024	7	30	
14	Y3 - Operation	Architectural Coating	1/1/2025	4/30/2025	7	120	
15	Y3 - Removal	Building Construction	8/1/2025	8/30/2025	7	30	
16	Y4 - Site Prep	Site Preparation	8/24/2025	8/30/2025	7	7	
17	Y4 - Pile Install	Building Construction	8/31/2025	9/29/2025	7	30	
18	Y4 - Barrier Install	Building Construction	12/1/2025	12/30/2025	7	30	
19	Y4 - Operation	Architectural Coating	1/1/2026	4/29/2026	7	120	

20	Y4 - Removal	Building Construction	8/1/2026	8/30/2026	7	30	
21	Y5 - Site Prep	Site Preparation	8/24/2026	8/30/2026	7	7	
22	Y5 - Pile Install	Building Construction	8/31/2026	9/29/2026	7	30	
23	Y5 - Barrier Install	Building Construction	12/1/2026	12/30/2026	7	30	
24	Y5 - Operation	Architectural Coating	1/1/2027	4/30/2027	7	120	
25	Y5 - Removal	Building Construction	8/1/2027	8/30/2027	7	30	
26	Y6 - Site Prep	Site Preparation	8/24/2027	8/30/2027	7	7	
27	Y6 - Pile Install	Building Construction	8/31/2027	9/29/2027	7	30	
28	Y6 - Barrier Install	Building Construction	12/1/2027	12/30/2027	7	30	
29	Y6 - Operation	Architectural Coating	1/1/2028	4/29/2028	7	120	
30	Y6 - Removal	Building Construction	8/1/2028	8/30/2028	7	30	
31	Y7 - Site Prep	Site Preparation	8/24/2028	8/30/2028	7	7	
32	Y7 - Pile Install	Building Construction	8/31/2028	9/29/2028	7	30	
33	Y7 - Barrier Install	Building Construction	12/1/2028	12/30/2028	7	30	
34	Y7 - Operation	Architectural Coating	1/1/2029	4/30/2029	7	120	
35	Y7 - Removal	Building Construction	8/1/2029	8/30/2029	7	30	
36	Y8 - Site Prep	Site Preparation	8/24/2029	8/30/2029	7	7	
37	Y8 - Pile Install	Building Construction	8/31/2029	9/29/2029	7	30	
38	Y8 - Barrier Install	Building Construction	12/1/2029	12/30/2029	7	30	
39	Y8 - Operation	Architectural Coating	1/1/2030	4/30/2030	7	120	
40	Y8 - Removal	Building Construction	8/1/2030	8/30/2030	7	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Y1 - Site Prep	Graders	1	1.40	187	0.41
Y1 - Pile Install	Cranes	1	3.50	231	0.29
Y1 - Pile Install	Forklifts	1	3.50	89	0.20
Y1 - Pile Install	Generator Sets	5	2.90	84	0.74
Y1 - Pile Install	Other Construction Equipment	1	0.30	145	0.42
Y1 - Barrier Install	Cranes	1	3.50	231	0.29
Y1 - Barrier Install	Forklifts	1	3.50	89	0.20
Y1 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y1 - Operation	Air Compressors	1	24.00	125	0.48
Y1 - Operation	Generator Sets	1	24.00	84	0.74
Y1 - Removal	Cranes	1	1.40	231	0.29
Y1 - Removal	Forklifts	1	1.40	89	0.20
Y1 - Removal	Generator Sets	5	1.20	84	0.74
Y1 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y2 - Site Prep	Graders	1	1.40	187	0.41
Y2 - Pile Install	Cranes	1	1.40	231	0.29
Y2 - Pile Install	Forklifts	1	1.40	89	0.20
Y2 - Pile Install	Generator Sets	5	1.20	84	0.74
Y2 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y2 - Barrier Install	Cranes	1	3.50	231	0.29
Y2 - Barrier Install	Forklifts	1	3.50	89	0.20
Y2 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y2 - Operation	Air Compressors	1	24.00	125	0.48
Y2 - Operation	Generator Sets	1	24.00	84	0.74

Y2 - Removal	Cranes	1	1.40	231	0.29
Y2 - Removal	Forklifts	1	1.40	89	0.20
Y2 - Removal	Generator Sets	5	1.20	84	0.74
Y2 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y3 - Site Prep	Graders	1	1.40	187	0.41
Y3 - Pile Install	Cranes	1	1.40	231	0.29
Y3 - Pile Install	Forklifts	1	1.40	89	0.20
Y3 - Pile Install	Generator Sets	5	1.20	84	0.74
Y3 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y3 - Barrier Install	Cranes	1	3.50	231	0.29
Y3 - Barrier Install	Forklifts	1	3.50	89	0.20
Y3 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y3 - Operation	Air Compressors	1	24.00	125	0.48
Y3 - Operation	Generator Sets	1	24.00	84	0.74
Y3 - Removal	Cranes	1	1.40	231	0.29
Y3 - Removal	Forklifts	1	1.40	89	0.20
Y3 - Removal	Generator Sets	5	1.20	84	0.74
Y3 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y4 - Site Prep	Graders	1	1.40	187	0.41
Y4 - Pile Install	Cranes	1	1.40	231	0.29
Y4 - Pile Install	Forklifts	1	1.40	89	0.20
Y4 - Pile Install	Generator Sets	5	1.20	84	0.74
Y4 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y4 - Barrier Install	Cranes	1	3.50	231	0.29
Y4 - Barrier Install	Forklifts	1	3.50	89	0.20
Y4 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y4 - Operation	Air Compressors	1	24.00	125	0.48

Y4 - Operation	Generator Sets	1	24.00	84	0.74
Y4 - Removal	Cranes	1	1.40	231	0.29
Y4 - Removal	Forklifts	1	1.40	89	0.20
Y4 - Removal	Generator Sets	5	1.20	84	0.74
Y4 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y5 - Site Prep	Graders	1	1.40	187	0.41
Y5 - Pile Install	Cranes	1	1.40	231	0.29
Y5 - Pile Install	Forklifts	1	1.40	89	0.20
Y5 - Pile Install	Generator Sets	5	1.20	84	0.74
Y5 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y5 - Barrier Install	Cranes	1	3.50	231	0.29
Y5 - Barrier Install	Forklifts	1	3.50	89	0.20
Y5 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y5 - Operation	Air Compressors	1	24.00	125	0.48
Y5 - Operation	Generator Sets	1	24.00	84	0.74
Y5 - Removal	Cranes	1	1.40	231	0.29
Y5 - Removal	Forklifts	1	1.40	89	0.20
Y5 - Removal	Generator Sets	5	1.20	84	0.74
Y5 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y6 - Site Prep	Graders	1	1.40	187	0.41
Y6 - Pile Install	Cranes	1	1.40	231	0.29
Y6 - Pile Install	Forklifts	1	1.40	89	0.20
Y6 - Pile Install	Generator Sets	5	1.20	84	0.74
Y6 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y6 - Barrier Install	Cranes	1	3.50	231	0.29
Y6 - Barrier Install	Forklifts	1	3.50	89	0.20
Y6 - Barrier Install	Generator Sets	5	2.90	84	0.74

Y6 - Operation	Air Compressors	1	24.00	125	0.48
Y6 - Operation	Generator Sets	1	24.00	84	0.74
Y6 - Removal	Cranes	1	1.40	231	0.29
Y6 - Removal	Forklifts	1	1.40	89	0.20
Y6 - Removal	Generator Sets	5	1.20	84	0.74
Y6 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y7 - Site Prep	Graders	1	1.40	187	0.41
Y7 - Pile Install	Cranes	1	1.40	231	0.29
Y7 - Pile Install	Forklifts	1	1.40	89	0.20
Y7 - Pile Install	Generator Sets	5	1.20	84	0.74
Y7 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y7 - Barrier Install	Cranes	1	3.50	231	0.29
Y7 - Barrier Install	Forklifts	1	3.50	89	0.20
Y7 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y7 - Operation	Air Compressors	1	24.00	125	0.48
Y7 - Operation	Generator Sets	1	24.00	84	0.74
Y7 - Removal	Cranes	1	1.40	231	0.29
Y7 - Removal	Forklifts	1	1.40	89	0.20
Y7 - Removal	Generator Sets	5	1.20	84	0.74
Y7 - Removal	Other Construction Equipment	1	0.10	145	0.42
Y8 - Site Prep	Graders	1	1.40	187	0.41
Y8 - Pile Install	Cranes	1	1.40	231	0.29
Y8 - Pile Install	Forklifts	1	1.40	89	0.20
Y8 - Pile Install	Generator Sets	5	1.20	84	0.74
Y8 - Pile Install	Other Construction Equipment	1	0.10	145	0.42
Y8 - Barrier Install	Cranes	1	3.50	231	0.29
Y8 - Barrier Install	Forklifts	1	3.50	89	0.20

Y8 - Barrier Install	Generator Sets	5	2.90	84	0.74
Y8 - Operation	Air Compressors	1	24.00	125	0.48
Y8 - Operation	Generator Sets	1	24.00	84	0.74
Y8 - Removal	Cranes	1	3.50	231	0.29
Y8 - Removal	Forklifts	1	3.50	89	0.20
Y8 - Removal	Generator Sets	5	2.90	84	0.74
Y8 - Removal	Other Construction Equipment	1	0.30	145	0.42

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Y1 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	20.00	LD_Mix	HDT_Mix	MHDT
Y1 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y1 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y2 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y3 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT

Y4 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y4 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y5 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y6 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y7 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Site Prep	1	10.00	1.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Pile Install	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Barrier Install	7	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Operation	2	9.00	0.00	0.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT
Y8 - Removal	8	30.00	1.00	10.00	15.00	8.50	5.00	LD_Mix	HDT_Mix	MHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Y1 - Site Prep - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0726	0.9201	0.3013	1.1600e-003		0.0293	0.0293		0.0269	0.0269		112.2238	112.2238	0.0363		113.1312
Total	**0.0726**	**0.9201**	**0.3013**	**1.1600e-003**	**0.0924**	**0.0293**	**0.1217**	**9.9800e-003**	**0.0269**	**0.0369**		**112.2238**	**112.2238**	**0.0363**		**113.1312**

3.2 Y1 - Site Prep - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.5200e-003	0.1085	0.0308	3.0000e-004	7.8600e-003	3.2000e-004	8.1800e-003	2.2600e-003	3.0000e-004	2.5700e-003		31.5570	31.5570	1.6800e-003		31.5990
Worker	0.0478	0.0326	0.3237	9.7000e-004	0.1141	7.2000e-004	0.1148	0.0303	6.6000e-004	0.0309		96.3060	96.3060	2.2800e-003		96.3631
Total	**0.0513**	**0.1410**	**0.3545**	**1.2700e-003**	**0.1219**	**1.0400e-003**	**0.1230**	**0.0325**	**9.6000e-004**	**0.0335**		**127.8630**	**127.8630**	**3.9600e-003**		**127.9620**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.2238	112.2238	0.0363		113.1312
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.2238**	**112.2238**	**0.0363**		**113.1312**

3.2 Y1 - Site Prep - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.5200e-003	0.1085	0.0308	3.0000e-004	7.3500e-003	3.2000e-004	7.6700e-003	2.1400e-003	3.0000e-004	2.4400e-003		31.5570	31.5570	1.6800e-003		31.5990
Worker	0.0478	0.0326	0.3237	9.7000e-004	0.1051	7.2000e-004	0.1059	0.0281	6.6000e-004	0.0287		96.3060	96.3060	2.2800e-003		96.3631
Total	**0.0513**	**0.1410**	**0.3545**	**1.2700e-003**	**0.1125**	**1.0400e-003**	**0.1135**	**0.0302**	**9.6000e-004**	**0.0312**		**127.8630**	**127.8630**	**3.9600e-003**		**127.9620**

3.3 Y1 - Pile Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8229	7.7202	8.1224	0.0153		0.3791	0.3791		0.3701	0.3701		1,457.4172	1,457.4172	0.1598		1,461.4119
Total	**0.8229**	**7.7202**	**8.1224**	**0.0153**		**0.3791**	**0.3791**		**0.3701**	**0.3701**		**1,457.4172**	**1,457.4172**	**0.1598**		**1,461.4119**

3.3 Y1 - Pile Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.8000e-004	0.0157	7.6900e-003	5.0000e-005	1.6400e-003	5.0000e-005	1.6900e-003	4.9000e-004	5.0000e-005	5.4000e-004		4.6778	4.6778	9.0000e-005		4.6800
Vendor	3.5200e-003	0.1085	0.0308	3.0000e-004	7.8600e-003	3.2000e-004	8.1800e-003	2.2600e-003	3.0000e-004	2.5700e-003		31.5570	31.5570	1.6800e-003		31.5990
Worker	0.1433	0.0977	0.9712	2.9000e-003	0.3422	2.1600e-003	0.3443	0.0907	1.9900e-003	0.0927		288.9179	288.9179	6.8500e-003		289.0891
Total	**0.1476**	**0.2219**	**1.0097**	**3.2500e-003**	**0.3517**	**2.5300e-003**	**0.3542**	**0.0935**	**2.3400e-003**	**0.0958**		**325.1527**	**325.1527**	**8.6200e-003**		**325.3681**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2775	5.2997	9.3533	0.0153		0.0215	0.0215		0.0215	0.0215	0.0000	1,457.4172	1,457.4172	0.1598		1,461.4119
Total	**0.2775**	**5.2997**	**9.3533**	**0.0153**		**0.0215**	**0.0215**		**0.0215**	**0.0215**	**0.0000**	**1,457.4172**	**1,457.4172**	**0.1598**		**1,461.4119**

3.3 Y1 - Pile Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.8000e-004	0.0157	7.6900e-003	5.0000e-005	1.5400e-003	5.0000e-005	1.5900e-003	4.7000e-004	5.0000e-005	5.1000e-004		4.6778	4.6778	9.0000e-005		4.6800
Vendor	3.5200e-003	0.1085	0.0308	3.0000e-004	7.3500e-003	3.2000e-004	7.6700e-003	2.1400e-003	3.0000e-004	2.4400e-003		31.5570	31.5570	1.6800e-003		31.5990
Worker	0.1433	0.0977	0.9712	2.9000e-003	0.3154	2.1600e-003	0.3176	0.0842	1.9900e-003	0.0862		288.9179	288.9179	6.8500e-003		289.0891
Total	**0.1476**	**0.2219**	**1.0097**	**3.2500e-003**	**0.3243**	**2.5300e-003**	**0.3268**	**0.0868**	**2.3400e-003**	**0.0891**		**325.1527**	**325.1527**	**8.6200e-003**		**325.3681**

3.4 Y1 - Barrier Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8110	7.5996	7.9953	0.0151		0.3729	0.3729		0.3643	0.3643		1,438.5019	1,438.5019	0.1537		1,442.3437
Total	**0.8110**	**7.5996**	**7.9953**	**0.0151**		**0.3729**	**0.3729**		**0.3643**	**0.3643**		**1,438.5019**	**1,438.5019**	**0.1537**		**1,442.3437**

3.4 Y1 - Barrier Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.8000e-004	0.0157	7.6900e-003	5.0000e-005	1.6400e-003	5.0000e-005	1.6900e-003	4.9000e-004	5.0000e-005	5.4000e-004		4.6778	4.6778	9.0000e-005		4.6800
Vendor	3.5200e-003	0.1085	0.0308	3.0000e-004	7.8600e-003	3.2000e-004	8.1800e-003	2.2600e-003	3.0000e-004	2.5700e-003		31.5570	31.5570	1.6800e-003		31.5990
Worker	0.1433	0.0977	0.9712	2.9000e-003	0.3422	2.1600e-003	0.3443	0.0907	1.9900e-003	0.0927		288.9179	288.9179	6.8500e-003		289.0891
Total	**0.1476**	**0.2219**	**1.0097**	**3.2500e-003**	**0.3517**	**2.5300e-003**	**0.3542**	**0.0935**	**2.3400e-003**	**0.0958**		**325.1527**	**325.1527**	**8.6200e-003**		**325.3681**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5019	1,438.5019	0.1537		1,442.3437
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5019**	**1,438.5019**	**0.1537**		**1,442.3437**

3.4 Y1 - Barrier Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.8000e-004	0.0157	7.6900e-003	5.0000e-005	1.5400e-003	5.0000e-005	1.5900e-003	4.7000e-004	5.0000e-005	5.1000e-004		4.6778	4.6778	9.0000e-005		4.6800
Vendor	3.5200e-003	0.1085	0.0308	3.0000e-004	7.3500e-003	3.2000e-004	7.6700e-003	2.1400e-003	3.0000e-004	2.4400e-003		31.5570	31.5570	1.6800e-003		31.5990
Worker	0.1433	0.0977	0.9712	2.9000e-003	0.3154	2.1600e-003	0.3176	0.0842	1.9900e-003	0.0862		288.9179	288.9179	6.8500e-003		289.0891
Total	**0.1476**	**0.2219**	**1.0097**	**3.2500e-003**	**0.3243**	**2.5300e-003**	**0.3268**	**0.0868**	**2.3400e-003**	**0.0891**		**325.1527**	**325.1527**	**8.6200e-003**		**325.3681**

3.5 Y1 - Operation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.8795	13.6960	21.1575	0.0388		0.6674	0.6674		0.6674	0.6674		3,673.2579	3,673.2579	0.1679		3,677.4564
Total	**1.8795**	**13.6960**	**21.1575**	**0.0388**		**0.6674**	**0.6674**		**0.6674**	**0.6674**		**3,673.2579**	**3,673.2579**	**0.1679**		**3,677.4564**

3.5 Y1 - Operation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0404	0.0264	0.2673	8.4000e-004	0.1027	6.3000e-004	0.1033	0.0272	5.8000e-004	0.0278		83.4189	83.4189	1.8400e-003		83.4648
Total	**0.0404**	**0.0264**	**0.2673**	**8.4000e-004**	**0.1027**	**6.3000e-004**	**0.1033**	**0.0272**	**5.8000e-004**	**0.0278**		**83.4189**	**83.4189**	**1.8400e-003**		**83.4648**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1679		3,677.4563
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1679**		**3,677.4563**

3.5 Y1 - Operation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0404	0.0264	0.2673	8.4000e-004	0.0946	6.3000e-004	0.0953	0.0253	5.8000e-004	0.0258		83.4189	83.4189	1.8400e-003		83.4648
Total	**0.0404**	**0.0264**	**0.2673**	**8.4000e-004**	**0.0946**	**6.3000e-004**	**0.0953**	**0.0253**	**5.8000e-004**	**0.0258**		**83.4189**	**83.4189**	**1.8400e-003**		**83.4648**

3.6 Y1 - Removal - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3125	2.9086	3.3156	6.2800e-003		0.1364	0.1364		0.1331	0.1331		597.2791	597.2791	0.0626		598.8441
Total	**0.3125**	**2.9086**	**3.3156**	**6.2800e-003**		**0.1364**	**0.1364**		**0.1331**	**0.1331**		**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.6 Y1 - Removal - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0140	6.7900e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6390	4.6390	8.0000e-005		4.6409
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.8600e-003	1.5000e-004	8.0100e-003	2.2600e-003	1.4000e-004	2.4100e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.1346	0.0879	0.8911	2.7900e-003	0.3422	2.1000e-003	0.3443	0.0907	1.9400e-003	0.0927		278.0629	278.0629	6.1300e-003		278.2161
Total	**0.1380**	**0.1919**	**0.9250**	**3.1200e-003**	**0.3517**	**2.2700e-003**	**0.3539**	**0.0935**	**2.1000e-003**	**0.0956**		**313.6817**	**313.6817**	**7.7200e-003**		**313.8747**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2791	597.2791	0.0626		598.8441
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.6 Y1 - Removal - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0140	6.7900e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6390	4.6390	8.0000e-005		4.6409
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.3500e-003	1.5000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2800e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.1346	0.0879	0.8911	2.7900e-003	0.3154	2.1000e-003	0.3175	0.0842	1.9400e-003	0.0861		278.0629	278.0629	6.1300e-003		278.2161
Total	**0.1380**	**0.1919**	**0.9250**	**3.1200e-003**	**0.3243**	**2.2700e-003**	**0.3266**	**0.0868**	**2.1000e-003**	**0.0889**		**313.6817**	**313.6817**	**7.7200e-003**		**313.8747**

3.7 Y2 - Site Prep - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0671	0.8143	0.2962	1.1600e-003		0.0264	0.0264		0.0243	0.0243		112.1497	112.1497	0.0363		113.0564
Total	**0.0671**	**0.8143**	**0.2962**	**1.1600e-003**	**0.0924**	**0.0264**	**0.1188**	**9.9800e-003**	**0.0243**	**0.0343**		**112.1497**	**112.1497**	**0.0363**		**113.0564**

3.7 Y2 - Site Prep - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.8600e-003	1.5000e-004	8.0100e-003	2.2600e-003	1.4000e-004	2.4100e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.0449	0.0293	0.2970	9.3000e-004	0.1141	7.0000e-004	0.1148	0.0303	6.5000e-004	0.0309		92.6876	92.6876	2.0400e-003		92.7387
Total	**0.0476**	**0.1193**	**0.3242**	**1.2200e-003**	**0.1219**	**8.5000e-004**	**0.1228**	**0.0325**	**7.9000e-004**	**0.0333**		**123.6676**	**123.6676**	**3.5500e-003**		**123.7564**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.1497	112.1497	0.0363		113.0564
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.1497**	**112.1497**	**0.0363**		**113.0564**

3.7 Y2 - Site Prep - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.3500e-003	1.5000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2800e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.0449	0.0293	0.2970	9.3000e-004	0.1051	7.0000e-004	0.1058	0.0281	6.5000e-004	0.0287		92.6876	92.6876	2.0400e-003		92.7387
Total	**0.0476**	**0.1193**	**0.3242**	**1.2200e-003**	**0.1125**	**8.5000e-004**	**0.1133**	**0.0302**	**7.9000e-004**	**0.0310**		**123.6676**	**123.6676**	**3.5500e-003**		**123.7564**

3.8 Y2 - Pile Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3125	2.9086	3.3156	6.2800e-003		0.1364	0.1364		0.1331	0.1331		597.2791	597.2791	0.0626		598.8441
Total	**0.3125**	**2.9086**	**3.3156**	**6.2800e-003**		**0.1364**	**0.1364**		**0.1331**	**0.1331**		**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.8 Y2 - Pile Install - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0140	6.7900e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6390	4.6390	8.0000e-005		4.6409
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.8600e-003	1.5000e-004	8.0100e-003	2.2600e-003	1.4000e-004	2.4100e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.1346	0.0879	0.8911	2.7900e-003	0.3422	2.1000e-003	0.3443	0.0907	1.9400e-003	0.0927		278.0629	278.0629	6.1300e-003		278.2161
Total	**0.1380**	**0.1919**	**0.9250**	**3.1200e-003**	**0.3517**	**2.2700e-003**	**0.3539**	**0.0935**	**2.1000e-003**	**0.0956**		**313.6817**	**313.6817**	**7.7200e-003**		**313.8747**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2791	597.2791	0.0626		598.8441
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2791**	**597.2791**	**0.0626**		**598.8441**

3.8 Y2 - Pile Install - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0140	6.7900e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6390	4.6390	8.0000e-005		4.6409
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.3500e-003	1.5000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2800e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.1346	0.0879	0.8911	2.7900e-003	0.3154	2.1000e-003	0.3175	0.0842	1.9400e-003	0.0861		278.0629	278.0629	6.1300e-003		278.2161
Total	**0.1380**	**0.1919**	**0.9250**	**3.1200e-003**	**0.3243**	**2.2700e-003**	**0.3266**	**0.0868**	**2.1000e-003**	**0.0889**		**313.6817**	**313.6817**	**7.7200e-003**		**313.8747**

3.9 Y2 - Barrier Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7530	7.0111	7.9541	0.0151		0.3281	0.3281		0.3205	0.3205		1,438.4971	1,438.4971	0.1497		1,442.2394
Total	**0.7530**	**7.0111**	**7.9541**	**0.0151**		**0.3281**	**0.3281**		**0.3205**	**0.3205**		**1,438.4971**	**1,438.4971**	**0.1497**		**1,442.2394**

3.9 Y2 - Barrier Install - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0140	6.7900e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6390	4.6390	8.0000e-005		4.6409
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.8600e-003	1.5000e-004	8.0100e-003	2.2600e-003	1.4000e-004	2.4100e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.1346	0.0879	0.8911	2.7900e-003	0.3422	2.1000e-003	0.3443	0.0907	1.9400e-003	0.0927		278.0629	278.0629	6.1300e-003		278.2161
Total	**0.1380**	**0.1919**	**0.9250**	**3.1200e-003**	**0.3517**	**2.2700e-003**	**0.3539**	**0.0935**	**2.1000e-003**	**0.0956**		**313.6817**	**313.6817**	**7.7200e-003**		**313.8747**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.4971	1,438.4971	0.1497		1,442.2394
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.4971**	**1,438.4971**	**0.1497**		**1,442.2394**

3.9 Y2 - Barrier Install - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0140	6.7900e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6390	4.6390	8.0000e-005		4.6409
Vendor	2.7800e-003	0.0900	0.0272	2.9000e-004	7.3500e-003	1.5000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2800e-003		30.9799	30.9799	1.5100e-003		31.0177
Worker	0.1346	0.0879	0.8911	2.7900e-003	0.3154	2.1000e-003	0.3175	0.0842	1.9400e-003	0.0861		278.0629	278.0629	6.1300e-003		278.2161
Total	**0.1380**	**0.1919**	**0.9250**	**3.1200e-003**	**0.3243**	**2.2700e-003**	**0.3266**	**0.0868**	**2.1000e-003**	**0.0889**		**313.6817**	**313.6817**	**7.7200e-003**		**313.8747**

3.10 Y2 - Operation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.7631	12.5893	21.1569	0.0388		0.5766	0.5766		0.5766	0.5766		3,673.2579	3,673.2579	0.1550		3,677.1332
Total	**1.7631**	**12.5893**	**21.1569**	**0.0388**		**0.5766**	**0.5766**		**0.5766**	**0.5766**		**3,673.2579**	**3,673.2579**	**0.1550**		**3,677.1332**

3.10 Y2 - Operation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0381	0.0239	0.2475	8.0000e-004	0.1027	6.2000e-004	0.1033	0.0272	5.7000e-004	0.0278		80.1749	80.1749	1.6600e-003		80.2163
Total	**0.0381**	**0.0239**	**0.2475**	**8.0000e-004**	**0.1027**	**6.2000e-004**	**0.1033**	**0.0272**	**5.7000e-004**	**0.0278**		**80.1749**	**80.1749**	**1.6600e-003**		**80.2163**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1550		3,677.1332
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1550**		**3,677.1332**

3.10 Y2 - Operation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0381	0.0239	0.2475	8.0000e-004	0.0946	6.2000e-004	0.0952	0.0253	5.7000e-004	0.0258		80.1749	80.1749	1.6600e-003		80.2163
Total	**0.0381**	**0.0239**	**0.2475**	**8.0000e-004**	**0.0946**	**6.2000e-004**	**0.0952**	**0.0253**	**5.7000e-004**	**0.0258**		**80.1749**	**80.1749**	**1.6600e-003**		**80.2163**

3.11 Y2 - Removal - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2918	2.7101	3.3002	6.2800e-003		0.1192	0.1192		0.1163	0.1163		597.2768	597.2768	0.0610		598.8007
Total	**0.2918**	**2.7101**	**3.3002**	**6.2800e-003**		**0.1192**	**0.1192**		**0.1163**	**0.1163**		**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.11 Y2 - Removal - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-004	0.0140	6.0900e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6236	4.6236	7.0000e-005		4.6254
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.1270	0.0795	0.8249	2.6800e-003	0.3422	2.0600e-003	0.3442	0.0907	1.9000e-003	0.0926		267.2496	267.2496	5.5200e-003		267.3877
Total	**0.1302**	**0.1817**	**0.8565**	**3.0100e-003**	**0.3517**	**2.2200e-003**	**0.3539**	**0.0935**	**2.0600e-003**	**0.0956**		**302.6807**	**302.6807**	**7.0800e-003**		**302.8579**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2768	597.2768	0.0610		598.8007
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.11 Y2 - Removal - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-004	0.0140	6.0900e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6236	4.6236	7.0000e-005		4.6254
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.3500e-003	1.4000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2700e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.1270	0.0795	0.8249	2.6800e-003	0.3154	2.0600e-003	0.3175	0.0842	1.9000e-003	0.0861		267.2496	267.2496	5.5200e-003		267.3877
Total	**0.1302**	**0.1817**	**0.8565**	**3.0100e-003**	**0.3243**	**2.2200e-003**	**0.3265**	**0.0868**	**2.0600e-003**	**0.0888**		**302.6807**	**302.6807**	**7.0800e-003**		**302.8579**

3.12 Y3 - Site Prep - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0621	0.7273	0.2899	1.1600e-003		0.0236	0.0236		0.0217	0.0217		112.0888	112.0888	0.0363		112.9951
Total	**0.0621**	**0.7273**	**0.2899**	**1.1600e-003**	**0.0924**	**0.0236**	**0.1160**	**9.9800e-003**	**0.0217**	**0.0317**		**112.0888**	**112.0888**	**0.0363**		**112.9951**

3.12 Y3 - Site Prep - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.0423	0.0265	0.2750	8.9000e-004	0.1141	6.9000e-004	0.1147	0.0303	6.3000e-004	0.0309		89.0832	89.0832	1.8400e-003		89.1292
Total	**0.0450**	**0.1147**	**0.3004**	**1.1800e-003**	**0.1219**	**8.3000e-004**	**0.1227**	**0.0325**	**7.7000e-004**	**0.0333**		**119.8907**	**119.8907**	**3.3300e-003**		**119.9741**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0888	112.0888	0.0363		112.9951
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0888**	**112.0888**	**0.0363**		**112.9951**

3.12 Y3 - Site Prep - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.3500e-003	1.4000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2700e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.0423	0.0265	0.2750	8.9000e-004	0.1051	6.9000e-004	0.1058	0.0281	6.3000e-004	0.0287		89.0832	89.0832	1.8400e-003		89.1292
Total	**0.0450**	**0.1147**	**0.3004**	**1.1800e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0302**	**7.7000e-004**	**0.0310**		**119.8907**	**119.8907**	**3.3300e-003**		**119.9741**

3.13 Y3 - Pile Install - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2918	2.7101	3.3002	6.2800e-003		0.1192	0.1192		0.1163	0.1163		597.2768	597.2768	0.0610		598.8007
Total	**0.2918**	**2.7101**	**3.3002**	**6.2800e-003**		**0.1192**	**0.1192**		**0.1163**	**0.1163**		**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.13 Y3 - Pile Install - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-004	0.0140	6.0900e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6236	4.6236	7.0000e-005		4.6254
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.1270	0.0795	0.8249	2.6800e-003	0.3422	2.0600e-003	0.3442	0.0907	1.9000e-003	0.0926		267.2496	267.2496	5.5200e-003		267.3877
Total	**0.1302**	**0.1817**	**0.8565**	**3.0100e-003**	**0.3517**	**2.2200e-003**	**0.3539**	**0.0935**	**2.0600e-003**	**0.0956**		**302.6807**	**302.6807**	**7.0800e-003**		**302.8579**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2768	597.2768	0.0610		598.8007
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2768**	**597.2768**	**0.0610**		**598.8007**

3.13 Y3 - Pile Install - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-004	0.0140	6.0900e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6236	4.6236	7.0000e-005		4.6254
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.3500e-003	1.4000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2700e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.1270	0.0795	0.8249	2.6800e-003	0.3154	2.0600e-003	0.3175	0.0842	1.9000e-003	0.0861		267.2496	267.2496	5.5200e-003		267.3877
Total	**0.1302**	**0.1817**	**0.8565**	**3.0100e-003**	**0.3243**	**2.2200e-003**	**0.3265**	**0.0868**	**2.0600e-003**	**0.0888**		**302.6807**	**302.6807**	**7.0800e-003**		**302.8579**

3.14 Y3 - Barrier Install - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7030	6.5317	7.9157	0.0151		0.2868	0.2868		0.2799	0.2799		1,438.4919	1,438.4919	0.1457		1,442.1348
Total	**0.7030**	**6.5317**	**7.9157**	**0.0151**		**0.2868**	**0.2868**		**0.2799**	**0.2799**		**1,438.4919**	**1,438.4919**	**0.1457**		**1,442.1348**

3.14 Y3 - Barrier Install - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-004	0.0140	6.0900e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	2.0000e-005	5.1000e-004		4.6236	4.6236	7.0000e-005		4.6254
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.8600e-003	1.4000e-004	8.0000e-003	2.2600e-003	1.4000e-004	2.4000e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.1270	0.0795	0.8249	2.6800e-003	0.3422	2.0600e-003	0.3442	0.0907	1.9000e-003	0.0926		267.2496	267.2496	5.5200e-003		267.3877
Total	**0.1302**	**0.1817**	**0.8565**	**3.0100e-003**	**0.3517**	**2.2200e-003**	**0.3539**	**0.0935**	**2.0600e-003**	**0.0956**		**302.6807**	**302.6807**	**7.0800e-003**		**302.8579**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.4919	1,438.4919	0.1457		1,442.1348
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.4919**	**1,438.4919**	**0.1457**		**1,442.1348**

3.14 Y3 - Barrier Install - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-004	0.0140	6.0900e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	2.0000e-005	4.8000e-004		4.6236	4.6236	7.0000e-005		4.6254
Vendor	2.6500e-003	0.0881	0.0254	2.9000e-004	7.3500e-003	1.4000e-004	7.5000e-003	2.1400e-003	1.4000e-004	2.2700e-003		30.8075	30.8075	1.4900e-003		30.8449
Worker	0.1270	0.0795	0.8249	2.6800e-003	0.3154	2.0600e-003	0.3175	0.0842	1.9000e-003	0.0861		267.2496	267.2496	5.5200e-003		267.3877
Total	**0.1302**	**0.1817**	**0.8565**	**3.0100e-003**	**0.3243**	**2.2200e-003**	**0.3265**	**0.0868**	**2.0600e-003**	**0.0888**		**302.6807**	**302.6807**	**7.0800e-003**		**302.8579**

3.15 Y3 - Operation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.15 Y3 - Operation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0361	0.0217	0.2292	7.7000e-004	0.1027	6.1000e-004	0.1033	0.0272	5.6000e-004	0.0278		76.9640	76.9640	1.5000e-003		77.0015
Total	**0.0361**	**0.0217**	**0.2292**	**7.7000e-004**	**0.1027**	**6.1000e-004**	**0.1033**	**0.0272**	**5.6000e-004**	**0.0278**		**76.9640**	**76.9640**	**1.5000e-003**		**77.0015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.15 Y3 - Operation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0361	0.0217	0.2292	7.7000e-004	0.0946	6.1000e-004	0.0952	0.0253	5.6000e-004	0.0258		76.9640	76.9640	1.5000e-003		77.0015
Total	**0.0361**	**0.0217**	**0.2292**	**7.7000e-004**	**0.0946**	**6.1000e-004**	**0.0952**	**0.0253**	**5.6000e-004**	**0.0258**		**76.9640**	**76.9640**	**1.5000e-003**		**77.0015**

3.16 Y3 - Removal - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.16 Y3 - Removal - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-004	0.0141	5.5600e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6079	4.6079	7.0000e-005		4.6096
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.8600e-003	1.4000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.1203	0.0723	0.7639	2.5700e-003	0.3422	2.0200e-003	0.3442	0.0907	1.8600e-003	0.0926		256.5466	256.5466	5.0000e-003		256.6717
Total	**0.1234**	**0.1727**	**0.7936**	**2.9000e-003**	**0.3517**	**2.1800e-003**	**0.3538**	**0.0935**	**2.0000e-003**	**0.0955**		**291.7966**	**291.7966**	**6.5500e-003**		**291.9603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.16 Y3 - Removal - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-004	0.0141	5.5600e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6079	4.6079	7.0000e-005		4.6096
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2700e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.1203	0.0723	0.7639	2.5700e-003	0.3154	2.0200e-003	0.3174	0.0842	1.8600e-003	0.0860		256.5466	256.5466	5.0000e-003		256.6717
Total	**0.1234**	**0.1727**	**0.7936**	**2.9000e-003**	**0.3243**	**2.1800e-003**	**0.3265**	**0.0868**	**2.0000e-003**	**0.0888**		**291.7966**	**291.7966**	**6.5500e-003**		**291.9603**

3.17 Y4 - Site Prep - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.17 Y4 - Site Prep - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.8600e-003	1.4000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.0401	0.0241	0.2547	8.6000e-004	0.1141	6.7000e-004	0.1147	0.0303	6.2000e-004	0.0309		85.5155	85.5155	1.6700e-003		85.5572
Total	**0.0427**	**0.1105**	**0.2788**	**1.1500e-003**	**0.1219**	**8.1000e-004**	**0.1227**	**0.0325**	**7.5000e-004**	**0.0333**		**116.1576**	**116.1576**	**3.1500e-003**		**116.2362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.17 Y4 - Site Prep - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2700e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.0401	0.0241	0.2547	8.6000e-004	0.1051	6.7000e-004	0.1058	0.0281	6.2000e-004	0.0287		85.5155	85.5155	1.6700e-003		85.5572
Total	**0.0427**	**0.1105**	**0.2788**	**1.1500e-003**	**0.1125**	**8.1000e-004**	**0.1133**	**0.0302**	**7.5000e-004**	**0.0310**		**116.1576**	**116.1576**	**3.1500e-003**		**116.2362**

3.18 Y4 - Pile Install - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.18 Y4 - Pile Install - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-004	0.0141	5.5600e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6079	4.6079	7.0000e-005		4.6096
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.8600e-003	1.4000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.1203	0.0723	0.7639	2.5700e-003	0.3422	2.0200e-003	0.3442	0.0907	1.8600e-003	0.0926		256.5466	256.5466	5.0000e-003		256.6717
Total	**0.1234**	**0.1727**	**0.7936**	**2.9000e-003**	**0.3517**	**2.1800e-003**	**0.3538**	**0.0935**	**2.0000e-003**	**0.0955**		**291.7966**	**291.7966**	**6.5500e-003**		**291.9603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.18 Y4 - Pile Install - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-004	0.0141	5.5600e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6079	4.6079	7.0000e-005		4.6096
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2700e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.1203	0.0723	0.7639	2.5700e-003	0.3154	2.0200e-003	0.3174	0.0842	1.8600e-003	0.0860		256.5466	256.5466	5.0000e-003		256.6717
Total	**0.1234**	**0.1727**	**0.7936**	**2.9000e-003**	**0.3243**	**2.1800e-003**	**0.3265**	**0.0868**	**2.0000e-003**	**0.0888**		**291.7966**	**291.7966**	**6.5500e-003**		**291.9603**

3.19 Y4 - Barrier Install - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.19 Y4 - Barrier Install - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-004	0.0141	5.5600e-003	4.0000e-005	1.6400e-003	2.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.6079	4.6079	7.0000e-005		4.6096
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.8600e-003	1.4000e-004	7.9900e-003	2.2600e-003	1.3000e-004	2.3900e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.1203	0.0723	0.7639	2.5700e-003	0.3422	2.0200e-003	0.3442	0.0907	1.8600e-003	0.0926		256.5466	256.5466	5.0000e-003		256.6717
Total	**0.1234**	**0.1727**	**0.7936**	**2.9000e-003**	**0.3517**	**2.1800e-003**	**0.3538**	**0.0935**	**2.0000e-003**	**0.0955**		**291.7966**	**291.7966**	**6.5500e-003**		**291.9603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.19 Y4 - Barrier Install - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-004	0.0141	5.5600e-003	4.0000e-005	1.5400e-003	2.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.6079	4.6079	7.0000e-005		4.6096
Vendor	2.5500e-003	0.0864	0.0241	2.9000e-004	7.3500e-003	1.4000e-004	7.4900e-003	2.1400e-003	1.3000e-004	2.2700e-003		30.6421	30.6421	1.4800e-003		30.6790
Worker	0.1203	0.0723	0.7639	2.5700e-003	0.3154	2.0200e-003	0.3174	0.0842	1.8600e-003	0.0860		256.5466	256.5466	5.0000e-003		256.6717
Total	**0.1234**	**0.1727**	**0.7936**	**2.9000e-003**	**0.3243**	**2.1800e-003**	**0.3265**	**0.0868**	**2.0000e-003**	**0.0888**		**291.7966**	**291.7966**	**6.5500e-003**		**291.9603**

3.20 Y4 - Operation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.20 Y4 - Operation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0344	0.0198	0.2133	7.4000e-004	0.1027	5.9000e-004	0.1032	0.0272	5.4000e-004	0.0278		74.1040	74.1040	1.3700e-003		74.1381
Total	**0.0344**	**0.0198**	**0.2133**	**7.4000e-004**	**0.1027**	**5.9000e-004**	**0.1032**	**0.0272**	**5.4000e-004**	**0.0278**		**74.1040**	**74.1040**	**1.3700e-003**		**74.1381**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.20 Y4 - Operation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0344	0.0198	0.2133	7.4000e-004	0.0946	5.9000e-004	0.0952	0.0253	5.4000e-004	0.0258		74.1040	74.1040	1.3700e-003		74.1381
Total	**0.0344**	**0.0198**	**0.2133**	**7.4000e-004**	**0.0946**	**5.9000e-004**	**0.0952**	**0.0253**	**5.4000e-004**	**0.0258**		**74.1040**	**74.1040**	**1.3700e-003**		**74.1381**

3.21 Y4 - Removal - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.21 Y4 - Removal - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0141	5.1400e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.5927	4.5927	6.0000e-005		4.5942
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.1145	0.0661	0.7109	2.4800e-003	0.3422	1.9600e-003	0.3441	0.0907	1.8000e-003	0.0926		247.0133	247.0133	4.5500e-003		247.1271
Total	**0.1175**	**0.1648**	**0.7392**	**2.8100e-003**	**0.3517**	**2.1000e-003**	**0.3538**	**0.0935**	**1.9300e-003**	**0.0954**		**282.0916**	**282.0916**	**6.0700e-003**		**282.2434**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.21 Y4 - Removal - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0141	5.1400e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5927	4.5927	6.0000e-005		4.5942
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.1145	0.0661	0.7109	2.4800e-003	0.3154	1.9600e-003	0.3174	0.0842	1.8000e-003	0.0860		247.0133	247.0133	4.5500e-003		247.1271
Total	**0.1175**	**0.1648**	**0.7392**	**2.8100e-003**	**0.3243**	**2.1000e-003**	**0.3264**	**0.0868**	**1.9300e-003**	**0.0887**		**282.0916**	**282.0916**	**6.0700e-003**		**282.2434**

3.22 Y5 - Site Prep - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.22 Y5 - Site Prep - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.0382	0.0220	0.2370	8.3000e-004	0.1141	6.5000e-004	0.1147	0.0303	6.0000e-004	0.0309		82.3378	82.3378	1.5200e-003		82.3757
Total	**0.0406**	**0.1067**	**0.2601**	**1.1200e-003**	**0.1219**	**7.8000e-004**	**0.1227**	**0.0325**	**7.2000e-004**	**0.0332**		**112.8234**	**112.8234**	**2.9800e-003**		**112.8978**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.22 Y5 - Site Prep - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.0382	0.0220	0.2370	8.3000e-004	0.1051	6.5000e-004	0.1058	0.0281	6.0000e-004	0.0287		82.3378	82.3378	1.5200e-003		82.3757
Total	**0.0406**	**0.1067**	**0.2601**	**1.1200e-003**	**0.1125**	**7.8000e-004**	**0.1133**	**0.0302**	**7.2000e-004**	**0.0309**		**112.8234**	**112.8234**	**2.9800e-003**		**112.8978**

3.23 Y5 - Pile Install - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.23 Y5 - Pile Install - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0141	5.1400e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.5927	4.5927	6.0000e-005		4.5942
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.1145	0.0661	0.7109	2.4800e-003	0.3422	1.9600e-003	0.3441	0.0907	1.8000e-003	0.0926		247.0133	247.0133	4.5500e-003		247.1271
Total	**0.1175**	**0.1648**	**0.7392**	**2.8100e-003**	**0.3517**	**2.1000e-003**	**0.3538**	**0.0935**	**1.9300e-003**	**0.0954**		**282.0916**	**282.0916**	**6.0700e-003**		**282.2434**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.23 Y5 - Pile Install - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0141	5.1400e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5927	4.5927	6.0000e-005		4.5942
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.1145	0.0661	0.7109	2.4800e-003	0.3154	1.9600e-003	0.3174	0.0842	1.8000e-003	0.0860		247.0133	247.0133	4.5500e-003		247.1271
Total	**0.1175**	**0.1648**	**0.7392**	**2.8100e-003**	**0.3243**	**2.1000e-003**	**0.3264**	**0.0868**	**1.9300e-003**	**0.0887**		**282.0916**	**282.0916**	**6.0700e-003**		**282.2434**

3.24 Y5 - Barrier Install - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.24 Y5 - Barrier Install - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0141	5.1400e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.1000e-004		4.5927	4.5927	6.0000e-005		4.5942
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.8600e-003	1.3000e-004	7.9900e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.1145	0.0661	0.7109	2.4800e-003	0.3422	1.9600e-003	0.3441	0.0907	1.8000e-003	0.0926		247.0133	247.0133	4.5500e-003		247.1271
Total	**0.1175**	**0.1648**	**0.7392**	**2.8100e-003**	**0.3517**	**2.1000e-003**	**0.3538**	**0.0935**	**1.9300e-003**	**0.0954**		**282.0916**	**282.0916**	**6.0700e-003**		**282.2434**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.24 Y5 - Barrier Install - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0141	5.1400e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5927	4.5927	6.0000e-005		4.5942
Vendor	2.4500e-003	0.0847	0.0231	2.9000e-004	7.3500e-003	1.3000e-004	7.4800e-003	2.1400e-003	1.2000e-004	2.2600e-003		30.4856	30.4856	1.4600e-003		30.5221
Worker	0.1145	0.0661	0.7109	2.4800e-003	0.3154	1.9600e-003	0.3174	0.0842	1.8000e-003	0.0860		247.0133	247.0133	4.5500e-003		247.1271
Total	**0.1175**	**0.1648**	**0.7392**	**2.8100e-003**	**0.3243**	**2.1000e-003**	**0.3264**	**0.0868**	**1.9300e-003**	**0.0887**		**282.0916**	**282.0916**	**6.0700e-003**		**282.2434**

3.25 Y5 - Operation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.25 Y5 - Operation - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0326	0.0182	0.1989	7.2000e-004	0.1027	5.6000e-004	0.1032	0.0272	5.1000e-004	0.0277		71.5434	71.5434	1.2400e-003		71.5745
Total	**0.0326**	**0.0182**	**0.1989**	**7.2000e-004**	**0.1027**	**5.6000e-004**	**0.1032**	**0.0272**	**5.1000e-004**	**0.0277**		**71.5434**	**71.5434**	**1.2400e-003**		**71.5745**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.25 Y5 - Operation - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0326	0.0182	0.1989	7.2000e-004	0.0946	5.6000e-004	0.0952	0.0253	5.1000e-004	0.0258		71.5434	71.5434	1.2400e-003		71.5745
Total	**0.0326**	**0.0182**	**0.1989**	**7.2000e-004**	**0.0946**	**5.6000e-004**	**0.0952**	**0.0253**	**5.1000e-004**	**0.0258**		**71.5434**	**71.5434**	**1.2400e-003**		**71.5745**

3.26 Y5 - Removal - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.26 Y5 - Removal - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0141	4.7600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5773	4.5773	6.0000e-005		4.5788
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.1087	0.0605	0.6631	2.3900e-003	0.3422	1.8600e-003	0.3440	0.0907	1.7100e-003	0.0925		238.4781	238.4781	4.1500e-003		238.5817
Total	**0.1116**	**0.1577**	**0.6900**	**2.7200e-003**	**0.3517**	**1.9900e-003**	**0.3537**	**0.0935**	**1.8400e-003**	**0.0953**		**273.3935**	**273.3935**	**5.6600e-003**		**273.5348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.26 Y5 - Removal - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0141	4.7600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5773	4.5773	6.0000e-005		4.5788
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.1087	0.0605	0.6631	2.3900e-003	0.3154	1.8600e-003	0.3173	0.0842	1.7100e-003	0.0859		238.4781	238.4781	4.1500e-003		238.5817
Total	**0.1116**	**0.1577**	**0.6900**	**2.7200e-003**	**0.3243**	**1.9900e-003**	**0.3263**	**0.0868**	**1.8400e-003**	**0.0886**		**273.3935**	**273.3935**	**5.6600e-003**		**273.5348**

3.27 Y6 - Site Prep - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.27 Y6 - Site Prep - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.0362	0.0202	0.2210	8.0000e-004	0.1141	6.2000e-004	0.1147	0.0303	5.7000e-004	0.0308		79.4927	79.4927	1.3800e-003		79.5272
Total	**0.0386**	**0.1033**	**0.2432**	**1.0900e-003**	**0.1219**	**7.4000e-004**	**0.1227**	**0.0325**	**6.9000e-004**	**0.0332**		**109.8308**	**109.8308**	**2.8300e-003**		**109.9015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.27 Y6 - Site Prep - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.0362	0.0202	0.2210	8.0000e-004	0.1051	6.2000e-004	0.1058	0.0281	5.7000e-004	0.0286		79.4927	79.4927	1.3800e-003		79.5272
Total	**0.0386**	**0.1033**	**0.2432**	**1.0900e-003**	**0.1125**	**7.4000e-004**	**0.1132**	**0.0302**	**6.9000e-004**	**0.0309**		**109.8308**	**109.8308**	**2.8300e-003**		**109.9015**

3.28 Y6 - Pile Install - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.28 Y6 - Pile Install - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0141	4.7600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5773	4.5773	6.0000e-005		4.5788
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.1087	0.0605	0.6631	2.3900e-003	0.3422	1.8600e-003	0.3440	0.0907	1.7100e-003	0.0925		238.4781	238.4781	4.1500e-003		238.5817
Total	**0.1116**	**0.1577**	**0.6900**	**2.7200e-003**	**0.3517**	**1.9900e-003**	**0.3537**	**0.0935**	**1.8400e-003**	**0.0953**		**273.3935**	**273.3935**	**5.6600e-003**		**273.5348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.28 Y6 - Pile Install - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0141	4.7600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5773	4.5773	6.0000e-005		4.5788
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.1087	0.0605	0.6631	2.3900e-003	0.3154	1.8600e-003	0.3173	0.0842	1.7100e-003	0.0859		238.4781	238.4781	4.1500e-003		238.5817
Total	**0.1116**	**0.1577**	**0.6900**	**2.7200e-003**	**0.3243**	**1.9900e-003**	**0.3263**	**0.0868**	**1.8400e-003**	**0.0886**		**273.3935**	**273.3935**	**5.6600e-003**		**273.5348**

3.29 Y6 - Barrier Install - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.29 Y6 - Barrier Install - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0141	4.7600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5773	4.5773	6.0000e-005		4.5788
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.8600e-003	1.2000e-004	7.9800e-003	2.2600e-003	1.2000e-004	2.3800e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.1087	0.0605	0.6631	2.3900e-003	0.3422	1.8600e-003	0.3440	0.0907	1.7100e-003	0.0925		238.4781	238.4781	4.1500e-003		238.5817
Total	**0.1116**	**0.1577**	**0.6900**	**2.7200e-003**	**0.3517**	**1.9900e-003**	**0.3537**	**0.0935**	**1.8400e-003**	**0.0953**		**273.3935**	**273.3935**	**5.6600e-003**		**273.5348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.29 Y6 - Barrier Install - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-004	0.0141	4.7600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5773	4.5773	6.0000e-005		4.5788
Vendor	2.3700e-003	0.0831	0.0222	2.9000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.2000e-004	2.2500e-003		30.3382	30.3382	1.4500e-003		30.3743
Worker	0.1087	0.0605	0.6631	2.3900e-003	0.3154	1.8600e-003	0.3173	0.0842	1.7100e-003	0.0859		238.4781	238.4781	4.1500e-003		238.5817
Total	**0.1116**	**0.1577**	**0.6900**	**2.7200e-003**	**0.3243**	**1.9900e-003**	**0.3263**	**0.0868**	**1.8400e-003**	**0.0886**		**273.3935**	**273.3935**	**5.6600e-003**		**273.5348**

3.30 Y6 - Operation - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.30 Y6 - Operation - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0308	0.0167	0.1863	6.9000e-004	0.1027	5.2000e-004	0.1032	0.0272	4.8000e-004	0.0277		69.2705	69.2705	1.1400e-003		69.2989
Total	**0.0308**	**0.0167**	**0.1863**	**6.9000e-004**	**0.1027**	**5.2000e-004**	**0.1032**	**0.0272**	**4.8000e-004**	**0.0277**		**69.2705**	**69.2705**	**1.1400e-003**		**69.2989**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.30 Y6 - Operation - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0308	0.0167	0.1863	6.9000e-004	0.0946	5.2000e-004	0.0951	0.0253	4.8000e-004	0.0257		69.2705	69.2705	1.1400e-003		69.2989
Total	**0.0308**	**0.0167**	**0.1863**	**6.9000e-004**	**0.0946**	**5.2000e-004**	**0.0951**	**0.0253**	**4.8000e-004**	**0.0257**		**69.2705**	**69.2705**	**1.1400e-003**		**69.2989**

3.31 Y6 - Removal - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.31 Y6 - Removal - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0141	4.4500e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5655	4.5655	6.0000e-005		4.5669
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.1026	0.0556	0.6209	2.3100e-003	0.3422	1.7300e-003	0.3439	0.0907	1.6000e-003	0.0923		230.9015	230.9015	3.8000e-003		230.9964
Total	**0.1054**	**0.1515**	**0.6468**	**2.6300e-003**	**0.3517**	**1.8600e-003**	**0.3535**	**0.0935**	**1.7200e-003**	**0.0952**		**265.6814**	**265.6814**	**5.2900e-003**		**265.8134**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.31 Y6 - Removal - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0141	4.4500e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5655	4.5655	6.0000e-005		4.5669
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.1026	0.0556	0.6209	2.3100e-003	0.3154	1.7300e-003	0.3171	0.0842	1.6000e-003	0.0858		230.9015	230.9015	3.8000e-003		230.9964
Total	**0.1054**	**0.1515**	**0.6468**	**2.6300e-003**	**0.3243**	**1.8600e-003**	**0.3262**	**0.0868**	**1.7200e-003**	**0.0885**		**265.6814**	**265.6814**	**5.2900e-003**		**265.8134**

3.32 Y7 - Site Prep - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.32 Y7 - Site Prep - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.0342	0.0185	0.2070	7.7000e-004	0.1141	5.8000e-004	0.1146	0.0303	5.3000e-004	0.0308		76.9672	76.9672	1.2700e-003		76.9988
Total	**0.0365**	**0.1003**	**0.2284**	**1.0500e-003**	**0.1219**	**7.0000e-004**	**0.1226**	**0.0325**	**6.4000e-004**	**0.0332**		**107.1816**	**107.1816**	**2.7000e-003**		**107.2490**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.32 Y7 - Site Prep - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.0342	0.0185	0.2070	7.7000e-004	0.1051	5.8000e-004	0.1057	0.0281	5.3000e-004	0.0286		76.9672	76.9672	1.2700e-003		76.9988
Total	**0.0365**	**0.1003**	**0.2284**	**1.0500e-003**	**0.1125**	**7.0000e-004**	**0.1132**	**0.0302**	**6.4000e-004**	**0.0308**		**107.1816**	**107.1816**	**2.7000e-003**		**107.2490**

3.33 Y7 - Pile Install - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.33 Y7 - Pile Install - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0141	4.4500e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5655	4.5655	6.0000e-005		4.5669
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.1026	0.0556	0.6209	2.3100e-003	0.3422	1.7300e-003	0.3439	0.0907	1.6000e-003	0.0923		230.9015	230.9015	3.8000e-003		230.9964
Total	**0.1054**	**0.1515**	**0.6468**	**2.6300e-003**	**0.3517**	**1.8600e-003**	**0.3535**	**0.0935**	**1.7200e-003**	**0.0952**		**265.6814**	**265.6814**	**5.2900e-003**		**265.8134**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.33 Y7 - Pile Install - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0141	4.4500e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5655	4.5655	6.0000e-005		4.5669
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.1026	0.0556	0.6209	2.3100e-003	0.3154	1.7300e-003	0.3171	0.0842	1.6000e-003	0.0858		230.9015	230.9015	3.8000e-003		230.9964
Total	**0.1054**	**0.1515**	**0.6468**	**2.6300e-003**	**0.3243**	**1.8600e-003**	**0.3262**	**0.0868**	**1.7200e-003**	**0.0885**		**265.6814**	**265.6814**	**5.2900e-003**		**265.8134**

3.34 Y7 - Barrier Install - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.34 Y7 - Barrier Install - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0141	4.4500e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5655	4.5655	6.0000e-005		4.5669
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.8600e-003	1.2000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.1026	0.0556	0.6209	2.3100e-003	0.3422	1.7300e-003	0.3439	0.0907	1.6000e-003	0.0923		230.9015	230.9015	3.8000e-003		230.9964
Total	**0.1054**	**0.1515**	**0.6468**	**2.6300e-003**	**0.3517**	**1.8600e-003**	**0.3535**	**0.0935**	**1.7200e-003**	**0.0952**		**265.6814**	**265.6814**	**5.2900e-003**		**265.8134**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.34 Y7 - Barrier Install - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0141	4.4500e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5655	4.5655	6.0000e-005		4.5669
Vendor	2.3000e-003	0.0818	0.0214	2.8000e-004	7.3500e-003	1.2000e-004	7.4700e-003	2.1400e-003	1.1000e-004	2.2500e-003		30.2144	30.2144	1.4300e-003		30.2502
Worker	0.1026	0.0556	0.6209	2.3100e-003	0.3154	1.7300e-003	0.3171	0.0842	1.6000e-003	0.0858		230.9015	230.9015	3.8000e-003		230.9964
Total	**0.1054**	**0.1515**	**0.6468**	**2.6300e-003**	**0.3243**	**1.8600e-003**	**0.3262**	**0.0868**	**1.7200e-003**	**0.0885**		**265.6814**	**265.6814**	**5.2900e-003**		**265.8134**

3.35 Y7 - Operation - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6532	11.5769	21.1533	0.0388		0.4925	0.4925		0.4925	0.4925		3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**1.6532**	**11.5769**	**21.1533**	**0.0388**		**0.4925**	**0.4925**		**0.4925**	**0.4925**		**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.35 Y7 - Operation - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0287	0.0153	0.1741	6.7000e-004	0.1027	4.8000e-004	0.1031	0.0272	4.5000e-004	0.0277		67.2558	67.2558	1.0400e-003		67.2818
Total	**0.0287**	**0.0153**	**0.1741**	**6.7000e-004**	**0.1027**	**4.8000e-004**	**0.1031**	**0.0272**	**4.5000e-004**	**0.0277**		**67.2558**	**67.2558**	**1.0400e-003**		**67.2818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1453		3,676.8894
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1453**		**3,676.8894**

3.35 Y7 - Operation - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0287	0.0153	0.1741	6.7000e-004	0.0946	4.8000e-004	0.0951	0.0253	4.5000e-004	0.0257		67.2558	67.2558	1.0400e-003		67.2818
Total	**0.0287**	**0.0153**	**0.1741**	**6.7000e-004**	**0.0946**	**4.8000e-004**	**0.0951**	**0.0253**	**4.5000e-004**	**0.0257**		**67.2558**	**67.2558**	**1.0400e-003**		**67.2818**

3.36 Y7 - Removal - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.36 Y7 - Removal - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0142	4.1600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5548	4.5548	5.0000e-005		4.5562
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0958	0.0509	0.5804	2.2500e-003	0.3422	1.6100e-003	0.3438	0.0907	1.4900e-003	0.0922		224.1860	224.1860	3.4600e-003		224.2726
Total	**0.0985**	**0.1456**	**0.6053**	**2.5700e-003**	**0.3517**	**1.7300e-003**	**0.3534**	**0.0935**	**1.6100e-003**	**0.0951**		**258.8425**	**258.8425**	**4.9200e-003**		**258.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.36 Y7 - Removal - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0142	4.1600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5548	4.5548	5.0000e-005		4.5562
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0958	0.0509	0.5804	2.2500e-003	0.3154	1.6100e-003	0.3170	0.0842	1.4900e-003	0.0857		224.1860	224.1860	3.4600e-003		224.2726
Total	**0.0985**	**0.1456**	**0.6053**	**2.5700e-003**	**0.3243**	**1.7300e-003**	**0.3260**	**0.0868**	**1.6100e-003**	**0.0884**		**258.8425**	**258.8425**	**4.9200e-003**		**258.9658**

3.37 Y8 - Site Prep - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0924	0.0000	0.0924	9.9800e-003	0.0000	9.9800e-003			0.0000			0.0000
Off-Road	0.0544	0.6049	0.2790	1.1600e-003		0.0195	0.0195		0.0179	0.0179		112.0419	112.0419	0.0362		112.9479
Total	**0.0544**	**0.6049**	**0.2790**	**1.1600e-003**	**0.0924**	**0.0195**	**0.1119**	**9.9800e-003**	**0.0179**	**0.0279**		**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.37 Y8 - Site Prep - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0319	0.0170	0.1935	7.5000e-004	0.1141	5.4000e-004	0.1146	0.0303	5.0000e-004	0.0307		74.7287	74.7287	1.1500e-003		74.7575
Total	**0.0342**	**0.0975**	**0.2142**	**1.0300e-003**	**0.1219**	**6.5000e-004**	**0.1226**	**0.0325**	**6.1000e-004**	**0.0331**		**104.8304**	**104.8304**	**2.5600e-003**		**104.8946**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0416	0.0000	0.0416	4.4900e-003	0.0000	4.4900e-003			0.0000			0.0000
Off-Road	0.0189	0.3053	0.6153	1.1600e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	112.0419	112.0419	0.0362		112.9479
Total	**0.0189**	**0.3053**	**0.6153**	**1.1600e-003**	**0.0416**	**1.8900e-003**	**0.0435**	**4.4900e-003**	**1.8900e-003**	**6.3800e-003**	**0.0000**	**112.0419**	**112.0419**	**0.0362**		**112.9479**

3.37 Y8 - Site Prep - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0319	0.0170	0.1935	7.5000e-004	0.1051	5.4000e-004	0.1057	0.0281	5.0000e-004	0.0286		74.7287	74.7287	1.1500e-003		74.7575
Total	**0.0342**	**0.0975**	**0.2142**	**1.0300e-003**	**0.1125**	**6.5000e-004**	**0.1131**	**0.0302**	**6.1000e-004**	**0.0308**		**104.8304**	**104.8304**	**2.5600e-003**		**104.8946**

3.38 Y8 - Pile Install - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2729	2.5233	3.2890	6.2800e-003		0.1043	0.1043		0.1017	0.1017		597.2841	597.2841	0.0593		598.7670
Total	**0.2729**	**2.5233**	**3.2890**	**6.2800e-003**		**0.1043**	**0.1043**		**0.1017**	**0.1017**		**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.38 Y8 - Pile Install - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0142	4.1600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5548	4.5548	5.0000e-005		4.5562
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0958	0.0509	0.5804	2.2500e-003	0.3422	1.6100e-003	0.3438	0.0907	1.4900e-003	0.0922		224.1860	224.1860	3.4600e-003		224.2726
Total	**0.0985**	**0.1456**	**0.6053**	**2.5700e-003**	**0.3517**	**1.7300e-003**	**0.3534**	**0.0935**	**1.6100e-003**	**0.0951**		**258.8425**	**258.8425**	**4.9200e-003**		**258.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1138	2.1728	3.8328	6.2800e-003		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	597.2841	597.2841	0.0593		598.7670
Total	**0.1138**	**2.1728**	**3.8328**	**6.2800e-003**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**597.2841**	**597.2841**	**0.0593**		**598.7670**

3.38 Y8 - Pile Install - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0142	4.1600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5548	4.5548	5.0000e-005		4.5562
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0958	0.0509	0.5804	2.2500e-003	0.3154	1.6100e-003	0.3170	0.0842	1.4900e-003	0.0857		224.1860	224.1860	3.4600e-003		224.2726
Total	**0.0985**	**0.1456**	**0.6053**	**2.5700e-003**	**0.3243**	**1.7300e-003**	**0.3260**	**0.0868**	**1.6100e-003**	**0.0884**		**258.8425**	**258.8425**	**4.9200e-003**		**258.9658**

3.39 Y8 - Barrier Install - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6577	6.0858	7.8886	0.0151		0.2510	0.2510		0.2447	0.2447		1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.6577**	**6.0858**	**7.8886**	**0.0151**		**0.2510**	**0.2510**		**0.2447**	**0.2447**		**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.39 Y8 - Barrier Install - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0142	4.1600e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5548	4.5548	5.0000e-005		4.5562
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.8600e-003	1.1000e-004	7.9700e-003	2.2600e-003	1.1000e-004	2.3700e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0958	0.0509	0.5804	2.2500e-003	0.3422	1.6100e-003	0.3438	0.0907	1.4900e-003	0.0922		224.1860	224.1860	3.4600e-003		224.2726
Total	**0.0985**	**0.1456**	**0.6053**	**2.5700e-003**	**0.3517**	**1.7300e-003**	**0.3534**	**0.0935**	**1.6100e-003**	**0.0951**		**258.8425**	**258.8425**	**4.9200e-003**		**258.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2750	5.2131	9.2043	0.0151		0.0211	0.0211		0.0211	0.0211	0.0000	1,438.5001	1,438.5001	0.1418		1,442.0438
Total	**0.2750**	**5.2131**	**9.2043**	**0.0151**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**1,438.5001**	**1,438.5001**	**0.1418**		**1,442.0438**

3.39 Y8 - Barrier Install - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0142	4.1600e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5548	4.5548	5.0000e-005		4.5562
Vendor	2.2400e-003	0.0805	0.0207	2.8000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1400e-003	1.1000e-004	2.2400e-003		30.1017	30.1017	1.4100e-003		30.1371
Worker	0.0958	0.0509	0.5804	2.2500e-003	0.3154	1.6100e-003	0.3170	0.0842	1.4900e-003	0.0857		224.1860	224.1860	3.4600e-003		224.2726
Total	**0.0985**	**0.1456**	**0.6053**	**2.5700e-003**	**0.3243**	**1.7300e-003**	**0.3260**	**0.0868**	**1.6100e-003**	**0.0884**		**258.8425**	**258.8425**	**4.9200e-003**		**258.9658**

3.40 Y8 - Operation - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1981	7.4199	21.0809	0.0388		0.1975	0.1975		0.1975	0.1975		3,673.2579	3,673.2579	0.1066		3,675.9227
Total	**1.1981**	**7.4199**	**21.0809**	**0.0388**		**0.1975**	**0.1975**		**0.1975**	**0.1975**		**3,673.2579**	**3,673.2579**	**0.1066**		**3,675.9227**

3.40 Y8 - Operation - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0268	0.0140	0.1632	6.6000e-004	0.1027	4.5000e-004	0.1031	0.0272	4.1000e-004	0.0276		65.4811	65.4811	9.5000e-004		65.5048
Total	**0.0268**	**0.0140**	**0.1632**	**6.6000e-004**	**0.1027**	**4.5000e-004**	**0.1031**	**0.0272**	**4.1000e-004**	**0.0276**		**65.4811**	**65.4811**	**9.5000e-004**		**65.5048**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5523	13.8639	23.9153	0.0388		0.0517	0.0517		0.0517	0.0517	0.0000	3,673.2579	3,673.2579	0.1066		3,675.9227
Total	**0.5523**	**13.8639**	**23.9153**	**0.0388**		**0.0517**	**0.0517**		**0.0517**	**0.0517**	**0.0000**	**3,673.2579**	**3,673.2579**	**0.1066**		**3,675.9227**

3.40 Y8 - Operation - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0268	0.0140	0.1632	6.6000e-004	0.0946	4.5000e-004	0.0951	0.0253	4.1000e-004	0.0257		65.4811	65.4811	9.5000e-004		65.5048
Total	**0.0268**	**0.0140**	**0.1632**	**6.6000e-004**	**0.0946**	**4.5000e-004**	**0.0951**	**0.0253**	**4.1000e-004**	**0.0257**		**65.4811**	**65.4811**	**9.5000e-004**		**65.5048**

3.41 Y8 - Removal - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5148	3.8874	7.8298	0.0161		0.0836	0.0836		0.0836	0.0836		1,523.9527	1,523.9527	0.0461		1,525.1060
Total	**0.5148**	**3.8874**	**7.8298**	**0.0161**		**0.0836**	**0.0836**		**0.0836**	**0.0836**		**1,523.9527**	**1,523.9527**	**0.0461**		**1,525.1060**

3.41 Y8 - Removal - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.4000e-004	0.0142	3.9200e-003	4.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.9000e-004	1.0000e-005	5.0000e-004		4.5448	4.5448	5.0000e-005		4.5461
Vendor	2.1800e-003	0.0794	0.0202	2.8000e-004	7.8600e-003	1.1000e-004	7.9600e-003	2.2600e-003	1.0000e-004	2.3600e-003		29.9999	29.9999	1.4000e-003		30.0349
Worker	0.0892	0.0468	0.5440	2.1900e-003	0.3422	1.5000e-003	0.3437	0.0907	1.3800e-003	0.0921		218.2702	218.2702	3.1700e-003		218.3494
Total	**0.0918**	**0.1403**	**0.5681**	**2.5100e-003**	**0.3517**	**1.6200e-003**	**0.3533**	**0.0935**	**1.4900e-003**	**0.0950**		**252.8149**	**252.8149**	**4.6200e-003**		**252.9303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2775	5.2997	9.3533	0.0161		0.0215	0.0215		0.0215	0.0215	0.0000	1,523.9527	1,523.9527	0.0461		1,525.1060
Total	**0.2775**	**5.2997**	**9.3533**	**0.0161**		**0.0215**	**0.0215**		**0.0215**	**0.0215**	**0.0000**	**1,523.9527**	**1,523.9527**	**0.0461**		**1,525.1060**

3.41 Y8 - Removal - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.4000e-004	0.0142	3.9200e-003	4.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.7000e-004	1.0000e-005	4.8000e-004		4.5448	4.5448	5.0000e-005		4.5461
Vendor	2.1800e-003	0.0794	0.0202	2.8000e-004	7.3500e-003	1.1000e-004	7.4600e-003	2.1300e-003	1.0000e-004	2.2400e-003		29.9999	29.9999	1.4000e-003		30.0349
Worker	0.0892	0.0468	0.5440	2.1900e-003	0.3154	1.5000e-003	0.3169	0.0842	1.3800e-003	0.0856		218.2702	218.2702	3.1700e-003		218.3494
Total	**0.0918**	**0.1403**	**0.5681**	**2.5100e-003**	**0.3243**	**1.6200e-003**	**0.3259**	**0.0868**	**1.4900e-003**	**0.0883**		**252.8149**	**252.8149**	**4.6200e-003**		**252.9303**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0402	0.1991	0.5125	2.0200e-003	0.2345	1.3900e-003	0.2359	0.0627	1.2900e-003	0.0640		205.8009	205.8009	8.5000e-003		206.0134
Unmitigated	0.0402	0.1991	0.5125	2.0200e-003	0.2345	1.3900e-003	0.2359	0.0627	1.2900e-003	0.0640		205.8009	205.8009	8.5000e-003		206.0134

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	3.40	40.95	30.13	34,019	34,019
Total	3.40	40.95	30.13	34,019	34,019

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	15.00	7.50	8.50	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.570990	0.036039	0.209774	0.110012	0.014862	0.004732	0.018347	0.024592	0.001934	0.001739	0.005654	0.000617	0.000710

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Unmitigated	4.0600e-003	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Total	**4.0600e-003**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.9000e-004**	**3.9000e-004**	**0.0000**		**4.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.9000e-004	3.9000e-004	0.0000		4.2000e-004
Total	**4.0600e-003**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.9000e-004**	**3.9000e-004**	**0.0000**		**4.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

GSSMB Watercraft Calculations - AQ & HRA

EMISSION FACTORS

Calculated using the *SMAQMD Harborcraft, Dredge, and Barge Emission Factor Calculator* (SMAQMD, 2017).

	User-Entered				Calculated (lb/hr)		
Vessel	**Engine Year**	**HP**	**Load Factor**	**# of Engines**	**PM10***	**PM2.5**	**NOX**
Tug Boat	2012	1000	0.31	1	0.058472545	0.052919659	2.85838327
Tug Boat	2009	1000	0.31	1	0.147725793	0.133083225	3.976254866
Work Boat	2009	90	0.45	1	0.020188591	0.018244216	0.491100544

*EFs adjusted from the SMAQMD calculator LF default (0.5 -> 0.31), based on 2011 Study.

USAGE - WORST CASE SCENARIO, MAX PPD

Vessel	**Amount (both sites total)**	**Max Hr/Day**	**Unmitigated**			**Mitigated**		
			PM10	**PM2.5**	**NOX**	**PM10**	**PM2.5**	**NOX**
Tug Boat	2	3	0.886354761	0.7984994	23.8575292	0.350835273	0.317517954	17.1502996
Work Boat	4	5	0.403771827	0.3648843	9.822010875	0.403771827	0.364884311	9.82201087
		Total	1.290126588	1.1633837	33.67954007	0.7546071	0.682402265	26.9723105

Max boat usage for BAFF-only years would be 1 tug boat and 3 work boats in one day.

	Max PPD			**Max PPD**		
	PM10	**PM2.5**	**NOX**	**PM10**	**PM2.5**	**NOX**
BAFF-only	0.746006251	0.6729129	19.29527275	0.478246507	0.43242221	15.941658

USAGE - AVERAGE, TPY

	Tug Boat	**TB Hrs/Phase**	**TB Hr Total**	**Work Boat**	**WB Hrs/Phase**	**WB Hr Total**
Site Prep	1	8	**8**	0	0	**0**
Pile Install	1	35	**35**	2	30	**60**
Barrier Install	1	35	**35**	2	30	**60**
Operation	0	0	**0**	2	30	**60**
Removal	1	35	**35**	2	30	**60**

	Unmitigated			Mitigated		
	Average Tons per Phase - Tugboat + Work Boat		Average Tons per Phase - Tugboat	Average Tons per Phase - Tugboat + Work Boat		Average Tons per Phase - Tugboat
	PM10	PM2.5	PM10	PM10	PM2.5	PM10
Site Prep	0.000590903	0.000532333	0.000590903	0.00023389	0.000211679	0.00023389
Pile Install	0.003190859	0.002876283	0.002585201	0.001628927	0.00147342	0.00102327
Barrier Install	0.003190859	0.002876283	0.002585201	0.001628927	0.00147342	0.00102327
Operation	0.000605658	0.000547326	0	0.000605658	0.000547326	0
Removal	0.003190859	0.002876283	0.002585201	0.001628927	0.00147342	0.00102327

EMISSIONS

	Tug Boats + Work Boats (Unmitigated)					Tug Boats + Work Boats (Mitigated)				
	MAX PPD			TPY		MAX PPD			TPY	
	PM10	PM2.5	NOX	PM10	PM2.5	PM10	PM2.5	NOX	PM10	PM2.5
2022	0.746006251	0.672912909	19.29527275	0.0069726	0.006284899	0.478246507	0.43242221	15.941658	0.003491745	0.0031585
2023	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2024	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2025	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2026	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2027	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2028	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2029	0.746006251	0.672912909	19.29527275	0.0107691	0.009708508	0.478246507	0.43242221	15.941658	0.00572633	0.0051793
2030	0.746006251	0.672912909	19.29527275	0.0037965	0.003423609	0.478246507	0.43242221	15.941658	0.002234585	0.0020207

HRA CALCULATIONS

	Tug Boats Only - DPM PM10 Exhaust (tpy)	
	BAFF (Unmitigated)	BAFF (Mitigated)
2022	0.005761306	0.003491745
2023	0.008346507	0.00572633
2024	0.008346507	0.00572633
2025	0.008346507	0.00572633
2026	0.008346507	0.00572633
2027	0.008346507	0.00572633
2028	0.008346507	0.00572633
2029	0.008346507	0.00572633
2030	0.002585201	0.002234585
Total	**0.066772059**	**0.045810638**

GSSMB Watercraft Calculations - GHG Emissions

EMISSION FACTORS

Calculated using the *SMAQMD Harborcraft, Dredge, and Barge Emission Factor Calculator* (SMAQMD, 2017).

	User-Entered				Calculated (lb/hr)
Vessel	**Engine Year**	**HP**	**Load Factor**	**# of Engines**	**CO2e**
Tug Boat	2009 or 2012	1000	0.31	1	405.3259064
Work Boat	2009	90	0.45	1	52.95386842

*EFs adjusted from the SMAQMD calculator LF default (0.5 -> 0.31), based on 2011 Study.

USAGE - AVERAGE, TPY

	Tug Boat	TB Hrs/Phase	TB Hr Total	Work Boat	WB Hrs/Phase	WB Hr Total
Site Prep	1	8	**8**	0	0	**0**
Pile Install	1	35	**35**	2	30	**60**
Barrier Install	1	35	**35**	2	30	**60**
Operation	0	0	**0**	2	30	**60**
Removal	1	35	**35**	2	30	**60**

	Average Tons per Phase - Tugboat + Work Boat	Average Tons per Phase - Tugboat	Average Tons per Phase - Work Boat
Site Prep	1.621303626	1.621303626	0
Pile Install	8.681819415	7.093203362	1.588616053
Barrier Install	8.681819415	7.093203362	1.588616053
Operation	1.588616053	0	1.588616053
Removal	8.681819415	7.093203362	1.588616053

CO2e EMISSIONS, BAFF, AVERAGE MTPY

	Tug Boats + Work Boats
2022	17.22285009
2023	26.54003241
2024	26.54003241
2025	26.54003241
2026	26.54003241
2027	26.54003241
2028	26.54003241
2029	26.54003241
2030	9.317182329

GSSMB Watercraft Calculations - Energy

EMISSION FACTORS

Calculated using the *SMAQMD Harborcraft, Dredge, and Barge Emission Factor Calculator* (SMAQMD, 2017).

	User-Entered				Calculated (lb/hr)
Vessel	**Engine Year**	**HP**	**Load Factor**	**# of Engines**	**CO2e**
Tug Boat	2009 or 2012	1000	0.31	1	405.3259064
Work Boat	2009	90	0.45	1	52.95386842

*EFs adjusted from the SMAQMD calculator LF default (0.5 -> 0.31), based on 2011 Study.

AVERAGE USAGE

	Tug Boat	TB Hrs/Phase	TB Hr Total	Work Boat	WB Hrs/Phase	WB Hr Total
Site Prep	1	8	**8**	0	0	**0**
Pile Install	1	35	**35**	2	30	**60**
Barrier Install	1	35	**35**	2	30	**60**
Operation	0	0	**0**	2	30	**60**
Removal	1	35	**35**	2	30	**60**

EMISSIONS - AVERAGE TONS CO2e PER PHASE

	Tugboats	Work Boats
Site Prep	1.621303626	0
Pile Install	7.093203362	1.588616053
Barrier Install	7.093203362	1.588616053
Operation	0	1.588616053
Removal	7.093203362	1.588616053

EMISSIONS - AVERAGE METRIC TONS CO2e PER YEAR

	Tug Boats BAFF	Work Boats BAFF
2022	14.3405136	2.882336481
2023	20.77535945	5.764672962
2024	20.77535945	5.764672962
2025	20.77535945	5.764672962
2026	20.77535945	5.764672962
2027	20.77535945	5.764672962
2028	20.77535945	5.764672962
2029	20.77535945	5.764672962
2030	6.434845848	2.882336481

HRA - GSSMB BAFF

For nearby resident at 142 Shop Street

MEISR

	Distance		AERSCREEN OUT [ug/m^3]/[g/s]	
	(ft)	(m)	max	annual
Resident	407	124	1359.0	135.9

	Construction Year	PM_{10} Exhaust (tons/yr)		Start Date	End Date	Duration
		Unmitigated	Mitigated			Days
Construction	2022	0.0171	0.0029	8/1/2022	12/31/2022	153
	2023	0.0575	0.0042	1/1/2023	12/31/2023	365
	2024	0.3623	0.0070	1/1/2024	12/31/2024	366
	2025	0.0449	0.0070	1/1/2025	12/31/2025	365
	2026	0.0446	0.0070	1/1/2026	12/31/2026	365
	2027	0.0449	0.0070	1/1/2027	12/31/2027	365
	2028	0.0745	0.0101	1/1/2028	12/31/2028	366
	2029	0.0272	0.0070	1/1/2029	12/31/2029	365
	2030	0.0038	0.0013	1/1/2030	8/30/2030	242

	Construction Year	DPM Exhaust (g/s)		Exposure Duration			C_{AIR} (µg/m3)	
		Unmitigated	Mitigated	3rd Trimester	Age 0<2	Age 2<16	Unmitigated	Mitigated
Construction	2022	0.0012	0.0002	90	63	0	0.160	0.027
	2023	0.0017	0.0001	0	365	0	0.225	0.016
	2024	0.0104	0.0002	0	302	64	1.413	0.027
	2025	0.0013	0.0002	0	0	365	0.176	0.027
	2026	0.0013	0.0002	0	0	365	0.174	0.027
	2027	0.0013	0.0002	0	0	365	0.176	0.027
	2028	0.0021	0.0003	0	0	366	0.290	0.039
	2029	0.0008	0.0002	0	0	365	0.106	0.027
	2030	0.0002	0.0001	0	0	242	0.023	0.008

Cancer Risk = Dose inhalation × Inhalation CPF × ASF × ED/AT × FAH **(Equation 8.2.4 A)**

Where:

Cancer Risk = residential inhalation cancer risk

Dose inhalation (mg/kg-day) = C_{AIR} × DBR × A × EF × 10^{-6} **(Equation 5.4.1.1)**

Inhalation CPF = inhalation cancer potency factor ($[mg/kg/day]^{-1}$)

ASF = age sensitivity factor for a specified age group (unitless)

ED = exposure duration for a specified age group (years)

AT = averaging time period over which exposure is averaged in days (years)

FAH = fraction of time at home (unitless)

Where:

C_{AIR} = concentration of compound in air in micrograms per cubic meter ($\mu g/m^3$)

DBR = daily breathing rate in liter per kilogram of body weight per day (L/kg-body weight/day)

A = inhalation absorption factor (1 for DPM, unitless)

EF = exposure frequency in days per year (unitless, days/365 days)

10^{-6} = micrograms to milligrams conversion, liters to cubic meters conversion

Hazard Quotient = C_{air} / REL **(Section 8.3.1)**

Where:

Hazard Quotient = chronic non-cancer hazard

C_{AIR} = concentration of compound in air in micrograms per cubic meter ($\mu g/m^3$)

REL = Chronic non-cancer Reference Exposure Level for substance ($\mu g/m^3$)

Dose Inhalation Inputs

Receptor Type	Exposure Scenario	Receptor Group Age	Project Year	C_{AIR} ($\mu g/m^3$) Unmitigated	C_{AIR} ($\mu g/m^3$) Mitigated	DBR (L/kg-day)	A (unitless)	EF (days/year)
Off-Site Child Resident	Construction	3rd Trimester	2022	1.60E-01	2.73E-02	361	1	0.96
		Age 0<2	2022	1.60E-01	2.73E-02	1090	1	0.96
			2023	2.25E-01	1.64E-02	1090	1	0.96
			2024	1.41E+00	2.73E-02	1090	1	0.96
		Age 2<16	2024	1.41E+00	2.73E-02	572	1	0.96
			2025	1.76E-01	2.73E-02	572	1	0.96
			2026	1.74E-01	2.73E-02	572	1	0.96
			2027	1.76E-01	2.73E-02	572	1	0.96
			2028	2.90E-01	3.94E-02	572	1	0.96
			2029	1.06E-01	2.73E-02	572	1	0.96
			2030	2.26E-02	7.92E-03	572	1	0.96

Dose Inhalation Outputs

Receptor Type	Exposure Scenario	Receptor Group Age	Project Year	Unmitigated Dose inhalation (mg/kg-day)	Mitigated Dose inhalation (mg/kg-day)
Off-Site Child Resident	Construction	3rd Trimester	2022	5.53E-05	9.46E-06
		Age 0<2	2022	1.67E-04	2.86E-05
			2023	2.35E-04	1.72E-05
			2024	1.48E-03	2.85E-05
		Age 2<16	2024	7.75E-04	1.50E-05
			2025	9.63E-05	1.50E-05
			2026	9.56E-05	1.50E-05
			2027	9.63E-05	1.50E-05
			2028	1.59E-04	2.16E-05
			2029	5.83E-05	1.50E-05
			2030	1.24E-05	4.34E-06

Risk Inputs

Receptor Type	Exposure Scenario	Receptor Group Age	Project Year	CPF (mg/kg-day^{-1})	ASF (unitless)	ED (years)	AT (years)	FAH (unitless)	REL DPM (µg/m3)
Off-Site Child Resident	Construction	3rd Trimester	2022	1.1	10	0.25	70.00	0.85	5.00
		Age 0<2	2022	1.1	10	0.17	70.00	0.85	5.00
			2023	1.1	10.00	1.00	70.00	0.85	5.00
			2024	1.1	10.00	0.83	70.00	0.85	5.00
		Age 2<16	2024	1.1	3.00	0.18	70.00	0.72	5.00
			2025	1.1	3.00	1.00	70.00	0.72	5.00
			2026	1.1	3.00	1.00	70.00	0.72	5.00
			2027	1.1	3.00	1.00	70.00	0.72	5.00
			2028	1.1	3.00	1.00	70.00	0.72	5.00
			2029	1.1	3.00	1.00	70.00	0.72	5.00
			2030	1.1	3.00	0.66	70.00	0.72	5.00

Risk Outputs

				Unmitigated	Mitigated	Unmitigated	Mitigated
Receptor Type	**Exposure Scenario**	**Receptor Group Age**	**Project Year**	**Cancer Risk**		**Hazard Risk**	
Off-Site Child Resident	Construction	3rd Trimester	2022	1.82E-06	3.12E-07	0.03	0.01
		Age 0<2	2022	3.85E-06	6.59E-07	0.03	0.01
			2023	3.14E-05	2.29E-06	0.04	0.00
			2024	1.63E-04	3.15E-06	0.28	0.01
		Age 2<16	2024	4.61E-06	8.90E-08	0.28	0.01
			2025	3.27E-06	5.09E-07	0.04	0.01
			2026	3.25E-06	5.08E-07	0.03	0.01
			2027	3.27E-06	5.09E-07	0.04	0.01
			2028	5.42E-06	7.35E-07	0.06	0.01
			2029	1.98E-06	5.09E-07	0.02	0.01
			2030	2.79E-07	9.78E-08	0.00	0.00
		Total Cancer Risk (per million)		222.27	9.37	0.28	0.01
		Threshold		10	10	1	1

SOURCE: Office of Environmental Health Hazard Assessment, 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments* . February.

Inhalation cancer potency factor from Table 7.1

DWR Georgiana Slough Salmonid Migratory Barrier

CO_2 emissions from AQ Calculations:

Conversion	1 MT =	1000	kg

Diesel Sources	CO_2 Emissions	
Off Road Equipment	1,914.00	MT
Vendor Trucks	991.05	MT
Haul Trucks	1.51	MT
Tug Boats	166.20	MT
TOTAL Diesel Sources =	**3,072.75**	**MT**
Convert to kilograms	3,072,754.16	kg

Diesel fuel combustion[a] = 10.21 kg CO2/gallon

Diesel Consumption = 300,955.35 gallons (over course of 8-year study)

Gasoline Sources	CO_2 Emissions	
Worker Trucks	120.03	MT
Work Boats	46.12	MT
TOTAL Gasoline Sources =	**166.15**	**MT**
Convert to kilograms	166,149.48	kg

Per CCAR GRP (2009):

Gasoline fuel combustion[a] = 8.78 kg CO2/gallon

Gasoline consumption = 18,923.63 gallons (over course of 8-year study)

Notes: [a] Emissions factors per The Climate Registry 2017 Default Emission Factors (Table 13.1 - US Default CO2 Emission Factors for Transport Fuels)

Diesel Sources - MT CO2e

	2022	2023	2024	2025	2026	2027	2028	2029	2030	
	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	TOTAL
Equipment	39.87	236.45	236.43	236.41	234.75	236.41	236.41	236.41	220.84	1,914.00
Haul Trips	0.13	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.06	1.51
Vendor Trips	0.97	1.00	1.37	1.37	982.26	1.35	0.97	1.34	0.41	991.05
Tug Boats	14.34	20.78	20.78	20.78	20.78	20.78	20.78	20.78	6.43	166.20
									Total	**3,072.75**

Gasoline Sources - MT CO2e

	2,022.00	2,023.00	2,024.00	2,025.00	2,026.00	2,027.00	2,028.00	2,029.00	2,030.00	
	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	BAFF	TOTAL
Worker Trips	8.41	16.67	16.02	15.38	15.26	14.27	13.84	13.44	6.73	120.03
Work Boats	2.88	5.76	5.76	5.76	5.76	5.76	5.76	5.76	2.88	46.12
									Total	**166.15**

All data from either annual CalEEMod output or boats & barges tab of calculation spreadsheet.

Greenhouse Gas(GHG) Emissions Reduction Plan Consistency Determination

For Projects Using Contractors or Other Outside Labor

This form is to be used by DWR project managers to document a DWR CEQA project's consistency with the DWR Greenhouse Gas Emissions Reduction Plan. This form is to be used only when DWR is the Lead Agency and when contractors or outside labor and equipment are used to implement the project.

Additional Guidance on filling out this form can be found at:
http://dwrclimatechange.water.ca.gov/guidance_resources.cfm

The DWR Greenhouse Gas Emissions Reduction Plan can be accessed at:
https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan

Project Name:	Georgiana Slough Salmonid Migratory Barrier
Environmental Document Type:	Initial Study
Manager's Name:	William McLaughlin
Manager's E-mail:	william.mclaughlin@water.ca.gov
Division:	O&M (ADC2)
Office, Branch, or Field Division:	ADC2, South Delta Management

Short Project Description:

The Sacramento River Georgiana Slough Salmonid Migratory Barrier would occur during an 8-year period (2022-2030) and considers the use of a Bio-Acoustic Fish Fence at Georgiana Slough as a compliance action for the 2009 BiOp. The project construction activities will include onshore grading, gravel application, construction, equipment/materials delivery and handling. River construction activities will include pile driving, vibratory hammer and cutting operations, equipment installation/removal, and materials handling. All construction activities will use standard industry vehicles/equipment.

Project GHG Emissions Summary:

Total Construction Emissions	2,258	$mtCO_2e$
Maximum Annual Construction Emissions	281	$mtCO_2e$

☒ All other emissions from the project not accounted for above will occur as ongoing operational, maintenance, or business activity emissions and therefore have already been accounted for and analyzed in the GGERP.

Extraordinary Construction Project Determination:

Do total project construction emissions exceed 25,000 $mtCO_2e$ for the entire construction phase or exceed 12,500 $mtCO_2e$ in any single year of construction?

☒ No- Additional analysis not required ☐ Yes - Project specific emissions mitigation measures have been included in the environmental analysis document for the project

Project GHG Reduction Plan Checklist:
☐ All Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project. (Project Level GHG Emissions Reduction Measures) Or ▪ All feasible Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project and Measures not incorporated have been listed and determined not to apply to the proposed project (include as an attachment)
▪ Project does not conflict with any of the Specific Action GHG Emissions Reduction Measures (Specific Action GHG Emissions Reduction Measures)
Would implementation of the project result in additional energy demands on the SWP system of 15 GWh/yr or greater? ☐ Yes ▪ No If you answered Yes, attach a letter documenting that the project has consulted with the DWR SWP Power and Risk Office regarding the additional power requirements of the project.
Is there substantial evidence that the effects of the proposed project may be cumulatively considerable notwithstanding the proposed project's compliance with the requirements of the DWR GHG Reduction Plan? ☐ Yes ▪ No If you answered Yes, the project is not eligible for streamlined analysis of GHG emissions using the DWR GHG Emissions Reduction Plan. (See CEQA Guidelines, section 15183.5, subdivision (b)(2).)

Based on the information provided above and information provided in associated environmental documentation completed pursuant to the above referenced project, the DWR CEQA Climate Change Committee has determined that:

☐ The entire proposed project is consistent with the DWR Greenhouse Gas Reduction Plan and the greenhouse gases emitted by the project are covered by the plan's analysis.

▪ The operational and maintenance phase of the project is consistent with the DWR Greenhouse Gas Reduction Plan and the greenhouse gases emitted by the project are covered by the plan's analysis. Emissions from the construction phase of the project are not covered by the DWR Greenhouse Gas Emissions Reduction Plan and will be mitigated as part of the project.

Project Manager Signature: William McLaughlin Date: 11/12/2020

C4 Approval Signature: Jennifer Morales Date: 11/13/2020

Attachments:

▪ GHG Emissions Inventory ☐ List and Explanation of excluded Project level GHG Emissions Reduction Measures ☐ SWP Power and Risk Office Consultation Letter

Links:
https://current.water.ca.gov/programs/icc/SitePages/Home.aspx
https://water.ca.gov/Programs/All-Programs/Climate-Change-Program

Appendix B

Biological Resources Species Lists

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Plants				
Alkali milk-vetch *Astragalus tener var. tener*	--/--/1B.2	Alkaline vernal pools and playas, and valley and foothill grassland with alkaline adobe clay soils; 3- to 2,000-foot elevation.	March – June	**None.** No suitable habitat is present in the project area.
Alkali-sink goldfields *Lasthenia chrysantha*	--/--/1B.1	Marshes and swamps (coastal salt), playas, and vernal pools; 3- to 4,000-foot elevation.	February – June	**None.** No suitable habitat is present in the project area.
Antioch Dunes evening-primrose *Oenothera deltoides* ssp. *howellii*	FE/CE/ 1B.1	Inland dunes, remnant river bluffs, and sand dunes east of Antioch, along river bluffs, and in loose sand; 0- to 100-foot elevation.	March – September	**None.** No suitable habitat is present in the project area.
Baker's navarretia Navarretia leucocephala ssp. bakeri	--/--/1B.1	Vernal pools and other wet depressions in cismontane woodland, lower montane coniferous forest, meadows, and valley and foothill grassland, in adobe or alkaline soils; 0- to 5,500-foot elevation.	May – July	**None.** No suitable habitat is present in the project area.
Bearded popcornflower Plagiobothrys hystriculus	--/--/1B.1	Habitat and life history not well understood; probably grows in vernal pools or wet sites in grasslands.	April – May	**None.** No suitable habitat is present in the project area.
Bolander's water-hemlock *Cicuta maculata* var. *bolanderi*	--/--/2B.1	Coastal, fresh, or brackish marshes; 0- to 600-foot elevation.	July – September	**None.** No suitable habitat is present in the project area.
Bristly Sedge *Carex comosa*	--/--/2B.1	Coastal prairie, marshes and swamps, valley and foothill grassland, on lake margins, and wet places; 0- to 2,100-foot elevation.	May – September	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
California alkali grass Puccinellia simplex	--/--/1B.2	Alkaline, vernally mesic; sinks, flats, and lake margins; 6- to 3000 feet elevation.	Blooms March – May	**None.** No suitable habitat is present in the project area.
Colusa grass Neostapfia colusana	FT/CE/1B. 1	Large vernal pools with adobe clay soils; 15- to 4,000-foot elevation.	May – August	**None.** No suitable habitat is present in the project area.
Delta mudwort *Limosella australis*	--/--/2B.1	Intertidal marshes: sea level–10 feet.	May – August	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Delta tule pea *Lathyrus jepsonii*	--/--/1B.2	Coastal and estuarine marshes: sea level–15 feet; riverbanks and levees near the water's edge.	May – June	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Dwarf downingia *Downingia pusilla*	--/--/2B.2	Vernally mesic sites in valley and foothill grassland and vernal pools; 3- to 1,500-foot elevation.	March – May	**None.** No suitable habitat is present in the project area.
Eel-grass pondweed *Potamogeton zosteriformis*	--/--/2B.2	Marshes and swamps; 0- to 6,000-foot elevation.	June – July	**None.** No suitable habitat is present in the project area.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Ferris' milk-vetch *Astragalus tener* var. *ferrisiae*	--/--/1B.1	Annual herb found in meadows and seeps (vernally mesic), valley and foothill grassland (subalkaline flats). Elevation 7 – 250 feet.	April – May.	**None.** No suitable habitat is present in the project area.
Heckard's pepper-grass *Lepidium latipes var. heckardii*	--/--/1B.2	Alkaline flats and in alkaline grasslands along the edges of vernal pools.	March – May	**None.** No suitable habitat is present in the project area.
Jepson's coyote-thistle Eryngium jepsonii	--/--/1B.2	Clay soils in valley and foothill grasslands or vernal pools; 10- to 1,000-foot elevation	April – August	**None.** No suitable habitat is present in the project area.
Keck's checkerbloom Sidalcea keckii	FE/--/1B.1	Serpentine, clay soils in cismontane woodland, and valley and foothill grassland; 250-foot to 2,100 foot elevation.	April – May	**None.** No suitable habitat is present in the project area.
Large-flowered fiddleneck *Amsinckia grandiflora*	FE/CE/ 1B.1	Cismontane woodland, valley and foothill grassland.	April – May	**None.** No suitable habitat is present in the project area.
Legenere *Legenere limosa*	--/--/1B.1	Bottoms of vernal pools and other wet depressions in grassland communities.	April – June	**None.** No suitable habitat is present in the project area.
Marsh skullcap *Scutellaria galericulata*	--/--/2B.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, wet places; 0- to 7,000-foot elevation.	June – September	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Mason's lilaeopsis *Lilaeopsis masonii*	--/CR/ 1B.1	Freshwater and intertidal marshes and streambanks in riparian scrub; generally sea level–30 feet.	April – October	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Northern California black walnut *Juglans hindsii*	--/--/1B.1	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil associated with a creek or stream.	April – May	**None.** No known stands of this species present in the project area.
Pappose tarplant *Centromadia parryi* ssp. *parryi*	--/--/1B.2	Mesic areas in coastal prairie, meadow, and grassland habitats, often on alkaline substrates; 0- to 1,400-foot elevation.	June – November	**None.** No suitable habitat is present in the project area.
Peruvian dodder Cuscuta obtusiflora var. glandulosa	--/--/2B.2	Marshes and swamps; 50- to 900-foot elevation.	July – October	**None.** This species has no known documented occurrences within the Delta.
Saline clover *Trifolium depauperatum* var. *hydrophilum*	--/--/1B.2	Salt marshes and in alkaline soils in moist valley and foothill grasslands and vernal pools; 0- to 1,000-foot elevation.	April – June	**None.** No suitable habitat is present in the project area.
San Joaquin spearscale *Extriplex joaquinana*	--/--/1B.2	Annual herb found in alkaline soils, chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Elevation 3 – 2,740 feet.	April – September	**None.** No suitable habitat is present in the project area.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Sanford's arrowhead *Sagittaria sanfordi*	--/--/1B.2	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; sea level–1,850 feet.	May – August	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Side-flowering skullcap *Scutellaria lateriflora*	--/--/2B.2	Marshes and swamps, meadows and seeps; 0- to 1,500-foot elevation.	July – September	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Soft salty bird's-beak *Chloropyron molle* ssp. *molle*	FE/CR/ 1B.2	Coastal salt marshes and swamps; 0- to 10-foot elevation.	July – September	**None.** No suitable habitat is present in the project area.
Suisun Marsh aster *Symphyotrichum lentum*	--/--/1B.2	Marshes and swamps, often along sloughs; 0- to 10-foot elevation.	May – November	**Moderate.** Marginal habitat is present in the project area on channel banks, especially within Point Ranch Property.
Solano grass Tuctoria mucronata	FT/CE/1B. 1	Valley and foothills grassland and vernal pools	April – August	**None.** No suitable habitat is present in the project area.
Watershield *Brasenia schreberi*	--/--/2B.3	Freshwater marshes and swamps.	June – September	**None.** No suitable habitat is present in the project area.
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	--/--/1B.2	Perennial herb found in marshes and swamps (freshwater), Often found in riprap on sides of levees. Elevation 0 – 390 feet.	June – September	**Moderate.** Marginal habitat is present in the project area on channel banks.
Wildlife				
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	FE/--/--	Vernal pools and swales.	USFWS protocol-level wet-season sampling and/or dry season cyst identification	**None**. The project area does not provide suitable habitat for this species.
Crotch bumble bee *Bombus crotchii*	--/CCT/--	Inhabits open grassland scrub habitats. This species was historically common in the Central Valley, but now appears to be absent from most of it. The plant families most commonly associated with this species in California include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae.	June – August	**None**. The project area does not provide suitable habitat for this species.
Delta green ground beetle *Elaphrus viridis*	FE/--/--	Associated with vernal pool habitats. Found in the greater Jepson Prairie area of Solano County.	Surveys are conducted during the winter when adults emerge form diapause	**None.** The project area is outside the current distribution range of this species.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE/--/--	Rocky outcrops and cliffs in coastal scrub.	March – September	**None.** The project area is outside the current distribution range of this species.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/--/--	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	Adults emerge in spring until June. Exit holes visible year round	**Moderate**. The nearest known elderberry shrub is located 300 feet away from the project area, however, additional shrubs may be present in riparian areas in the project area.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/--/--	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabits small, clear-water sandstone-depression pools and grass swales, earth slumps, or basalt-flow depression pools.	USFWS protocol-level wet-season sampling and/or dry season cyst identification	**None**. The project area does not provide suitable habitat for this species.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE/--/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	USFWS protocol-level wet-season sampling and/or dry season cyst identification	**None**. The project area does not provide suitable habitat for this species.
Western bumble bee *Bombus occidentalis occidentalis*	--/CCT/--	Found in open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. Nests underground in abandoned rodent burrows or other cavities, but may also nest above ground in structures including logs and railroad ties. Host plant food includes ceanothus (*Ceanothus* sp.), thistle (*Centaurea* sp.), rabbitbrush (*Chrysothamnus* sp.), geranium (*Geranium* sp.), gumplant (*Grindelia* sp.), lupine (*Lupinus* sp.), sweetclover (*Melilotus* sp.), monardella (*Monardella* sp.), blackberry (*Rubus* sp.), goldenrod (*Solidago* sp.), and clover (*Trifolium* sp.).	June – August	**None.** The project area is outside the currently known range of this species, which is largely restricted to high elevations in the Sierra Nevada and along the coast.
Amphibians/Reptiles				
California red-legged frog *Rana draytonii*	FT/CSC/ --	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation from 0 to 4,920 feet.	Aquatic surveys of breeding sites between January and September. Optimally after April 15	**None**. The project area does not provide suitable habitat for this species.
California tiger salamander *Ambystoma californiense*	FT/CT/--	Found in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stockponds, in grassland and oak savannah plant communities from 10 to 3,450 feet.	Aquatic surveys of breeding sites between March and May	**None**. The project area does not provide habitat for this species.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Giant garter snake *Thamnophis gigas*	FT/CT/--	Highly aquatic snake, requires water throughout summer. Found in freshwater marsh, ditches, sloughs and similar aquatic habitat with bankside vegetation such as Tule and Typha for basking and cover from predators. Also uses inundated rice fields. Requires nearby uplands with small mammal burrows above flood height for refuge and winter brumation.	Active from mid-March through October	**Moderate**. Suitable habitat is present in the vicinity of upland staging areas.
Northern California legless lizard *Anniella pulchra*	--/CSC/--	Requires loose sand for burrowing moisture, warmth and plant cover. Commonly found with bush lupine (*Lupinus arboreus*), mock heather (*Eriogonum parvilfolium*), mock aster (*Ericameria ericoides*), and other native coastal shrubs.	Optimal Survey Period: April – September	**None**. Compacted soils within levee slopes and in staging areas represent unsuitable conditions for this species. Nearest CNDDB occurrence of this species is approximately 20 miles southwest of the project area.
Western pond turtle *Emys marmorata*	--/CSC/--	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and associated uplands.	Active typically February – November. Can be active year-round depending upon temperatures.	**Moderate**. Suitable aquatic and upland habitat is present within the project area.
Fish				
Delta Smelt *Hypomesus transpacificus*	FT/CE/--	Found in open surface waters in the Sacramento/San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	Spawn December – July; present year round in the Delta	**High**. Although there are very few recent records of occurrence in the project area, numbers were higher historically.
Longfin Smelt *Spirinchus thaleichthys*	--/CT/--	Estuarine open waters, mid- to lower water column. Prefer salinity of 15–30 ppt, except for spawning and early life stages when freshwater or low salinity is sought. Spawns over sandy or gravel substrate, rocks, and aquatic plants.	Present year round in the Delta	**High**. Although there are very few recent records of occurrence in the project area, numbers were higher historically.
Central Valley DPS steelhead *Oncorhynchus mykiss*	FT/--/--	Inhabits rivers and streams tributary to the Sacramento - San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in winter and spring	**High**. This species is seasonally present in the project area.
Central Valley ESU spring-run Chinook Salmon *Oncorhynchus tshawytscha*	FT/CT/--	Inhabits rivers and streams tributary to the Sacramento - San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in late summer and fall	**High**. This species is seasonally present in the project area.
Central Valley ESU fall- / late fall-run Chinook Salmon *Oncorhynchus tshawytscha*	EFH/ CSC/--	Inhabits rivers and streams tributary to the Sacramento - San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in fall and winter	**High**. This species is seasonally present in the project area.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Sacramento River ESU winter-run Chinook Salmon *Oncorhynchus tshawytscha*	FE/CE/--	Inhabits rivers and streams tributary to the Sacramento - San Joaquin Rivers and Delta ecosystems. Spawns in cold, gravel bedded rivers and streams.	Spawns in spring and summer	**High**. This species is seasonally present in the project area.
Green Sturgeon *Acipenser medirostris*	FT/CSC/ --	Spawns in large cobble in deep and turbulent mainstem rivers. The Southern DPS spawns in the Sacramento River basin and in the Sacramento-San Joaquin Delta and Estuary.	Year round	**High**. This species spawns in the mainstem Sacramento River and is expected to be present at least seasonally in the project area.
Sacramento Splittail *Pogonichthys macrolepidotus*	--/CSC/--	Sloughs, lakes, and rivers. Estuaries up to 29 ppt salinity. Low to moderate current. Inundated vegetation for spawning.	Year round	**High**. Based on known historic occurrences.
Pacific Lamprey *Entosphenus tridentata*	FSC/--/--	Streams, mainstem rivers, estuaries, and nearshore ocean.	December – June	**High.** Likely to be seasonally present in the project area during migration period.
River Lamprey *Lampetra ayresi*	--/CSC/--	Streams, mainstem rivers, estuaries, and nearshore ocean.	December – February	**High.** Likely to be seasonally present in the project area during migration period.
Starry Flounder *Platichthys stellatus*	EFH/--/--	Benthic habitats of brackish and occasionally freshwater parts of streams with extensive estuaries, as far as first riffle. Nearshore ocean.	Spawns in December and January	**Moderate.** Possibly seasonally present in the project area.
Northern Anchovy *Engraulis mordax*	EFH/--/--	Bays, estuaries, and nearshore ocean. Pelagic portions of the water column.	Spring and summer	**Low.** Unlikely to be present, but the project area is at upper end of designated essential fish habitat.
Birds				
American peregrine falcon *Falco peregrinus*	--/CFP/--	Forages in a variety of habitats, but is most common near water, where shorebirds and waterfowl are abundant.	March – October	**Low.** Delta is outside known breeding range of this species; however, they may forage in the area during the winter.
Bank swallow *Riparia riparia*	--/CT/--	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April – July	**None**. The project area does not provide suitable habitat for this species.
Burrowing owl *Athene cunicularia*	--/CSC/--	Forages in open plains, grasslands, and prairies; typically nests in abandoned small mammal burrows.	Year round/ breeding season surveys between March and August	**Low.** Although potential habitat is present, there are no documented observations of this species in the area.
California black rail *Laterallus jamaicensis coturniculus*	--/CT/--	Saltwater, brackish, and freshwater marshes. Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Year round	**None**. The project area does not provide suitable habitat for this species.
Grasshopper sparrow *Ammodramus savannarum*	--/CSC/--	Nests and forages in dense grasslands; favors a mix of native grasses, forbs, and scattered shrubs	March – September	**Low.** Suitable grassland habitat for this species is not present within the project area.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Ridgway's rail *Rallus longirostris obsoletus*	FE/CE, CFP/--	Nests and forages in dense cordgrass and cattail marshes with vegetated refugia during the highest tides.	Year round	**None**. The project area does not provide suitable habitat for this species.
Song sparrow ("Modesto" population) *Melospiza melodia*	--/CSC/--	Nests on the ground and in marshes. Inhabits grassland, chaparral, orchard, woodland, wetland, riparian, and scrub-shrub.	February – September	**High**. The project area occurs within the known distribution range of this species and suitable habitat is present.
Swainson's hawk *Buteo swainsoni*	--/CT/--	Nests peripherally to valley riparian systems in lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March – October	**High**. The mature trees within and in the vicinity of the project area provide suitable nesting habitat, and the agricultural land and grassland habitat in the area provides suitable foraging habitat for this species.
Tricolored blackbird *Agelaius tricolor*	--/CT/-- (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals).	Year round	**None**. No suitable nesting habitat occurs within the project area for this species.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/CE/--	Nests in riparian forests, along the broad, lower flood-bottoms of larger river systems, particularly in willows, cottonwoods, and with a lower story of blackberry, nettles, or wild grape.	June – August	**Moderate**. The project area provides only marginally suitable habitat since this species prefers wider riparian corridors**.**
White-tailed kite *Elanus leucurus*	--/CFP/--	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation ditches; nests in nearby uplands with low, sparse vegetation.	March – October	**Moderate**. The project area presents suitable habitat for this species**.**
Yellow-headed blackbird *Xanthocephalus xanthocephalus*	--/CSC/--	Breeds in freshwater marshes of cattail, tule or bulrushes. During migration, found in open cultivated lands, pastures and fields.	April – October	**Low.** Although suitable habitat is present and this species has been documented in discrete locations in the Delta, there are no known current or historic records of this species within five miles of the project area, including staging areas.
Mammals				
American badger *Taxidea taxus*	--/CSC/--	Drier open shrub, forest, and herbaceous habitats with friable soils.	Year round	**None**. The project area does not present suitable habitat for this species.
Riparian brush rabbit *Sylvilagus bachmani riparius*	FE/CE/--	Dense thickets of brush associated with riparian habitats.	Year round	**None.** This species has been extirpated from this area of the Delta.
Western red bat *Lasiurus blossevillii*	--/CSC/--	Inhabits cismontane woodland, lower montane coniferous forest, riparian forest, and riparian woodland.	Year round	**Moderate**. There is potential roosting habitat for this species in the riparian trees in and around the project area.

SPECIAL-STATUS SPECIES CONSIDERED IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur

Status Codes

Federal:

FE = federal endangered
FT = federal threatened
FC = candidate
PT = proposed threatened
FPD = proposed for delisting
FD = delisted
FSC = federal species of concern (USFWS or NMFS)
EFH = Essential Fish Habitat

California:

CE = California state endangered
CT = California state threatened
CR = California state rare
CSC = California species of special concern
CCT = California state threatened candidate
CFP = California fully protected

CNPS Rank Categories:

1A = Plants presumed extirpated in California and either rare or extinct elsewhere
1B = Plants Rare, Threatened, or Endangered in California and elsewhere
2A = Plants presumed extirpated in California, but more common elsewhere
2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Plants about which more information is needed - A Review List
4 = Plants of limited distribution - A Watch List

CNPS Code Extensions:

.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 = Fairly endangered in California (20–80% occurrences threatened)
.3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

SOURCES: CDFW 2020; CNPS 2020; USFWS 2020

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
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http://kim_squires@fws.gov

In Reply Refer To:
Consultation Code: 08FBDT00-2020-SLI-0022
Event Code: 08FBDT00-2020-E-00551
Project Name: SPTS -GSSMB

August 20, 2020

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08FBDT00-2020-SLI-0022

Event Code: 08FBDT00-2020-E-00551

Project Name: SPTS GSSMB

Project Type: ** OTHER **

Project Description: fish barrier

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.27530967524605N121.53794972773119W

Counties: Sacramento, CA

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Delta Green Ground Beetle *Elaphrus viridis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2319	Threatened
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Large-flowered Fiddleneck *Amsinckia grandiflora* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5558	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Saxon (3812146) OR Clarksburg (3812145) OR Florin (3812144) OR Liberty Island (3812136) OR Courtland (3812135) OR Bruceville (3812134) OR Rio Vista (3812126) OR Isleton (3812125) OR Thornton (3812124) OR Jersey Island (3812116) OR Bouldin Island (3812115) OR Terminous (3812114))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Accipiter cooperii	Cooper's hawk	Birds	ABNKC12040	118	1	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	11	None	Threatened	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Ammodramus savannarum	grasshopper sparrow	Birds	ABPBXA0020	27	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Valley & foothill grassland
Anniella pulchra	Northern California legless lizard	Reptiles	ARACC01020	375	1	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Chaparral, Coastal dunes, Coastal scrub
Anthicus antiochensis	Antioch Dunes anthicid beetle	Insects	IICOL49020	6	1	None	None	G1	S1	null	null	Interior dunes
Anthicus sacramento	Sacramento anthicid beetle	Insects	IICOL49010	13	3	None	None	G1	S1	null	IUCN_EN-Endangered	Interior dunes
Ardea alba	great egret	Birds	ABNGA04040	43	2	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ardea herodias	great blue heron	Birds	ABNGA04010	156	4	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Dicots	PDFAB0F8R3	18	2	None	None	G2T1	S1	1B.1	null	Meadow & seep, Valley & foothill grassland, Wetland
Astragalus tener var. tener	alkali milk-vetch	Dicots	PDFAB0F8R1	65	7	None	None	G2T1	S1	1B.2	null	Alkali playa, Valley & foothill grassland, Vernal pool, Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	1989	58	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Bombus crotchii	Crotch bumble bee	Insects	IIHYM24480	276	1	None	Candidate Endangered	G3G4	S1S2	null	null	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24250	281	1	None	Candidate Endangered	G2G3	S1	null	USFS_S-Sensitive	null
Branchinecta conservatio	Conservancy fairy shrimp	Crustaceans	ICBRA03010	47	1	Endangered	None	G2	S2	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	791	18	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Branchinecta mesovallensis	midvalley fairy shrimp	Crustaceans	ICBRA03150	144	8	None	None	G2	S2S3	null	null	Vernal pool, Wetland
Brasenia schreberi	watershield	Dicots	PDCAB01010	43	2	None	None	G5	S3	2B.3	null	Marsh & swamp, Wetland
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	2	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2535	275	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Carex comosa	bristly sedge	Monocots	PMCYP032Y0	29	17	None	None	G5	S2	2B.1	null	Coastal prairie, Freshwater marsh, Marsh & swamp, Valley & foothill grassland, Wetland
Centromadia parryi ssp. parryi	pappose tarplant	Dicots	PDAST4R0P2	39	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Chaparral, Coastal prairie, Marsh & swamp, Meadow & seep, Valley & foothill grassland
Chloropyron molle ssp. molle	soft salty bird's-beak	Dicots	PDSCR0J0D2	27	1	Endangered	Rare	G2T1	S1	1B.2	null	Marsh & swamp, Salt marsh, Wetland
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Dicots	PDAPI0M051	17	2	None	None	G5T4T5	S2?	2B.1	null	Marsh & swamp, Salt marsh, Wetland
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	10	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	165	2	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Riparian forest
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Dicots	PDCUS01111	6	1	None	None	G5T4?	SH	2B.2	null	Marsh & swamp, Wetland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	271	1	Threatened	None	G3T2	S2	null	null	Riparian scrub
Downingia pusilla	dwarf downingia	Dicots	PDCAM060C0	132	1	None	None	GU	S2	2B.2	null	Valley & foothill grassland, Vernal pool, Wetland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	180	5	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1398	43	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Eryngium jepsonii	Jepson's coyote-thistle	Dicots	PDAPI0Z130	19	2	None	None	G2	S2	1B.2	null	Valley & foothill grassland, Vernal pool
Eucerceris ruficeps	redheaded sphecid wasp	Insects	IIHYM18010	4	1	None	None	G1G3	S1S2	null	null	Interior dunes
Extriplex joaquinana	San Joaquin spearscale	Dicots	PDCHE041F3	127	5	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-[illegible]	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland

											California/Rancho Santa Ana Botanic Garden	
Falco columbarius	merlin	Birds	ABNKD06030	37	5	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Estuary, Great Basin grassland, Valley & foothill grassland
Falco peregrinus anatum	American peregrine falcon	Birds	ABNKD06071	58	1	Delisted	Delisted	G4T4	S3S4	null	CDF_S-Sensitive, CDFW_FP-Fully Protected, USFWS_BCC-Birds of Conservation Concern	null
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	Riparian	CTT61420CA	68	1	None	None	G2	S2.2	null	null	Riparian forest
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	Riparian	CTT61430CA	33	2	None	None	G1	S1.1	null	null	Riparian forest
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Dicots	PDMAL0H0R3	173	80	None	None	G5T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Freshwater marsh, Marsh & swamp, Wetland
Hydrochara rickseckeri	Ricksecker's water scavenger beetle	Insects	IICOL5V010	13	1	None	None	G2?	S2?	null	null	Aquatic, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters
Hygrotus curvipes	curved-foot hygrotus diving beetle	Insects	IICOL38030	21	1	None	None	G1	S1	null	null	Aquatic
Hypomesus transpacificus	Delta smelt	Fish	AFCHB01040	27	16	Threatened	Endangered	G1	S1	null	AFS_TH-Threatened, IUCN_EN-Endangered	Aquatic, Estuary
Lasiurus blossevillii	western red bat	Mammals	AMACC05060	128	4	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Cismontane woodland, Lower montane coniferous forest, Riparian forest, Riparian woodland
Lasiurus cinereus	hoary bat	Mammals	AMACC05030	238	2	None	None	G5	S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
Lasthenia chrysantha	alkali-sink goldfields	Dicots	PDAST5L030	55	1	None	None	G2	S2	1B.1	null	Vernal pool
Laterallus jamaicensis coturniculus	California black rail	Birds	ABNME03041	303	16	None	Threatened	G3G4T1	S1	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Brackish marsh, Freshwater marsh, Marsh & swamp, Salt marsh, Wetland
Lathyrus jepsonii var. jepsonii	Delta tule pea	Dicots	PDFAB250D2	133	36	None	None	G5T2	S2	1B.2	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Freshwater marsh, Marsh & swamp, Wetland
Legenere limosa	legenere	Dicots	PDCAM0C010	83	5	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_UCBG-UC Botanical Garden at Berkeley	Vernal pool, Wetland
Lepidium latipes var. heckardii	Heckard's pepper-grass	Dicots	PDBRA1M0K1	14	5	None	None	G4T1	S1	1B.2	null	Valley & foothill grassland, Vernal pool
Lepidurus packardi	vernal pool tadpole shrimp	Crustaceans	ICBRA10010	324	21	Endangered	None	G4	S3S4	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Lilaeopsis masonii	Mason's lilaeopsis	Dicots	PDAPI19030	198	100	None	Rare	G2	S2	1B.1	null	Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland
Limosella australis	Delta mudwort	Dicots	PDSCR10030	59	42	None	None	G4G5	S2	2B.1	null	Brackish marsh, Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	508	24	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Melospiza melodia	song sparrow ("Modesto" population)	Birds	ABPBXA3010	92	64	None	None	G5	S3?	null	CDFW_SSC-Species of Special Concern	null
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Dicots	PDPLM0C0E1	64	2	None	None	G4T2	S2	1B.1	null	Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Neostapfia colusana	Colusa grass	Monocots	PMPOA4C010	66	3	Threatened	Endangered	G1	S1	1B.1	null	Vernal pool, Wetland
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	Herbaceous	CTT44110CA	126	6	None	None	G3	S3.1	null	null	Vernal pool, Wetland
Nycticorax nycticorax	black-crowned night heron	Birds	ABNGA11010	37	3	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Riparian forest, Riparian woodland, Wetland
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Dicots	PDONA0C0B4	10	2	Endangered	Endangered	G5T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Interior dunes
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	Fish	AFCHA0209K	31	4	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters
Perdita scitula antiochensis	Antioch andrenid bee	Insects	IIHYM01031	2	1	None	None	G1T1	S1	null	null	Interior dunes
Phalacrocorax auritus	double-crested cormorant	Birds	ABNFD01020	39	3	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Plagiobothrys hystriculus	bearded popcornflower	Dicots	PDBOR0V0H0	15	1	None	None	G2	S2	1B.1	null	Valley & foothill grassland, Vernal pool, Wetland
Pogonichthys macrolepidotus	Sacramento splittail	Fish	AFCJB34020	15	1	None	None	GNR	S3	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Aquatic, Estuary, Freshwater marsh, Sacramento/San Joaquin flowing waters
Potamogeton zosteriformis	eel-grass pondweed	Monocots	PMPOT03160	20	1	None	None	G5	S3	2B.2	null	Marsh & swamp, Wetland
Puccinellia simplex	California alkali grass	Monocots	PMPOA53110	80	1	None	None	G3	S2	1B.2	BLM_S-Sensitive	Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool
Riparia riparia	bank swallow	Birds	ABPAU08010	298	1	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	126	33	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp, Wetland
Scutellaria galericulata	marsh skullcap	Dicots	PDLAM1U0J0	39	4	None	None	G5	S2	2B.2	null	Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Wetland
Scutellaria lateriflora	side-flowering skullcap	Dicots	PDLAM1U0Q0	13	13	None	None	G5	S2	2B.2	null	Marsh & swamp, Meadow & seep, Wetland
Sidalcea keckii	Keck's checkerbloom	Dicots	PDMAL110D0	50	2	Endangered	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Ultramafic, Valley & foothill grassland
Spirinchus thaleichthys	longfin smelt	Fish	AFCHB03010	46	12	Candidate	Threatened	G5	S1	null	null	Aquatic, Estuary

Sylvilagus bachmani riparius	riparian brush rabbit	Mammals	AMAEB01021	16	1	Endangered	Endangered	G5T1	S1	null	null	Riparian forest
Symphyotrichum lentum	Suisun Marsh aster	Dicots	PDASTE8470	175	91	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_USDA-US Dept of Agriculture	Brackish marsh, Freshwater marsh, Marsh & swamp, Wetland
Taxidea taxus	American badger	Mammals	AMAJF04010	594	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Thamnophis gigas	giant gartersnake	Reptiles	ARADB36150	366	31	Threatened	Threatened	G2	S2	null	IUCN_VU-Vulnerable	Marsh & swamp, Riparian scrub, Wetland
Trifolium hydrophilum	saline clover	Dicots	PDFAB400R5	56	7	None	None	G2	S2	1B.2	null	Marsh & swamp, Valley & foothill grassland, Vernal pool, Wetland
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Monocots	PMPOA6N020	4	2	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Valley & foothill grassland, Vernal pool, Wetland
Valley Oak Woodland	Valley Oak Woodland	Woodland	CTT71130CA	91	1	None	None	G3	S2.1	null	null	Cismontane woodland
Xanthocephalus xanthocephalus	yellow-headed blackbird	Birds	ABPBXB3010	13	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Marsh & swamp, Wetland

CNPS California Native Plant Society **Inventory of Rare and Endangered Plants**

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

34 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812146, 3812145, 3812144, 3812136, 3812135, 3812134, 3812126, 3812125, 3812124, 3812116 3812115 and 3812114;

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	4.2	S3	G3
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	2B.1	S2	G4G5
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	1B.1	S1	G5T1
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Potamogeton zosteriformis	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	2B.2	S3	G5
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Scutellaria galericulata	marsh skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G5
Scutellaria lateriflora	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	Jul-Sep	2B.2	S2	G5
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Poaceae	annual herb	Apr-Aug	1B.1	S1	G1

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 02 October 2020].

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Appendix C

Cultural Resources Inventory Report (Confidential)

Appendix D

Tribal Cultural Resources Evaluation Report (Confidential)