Addendum No. 6 to the
Environmental Impact Report on the

American River Watershed Common Features Project/ Natomas Post-authorization Change Report/ Natomas Levee Improvement Program Phase 4b Landside Improvements Project

Photo: Cache Creek Settling Basin Excavation Site

Prepared for:

Sacramento Area Flood Control Agency

May 2020

State Clearinghouse No. 2009112025

Prepared by:

GEI Consultants

Consulting Engineers and Scientists

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Project No. 1611098

Table of Contents

Abbreviations and Acronyms ..... **ii**

1. Introduction **3**

2. Summary of the Natomas Levee Improvement Program **4**

3. Summary of Previous Environmental Review Process **5**

4. Modifications and Refinements to the Project **9**

5. Standard for Preparation of an Addendum **15**

6. Environmental Analysis **17**
- 6.1 Agriculture Resources 17
- 6.2 Air Quality 18
- 6.3 Biological Resources 20
- 6.4 Cultural Resources 23
- 6.5 Paleontological Resources 24
- 6.6 Geology, Soils, and Mineral Resources 24
- 6.7 Hazards and Hazardous Materials 24
- 6.8 Hydrology and Hydraulics 25
- 6.9 Water Quality 27
- 6.10 Noise 28
- 6.11 Transportation and Circulation 29
- 6.12 Visual Resources 30

7. Conclusions **31**

8. References **33**

Appendices:
Appendix A – Air Emissions Modeling
Appendix B – Biological Database Searches

Abbreviations and Acronyms

Basin Plan	Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin
CCSB	Cache Creek Settling Basin
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CVRWQCB	Central Valley Regional Water Quality Control Board
cy	cubic yards
dBA	A-weighted decibels
Draft EIS/EIR	Draft Environmental Impact Statement/Environmental Impact Report
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
GGS	giant garter snake
I-5	Interstate-5
ITE	Institute of Transportation Engineers
Leq	equivalent sound level
Local Funding EIR	Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area EIR
MMRP	Mitigation Monitoring and Reporting Program
NBP	Natomas Basin Project
NEMDC	Natomas East Main Drainage Canal
NHPA	National Historic Preservation Act
NLIP	Natomas Levee Improvement Program
No.	Number
NOx	nitrous oxides
NRHP	National Register of Historic Places
PGCC	Pleasant Grove Creek Canal
Phase 4a Project	Natomas Levee Improvement Program Phase 4a Landside Improvements Project
Phase 4b Project	American River Watershed Common Features Project/ Natomas Post-authorization Change Report/Natomas Levee Improvement Program Phase 4b Landside Improvements Project

$PM_{2.5}$	particulate matter with aerodynamic diameter less than 2.5 micrometers
PM_{10}	particulate matter with aerodynamic diameter less than 10 micrometers
RD	Reclamation District
ROG	reactive organic gases
SAFCA	Sacramento Area Flood Control Agency
SCCB	slag cement-cement bentonite
SEIR	Supplemental EIR
SR	State Route
SMAQMD	Sacramento Metropolitan Air Quality Management District
SWRCB	State Water Resources Control Board
TMDL	total maximum daily load
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VELB	valley elderberry longhorn beetle
YCFCWCD	Yolo County Flood Control and Water Conservation District
YSAQMD	Yolo-Solano Air Quality Management District

1. Introduction

This Addendum Number (No.) 6 to the Final Environmental Impact Report (EIR) for the American River Watershed Common Features Project/Natomas Post-authorization Change Report/Natomas Levee Improvement Program (NLIP), Phase 4b Landside Improvements Project (Phase 4b Project) (State Clearinghouse No. 2009112025) (SAFCA 2010), addresses proposed minor modifications and refinements consisting of using up to 470,600 cubic yards (cy) of excavated material from a new excavation site at the northern end of the Cache Creek Settling Basin (CCSB) to construct improvements proposed for Reach B of the Sacramento River East Levee.

2. Summary of the Natomas Levee Improvement Program

The overall purpose of the multi-phase NLIP is to bring the entire 42-mile Natomas Basin perimeter levee system into compliance with applicable Federal and state standards for levees protecting urban areas through a program of proposed levee improvements to address levee height deficiencies, levee seepage potential, and streambank erosion conditions along the Natomas Basin perimeter levee system. The Landside Improvements Project, which is a component of the NLIP, consists of four phases. Construction of Phase 1 and Phase 2 is complete. Phase 3 construction along the Sacramento River East Levee (SREL) is largely complete. The U.S. Army Corps of Engineers (USACE), Sacramento District plans to complete work of Phase 3 along the Pleasant Grove Creek Canal (PGCC) (Reach E) in 2021 and part of the Natomas East Main Drainage Canal (NEMDC) (Reach H) in 2020.

The Phase 4 Project was divided into two sub-phases to provide the flexibility to construct this phase over more than one construction season. The Phase 4a Project consists of improvements to a portion of the perimeter levee system protecting the Natomas Basin in Sacramento and Sutter Counties and associated landscape and irrigation/drainage infrastructure modifications as proposed by the Sacramento Area Flood Control Agency (SAFCA). The Phase 4b Project is the final phase of the Landside Improvements Project, and consists of improvements to the remaining portions of the Natomas Basin's perimeter levee system in the City of Sacramento and in Sutter and Sacramento Counties, California, associated landscape and irrigation/drainage infrastructure modifications, and habitat creation and management as proposed by the U.S. Army Corp of Engineers in cooperation with SAFCA.

The Phase 4b Project, which would be modified as described in this Addendum, includes the following actions:

- Use of the CCSB site as a source of earthen materials for levee construction and transport of these earthen materials to NLIP Reach B. (The proposed modifications and refinements described in this Addendum address this project component).
- Constructing an adjacent levee along the Sacramento River east levee Reach A:16–20 and installing cutoff walls, seepage berms, and relief wells where required for this levee (Reach A).
- A raised adjacent levee from Reach B:12A through Reach B:13, to meet height requirements, with the proposed raise extending an additional 4,500 feet, from approximately Station 635+00 to Station 680+00.
- Installing a cutoff wall in the American River north levee east of Gateway Oaks Drive to Northgate Boulevard and landside slope flattening (Reach I).
- Raising the NEMDC west levee in place or widening the levee from just south of Elkhorn Boulevard to Sankey Road, as well as landside slope flattening and seepage remediation as necessary (Reaches F and G).

- Constructing waterside erosion protection in locations along the PGCC and NEMDC (south of Elkhorn Boulevard) (Reaches E, G and H).
- Upgrading or removing culverts located beneath the PGCC and providing replacement flood storage as needed (Reach E).
- Installing seepage remediation at the State Route (SR) 99 crossing of the NCC and constructing a moveable barrier system to prevent overflow from reaching the landside of the NCC south levee (Reach D).
- Realigning the western portion of the West Drainage Canal to the south and improving the remaining portion of the existing canal to reduce bank erosion and sloughing, decrease aquatic weed infiltration, improve Reclamation District (RD) 1000 maintenance access, and enhance giant garter snake habitat connectivity (Reach B).
- Relocating irrigation canals and ditches, either to make room for expanded levee sections or to reduce underseepage potential.
- Raising discharge pipes for RD 1000 pumping plants and City of Sacramento sump pumps to cross the levee above design flood water surface elevation.
- Excavating and reclaiming parcels in the South Fisherman's Lake and Triangle Properties Borrow Areas and at the West Lakeside School Site as agricultural land.
- Establishing woodland groves to compensate for impacts along the Sacramento River east levee Reach A:16–20, American River north levee Reach I:1-4, and NEMDC.
- Acquiring right-of-way to construct, operate, and maintain the improvements.

3. Summary of Previous Environmental Review Process

The NLIP is part of SAFCA's efforts to complete comprehensive flood control improvements in the Sacramento metropolitan area and was analyzed in the EIR on Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area (Local Funding EIR), prepared by SAFCA in 2007 (State Clearinghouse No. 2006072098). The NLIP involves improving the levee system that provides flood protection to a 200-year protection level, for the 53,000-acre Natomas Basin in northern Sacramento County and southern Sutter County, including a portion of the City of Sacramento. In addition to SAFCA's levee improvement activities in other parts of the community that were described and analyzed at a programmatic level, the Local Funding EIR described and analyzed NLIP Phase 1 (Natomas Cross Canal Phase 1 Improvements) at a project level.

On November 29, 2007, SAFCA certified the 2007 Landside EIR (State Clearinghouse No. 2007062016). The 2007 Landside EIR was tiered from the Local Funding EIR, covering three Project Phases (the Phase 2 Project, Phase 3 Project, and Phase 4 Project) of landside improvements to the levees protecting the Natomas Basin in Sacramento and Sutter Counties. The Phase 2 Project was analyzed at a project level, and the remainder of the Landside Improvements Project (i.e., Phase 3 and Phase 4) was analyzed at a program level.

SAFCA has prepared two supplemental EIRs (SEIR) and two addenda to the Phase 2 EIR. SEIR No. 1 (January 2009) evaluated "24/7" construction of cutoff walls, replacement of seepage berms with cutoff walls in SREL, enlargement of the seepage berm in Reach 4B of the SREL, change in Airport North Bufferlands baseline (active rice to idle), design details for Garden Highway drainage outfalls, and additional preservation of high-quality foraging habitat. SEIR No. 2 (October 2012) evaluated the excavation of fill material from, and restoration of, the American River Mile 0.5 Mitigation Site and an increase in levee height along Reaches 1 through 11B of the SREL. Additionally, the document evaluated potential impacts to forestry resources associated with implementation of the project. Addendum 1 (June 2009) addressed construction of four wells east of the SREL in Reaches 1-3. Addendum 2 (August 2009) addressed removal of a portion of the Central Main Flume, vegetation removal near Prichard Pumping Plant, and replacement of the outfall structure at Pumping Plant No. 4.

On February 13, 2009, USACE and SAFCA issued the Phase 3 Draft Environmental Impact Statement (EIS)/EIR for public review and comment. SAFCA then published a Final EIR on May 11, 2009, containing responses to comments and a mitigation monitoring and reporting plan (MMRP). The MMRP included mitigation measures addressing the project's potentially significant impacts on the environment, including agricultural resources, biological and cultural resources, traffic, hydrology, water quality, air quality, noise, and hazards. The SAFCA Board certified the EIR, approved the project, and filed the Notice of Determination on May 22, 2009 (State Clearinghouse No. 2008072060). Separately, USACE prepared a Final EIS that was issued for public review on August 21, 2009. The USACE Record of Decision was issued on April 2, 2010.

SAFCA has prepared four addenda to the Phase 3 EIR. Addendum 1 (September 2009) addressed the discharge and disposal of pumped groundwater for dewatering excavations required to relocate RD 1000 Pumping Plant No. 2. Addendum 2 (August 2011) addressed hauling approximately 30,000 cy of fill material from the Moulton Pile site in south Sacramento to Reach 9B of the SREL improvements. Addendum 3 (July 2014) addressed refinements to the design of the Natomas Central Mutual Water Company Pritchard Lake Pumping Plant. Addendum 4 (May 2017) added the Kaufman borrow site and associated haul routes to the project.

On August 28, 2009, USACE and SAFCA issued the Phase 4a Draft EIS/EIR for public review and comment. The Phase 4a Project involves improving the SREL south of Powerline Road (USACE Reaches A and B) and the American River north levee (USACE Reach I). Following public review, SAFCA published the Final EIR on November 3, 2009, containing responses to comments and a MMRP. The MMRP included mitigation measures addressing the project's potentially significant impacts on the environment, including agricultural resources, biological and cultural resources, traffic, hydrology, water quality, air quality, noise, and hazards. The SAFCA Board of Directors certified the EIR in October 2009 and approved the Phase 4a Project on November 13, 2009. The Notice of Determination was filed on November 16, 2009 (State Clearinghouse No. 2009032097). Separately, USACE prepared a Final EIS that was issued for public review in February 2010. The USACE Record of Decision was published in November 2010.

SAFCA has prepared five addenda to the Phase 4a EIR. Addendum 1 (February 2011) addressed several changes in habitat design for Fisherman's Lake and the addition of woodland habitat. Addendum 2 (April 2012) addressed the removal of approximately 20,000 cy of spoil material along the West Drainage Canal between Powerline Road and the RD 1000 Pumping Plant No. 5 inlet channel and the transport of that material to SREL Reaches 10-12B. Addendum 3 (July 2012) addressed the additional removal of approximately 15,000 cy of spoil material along the West Drainage Canal near Powerline Road and the transport of that material to the same levee reaches (Reaches 10-12B along the Sacramento River). Addendum 4 (March 2015) addressed reconfiguring and adding drainage infrastructure to improve water quality in Fisherman's Lake. Addendum 5 (November 2018) addressed changes to levee improvements in Reaches B:12B-15, adjustments to the woodland mitigation site in Reach B; and modifying the realignment of the Riverside Canal.

The Phase 4b Project is the final subphase of the NLIP Landside Improvements Project, and consists of completing improvements to the remaining portions of the Basin's perimeter levee system in the City of Sacramento and in Sutter and Sacramento Counties including the NEMDC west levee between Sankey Road and West Elkhorn Boulevard (USACE Reaches F and G).

USACE, as lead agency under the National Environmental Policy Act, and SAFCA, as lead agency under the California Environmental Quality Act (CEQA),[1] prepared a joint Draft EIS/EIR for the American River Watershed Common Features Project/Natomas Post-authorization Change Report/NLIP, Phase 4b Project, and distributed the Draft EIS/EIR on July 2, 2010 for a 45-day public review period. Four public meetings were held in Sacramento and in the Natomas Basin during the public comment period.

The public comment period on the Draft EIS/EIR ended on August 16, 2010. A Final EIS/EIR was published by SAFCA on October 22, 2010 and certified by the SAFCA Board of Directors on November 12, 2010. The Draft and Final EIS/EIR are available at SAFCA's office at 1007 7th Street, 7th Floor, Sacramento, CA 95814 and online at SAFCA's Web site (http://www.safca.org/Programs_Natomas.html).

SAFCA has prepared five prior addenda to the Phase 4b EIR. Addendum 1 (April 2018) addressed removal of the Bennett and Northern Main Pumping Plants, improvements at Pumping Plant No. 4, relocation of the Vestal Drain, associated adjustments to access and staging areas, and associated use of increased amounts of fill material. Addendum 2 (September 2018) addressed modifications at City Sump 58; use of slag cement-cement-bentonite (SCCB) backfill to construct cutoff walls; additional details of staging areas, and borrow and disposal sites; traffic control; and recreational access. Addendum 3 (December 2018) addressed modifications, refinements, and/or updates to the construction schedule; traffic control measures; mitigation for impacts on recreational access; identification of a mitigation area for Reach H tree loss/removal; removal of encroachments; use of slag-cement-cement-bentonite (SCCB) backfill to construction cutoff walls; construction of landside stability berms and seepage relief wells; replacement of a City of Sacramento water main; and identification of staging areas, borrow and disposal sites. Addendum 4 (May 2019) addressed modifications to the construction schedule and new staging areas, and an increase of the area affected by 24-hour construction. Addendum 5 (February 2020) addressed modifying the realignment of the Riverside Canal to include an

[1] CEQA is found at California Public Resources Code, Sections 21000 et seq., and the State CEQA Guidelines are found at California Code of Regulations, Title 14, Section 15000 et seq.

underground pipeline instead of a surface canal between Farm Road and Bryte Bend Road and constructing a booster pump station for the pipeline at Radio Road.

The Phase 4b Project includes all of the SAFCA-proposed NLIP Project components contained and described in the NLIP Phase 1, Phase 2, Phase 3, and Phase 4a EIS/EIRs, as well as the Phase 4b Project components proposed by USACE under the Natomas Basin Project (NBP) (*see* Phase 4b EIR, pages 1-6 and 1-7). The USACE is the lead agency for constructing the remainder of the NLIP/NBP.

Table 3-1 summarizes the previous environmental documentation prepared for the NLIP and identifies specific analysis topics relevant to the project refinements and modifications analyzed in this Addendum No. 6 to the EIS/EIR for the Phase 4b Project.

Table 3-1. Natomas Levee Improvement Program Environmental Documentation

Programmatic and Phase 1 Project (SCH 2006072098)	Not related to project changes analyzed in this Addendum.
Environmental Impact Report (EIR) on Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area (February 2007)	
Phase 2 Project (SCH 2007062016)	Not related to project changes analyzed in this Addendum.
Final EIR on the Natomas Levee Improvement Program (NLIP) [Phase 2] Landside Improvements Project (LIP) (November 2007)	
Supplement No. 1 (January 2009)	
Addendum No. 1 (June 2009)	
Addendum No. 2 (August 2009)	
Supplemental No. 2 (October 2012)	
Phase 3 Project (SCH 2008072060)	Not related to project changes analyzed in this Addendum.
Final EIR on the NLIP Phase 3 LIP (May 2009)	
Addendum No. 1 (September 2009)	
Addendum No. 2 (August 2011)	
Addendum No. 3 (July 2014)	
Addendum No. 4 (May 2017)	
Phase 4a Project (SCH 2009032097)	
Final EIR on the NLIP Phase 4a LIP (November 2009)	Analysis included a description of the impacts of relocating the Riverside Canal east of the adjacent levee in Reach B:13-15 and east of the adjacent levee, residences, and tree groves in Reach B:15-17. The EIR analyzed constructing a piped section in Reach B:15-18B at the toe of the new adjacent levee (*see* Phase 4a EIR, Plates 2-6b and 2-9b). *Project modifications and refinements include replacement of the canal with a pipeline between Farm Road and Bryte Bend Road, and construction of a pump station at Radio Road to connect the pipeline and canal.*
Addendum No. 1 (February 2011)	Not related to project changes analyzed in this Addendum.
Addendum No. 2 (April 2012)	Not related to project changes analyzed in this Addendum.
Addendum No. 3 (July 2012)	Not related to project changes analyzed in this Addendum.
Addendum No. 4 (March 2015)	Not related to project changes analyzed in this Addendum.
Addendum No. 5 (November 2018)	Analysis included a description of the impacts of shifting the alignment of the relocated Riverside Canal eastward, and constructing a buried pipeline from Radio Road to Farm Road. *Project modifications and refinements include*

	replacement of the canal with a pipeline between Farm Road and Bryte Bend Road, and construction of a pump station at Radio Road to connect the pipeline and canal.
Phase 4b Project (SCH 2009112025)	The Phase 4b Project incorporated each of the EIS/EIRs adopted for the NLIP Project phases.
Environmental Impact Statement/EIR on the American River Watershed Common Features Project/Natomas Post-authorization Change Report/ NLIP, Phase 4b LIP (October 2010)	
Addendum No. 1 (April 2018)	
Addendum No. 2 (September 2018)	
Addendum No. 3 (December 2018)	
Addendum No. 4 (May 2019)	
Addendum No. 5 (February 2020)	

4. Modifications and Refinements to the Project

4.1 Cache Creek Settling Basin

The project refinements consist of using a new site, the CCSB excavation site, located at the northern end of the CCSB, approximately 4.5 miles west of the NLIP Reach B. The CCSB excavation site is located on State-owned land. The CCSB is in Yolo County, California, approximately 3 miles north of the City of Woodland. In 1937, the settling basin was constructed as part of the Sacramento River Flood Control Project and State Plan of Flood Control to provide direct protection to nearby agricultural land. To preserve floodway capacity in the Yolo basin, sediment is entrapped in the CCSB. In 1992, modifications were made to the CCSB which increased sediment storage capacity and provided 50-year storage capacity with an average of 550,000 cubic yards per year (or approximately 340 acre-feet per year). Sediment containing metals from mercury mining in the Coast Range is entrapped in CCSB per design.

4.2 Project Refinements

The minor project refinements listed below would result in no new significant environmental impacts and would not increase the severity of significant impacts previously evaluated in the Phase 4b EIS/EIR.

The project refinements consist of excavating a total of approximately 470,600 cy of earthen soil material from an area of approximately 58 acres in two phases over the course of two years at the CCSB excavation site, as shown in **Figure 4-1**. The use of the earthen soil material for construction at Reach B was previously addressed in the Phase 4b EIS/EIR; however, the CCSB excavation site was not identified as a source of this material and this Addendum evaluates excavation of material from the CCSB excavation site and transport of material to Reach B. Soil from the CCSB excavation site has been tested and determined to be suitable for Reach B. The CCSB excavation site drains overland flows to adjacent drainages at an elevation of 35 feet. The site would be excavated and graded to facilitate

runoff to drainages as currently occurs at this elevation. The site would also be reseeded for erosion control.

Phase 1 is planned for 2020 and involves excavating approximately 168,000 cy of earthen soil material from an area of approximately 30 acres and would avoid working within 100 feet of elderberry shrubs, as shown in Figure 4-1. Phase 2 is planned for 2021 and involves excavating approximately 302,600 cy of additional earthen soil material from an area of approximately 28 acres. Phase 2 requires working within 100 feet of approximately 48 elderberry shrubs, as shown in Figure 4-1, but is designed to maximize avoidance of elderberry shrubs. Prior to beginning Phase 2, approximately 10 elderberry shrubs located within the excavation footprint would be removed from the site (the final number of shrubs requiring removal would be determined in consultation with the U.S. Fish and Wildlife Service [USFWS]) and protective fencing would be installed around the remaining elderberry shrubs in accordance with permits obtained or consultation conducted for use of the CCSB excavation site and transplanted according to UFSWS's valley elderberry longhorned beetle (*Desmocerus californicus dimorphus*) (VELB) guidelines.

Up to approximately 34 and 52 workers would be required for construction of Phases 1 and 2, respectively. Construction equipment used at the CCSB excavation site would consist of one water truck, two dozers, three excavators, two loaders, and haul trucks. Earthen soil material excavations have been planned to avoid impacts to overhead electric and buried gas transmissions lines, as shown in Figure 4-1. No drainages would be disturbed by excavation activities.

Figure 4-2 shows the location of the CCSB excavation site and two haul route options from the CCSB excavation Site to County Road 102. Option 1 extends westward from the CCSB excavation site along approximately 1.12 miles of unpaved/graveled farm and levee roads to County Road 102. Option 2 extends northward along approximately 1 mile of unpaved/graveled farm road (i.e., County Road 103), then west on the paved County Road 17 to County Road 102. Both haul route options then extend southward along County Road 102 to Interstate-5 (I-5) East, to Airport Boulevard, to Bayou Way, to Power Line Road, and Garden Highway to Reach B. The travel distance is approximately 15.9 miles one-way for Haul Route Option 1 and 17.3 miles one-way for Haul Route Option 2.

Transport of earthen soil material from the CCSB excavation site to Reach B requires approximately 12,000 round trips for Phase 1 and approximately 21,615 round trips for Phase 2. Hauling along either route would occur 5 days per week, 10 hours per day, between 7 a.m. and 5 p.m. The minimum time for use of Haul Route Option 1 is longer because a larger portion of this haul route between the CCSB excavation site and County Road 102 is unpaved. Construction of each phase is estimated to require up to 6 months. Minimum hauling durations are as follows:

- Haul Route Option 1:
    - Phase 1 requires a minimum of 18 weeks (90 days)
    - Phase 2 requires a minimum of 35 weeks (175 days)
- Haul Route Option 2:
    - Phase 1 requires a minimum of 13 weeks (65 days)
    - Phase 2 requires a minimum of 26 weeks (130 days)

Figure 4-1. Cache Creek Settling Basin Excavation Site Excavation Phasing Areas

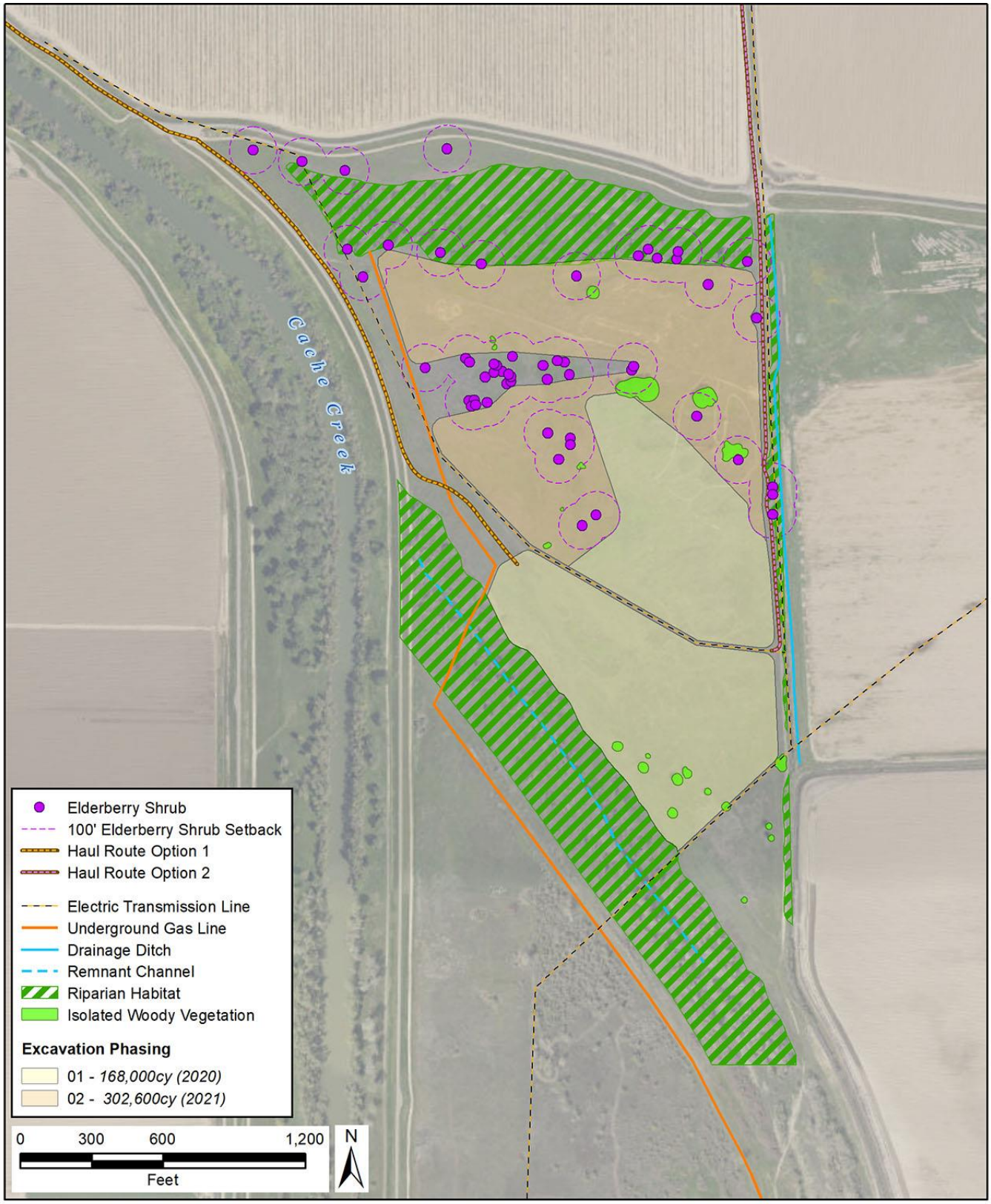

Figure Source: GEI Consultants, Inc.2020.

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Figure 4-2. Cache Creek Settling Basin Excavation Site Haul Route

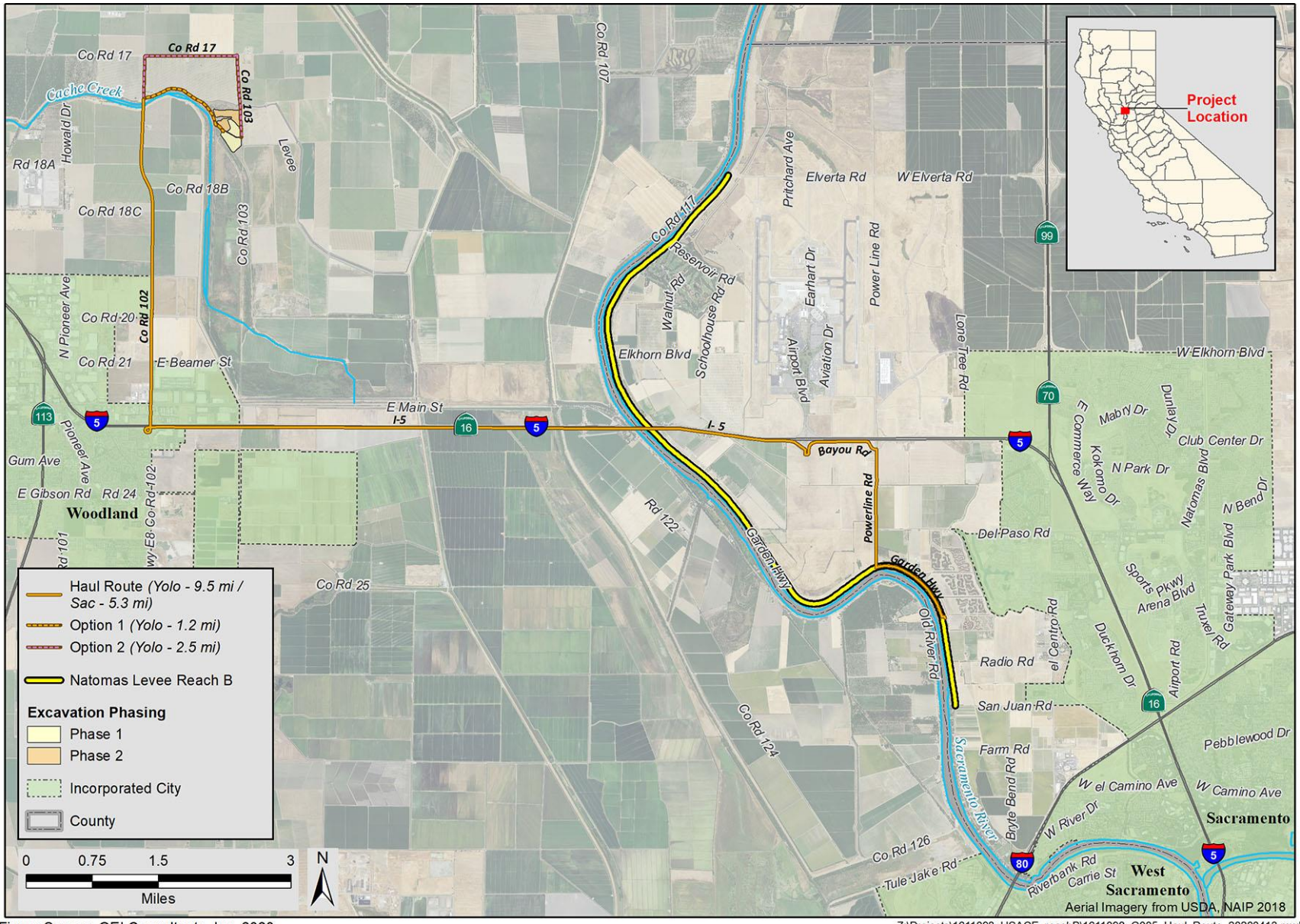

Figure Source: GEI Consultants, Inc. 2020.

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5. Standard for Preparation of an Addendum

As described in State CEQA Guidelines Section 15162(a), when an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, that one or more of the following conditions is met:

1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted, shows any of the following:

    a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

    b) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

    c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

State CEQA Guidelines Section 15164(a) states that a lead agency may prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.

As explained in Section 3, “Modifications and Refinements to the Project,” above, the proposed modifications and refinements to the project would not:

- result in any new significant or potentially significant environmental effects, or
- result in a substantial increase in the severity of previously identified significant or potentially significant effects.

In addition, there is no new information of substantial importance which shows that:

- the project would have new significant or potentially significant effects,
- the project would have substantially more severe significant effects,
- mitigation measures previously found to be infeasible would in fact be feasible, or
- mitigation measures that are considerably different from those analyzed in the EIR would substantially reduce one or more significant or potentially significant effects on the physical environment.

Because none of the conditions described in Section 15162 of the State CEQA Guidelines calling for preparation of a Subsequent EIR has occurred, an Addendum to the EIR, consistent with Section 15164 of the State CEQA Guidelines, is the appropriate CEQA document to evaluate the proposed modifications and refinements to the project and explain, based on substantial evidence, that none of the conditions described in Section 15162 has occurred.

6. Environmental Analysis

The proposed project modifications and refinements would not cause any new or more severe significant or potentially significant impacts than those analyzed and disclosed in the Phase 4b EIS/EIR for the following topic areas, because the proposed modifications and refinements would already occur under the approved Phase 4b Project, were analyzed in the Phase 4b EIS/EIR or subsequent Addenda, and would not be affected to any greater degree than that analyzed in the Phase 4b EIS/EIR or Addenda:

- Recreation
- Land Use, Socioeconomics, and Population and Housing
- Utilities and Service Systems
- Environmental Justice

The following topic areas may be affected by the proposed project refinements and are analyzed below:

- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Paleontological Resources
- Geology, Soils, and Mineral Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Hydraulics
- Water Quality
- Noise
- Transportation and Circulation
- Visual Resources

6.1 Agriculture Resources

The CCSB excavation site is zoned by Yolo County as A-N (Agriculture Intensive) and is bordered by agricultural lands to the north and east (Yolo County 2014). The CCSB excavation site is on State-owned land that is not currently in agricultural production. During excavation activities, the site could not be used for agricultural production; however, after project refinements are complete, the site could be used for different purposes, including agricultural production. The project would not result in the conversion of agricultural land to non-agricultural uses. Impacts from the project refinements on land zoned as agriculture would be short-term and temporary. There is no land zoned as forestland, timberland, or timberland zoned Timberland Production in the vicinity of the CCSB excavation site. Therefore, impacts to agricultural and forestry resources from project refinements would be less than significant.

6.2 Air Quality

The project refinements would result in new emissions of criteria air pollutants from worker vehicle trips, hauling, and use of construction equipment for excavation at the CCSB excavation site. Particulate matter emissions would also be generated from ground disturbance and hauling along unpaved segments of hauling routes. Emissions would be generated in the Yolo-Solano Air Quality Management District (YSAQMD), where the CCSB excavation site is located, and in the Sacramento Metropolitan Air Quality Management District (SMAQMD) from transport of earthen soil material to the NLIP Reach B. Criteria air pollutant emissions from the project refinements were modeled using CalEEMod and are provided in Appendix A. The haul route from the CCSB excavation site to the NLIP Reach B is 5.3 miles in Sacramento County for either route option and 10.6 miles in Yolo County for Haul Route Option 1 and 12 miles in Yolo County for Haul Route Option 2.

6.2.1 Construction Emissions

Emissions from the project refinements, including excavating earthen soil material at the CCSB excavation site and transporting this earthen soil material to the NLIP Reach B, would occur in the YSAQMD. Emissions in the YSAQMD for both haul route options are shown in **Table 6.2-1**, along with applicable YSAQMD thresholds of significance. Emissions of reactive organic gases (ROG) and nitrogen oxides (NOx) would be substantially below YSAQMD thresholds for both haul route options. Emissions of particulate matter with aerodynamic diameter less than 10 micrometers (PM_{10}) would exceed the YSAQMD significance threshold for both haul route options. YSAQMD has not adopted a significance threshold for particulate matter with aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$). PM_{10} and $PM_{2.5}$ emissions in the YSAQMD would primarily result from hauling truck trips along the unpaved portion of both haul routes from the CCSB excavation site.

Table 6.2-1. Project Refinements Construction Emissions in YSAQMD

Project Refinements	Haul Route Option 1 (unmitigated/ mitigated)				Haul Route Option 2 (unmitigated/ mitigated)			
	Daily Emissions (pounds/day)		Annual Emissions (tons/year)		Daily Emissions (pounds/day)		Annual Emissions (tons/year)	
	PM_{10}	$PM_{2.5}$	NO_x	ROG	PM_{10}	$PM_{2.5}$	NOx	ROG
Phase 1	547.7/77.8	63.8/13.8	4.9/4.9	0.3/0.3	520.2/77.7	63.6/15.2	4.3/4.3	0.3/0.3
Phase 2	550.0/77.9	63.9/13.7	8.4/8.4	0.6/0.6	*514.4/76.5*	*62.8/14.8*	*7.5/7.5*	0.5/0.5
YSAQMD Thresholds of Significance	80	NA	10	10	80	NA	10	10
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*

Notes: ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic diameter less than 10 micrometers; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 micrometers
Source: Appendix A, emissions modeled by Rincon Consultants, Inc., in 2020

Emissions from the project refinements in SMAQMD are limited to hauling of earthen soil material to Reach B. Daily emissions in the SMAQMD for the project refinements from both hauling options are shown in **Table 6.2-2**. The Phase 4b EIS/EIR covers emissions from hauling to nearby excavation sites in Sacramento County for construction of Reach B. Therefore, a portion of emissions estimated from hauling in the SMAQMD for the project refinements in Table 6.2-2 are covered by the Phase 4b EIS/EIR.

Table 6.2-2. Project Refinements and Project Daily Construction Emissions in SMAQMD

Project Activities	Haul Route Option 1				Haul Route Option 2			
	Daily Emissions (pounds/day)				Daily Emissions (pounds/day)			
	PM_{10}	$PM_{2.5}$	NO_x	ROG	PM_{10}	$PM_{2.5}$	NOx	ROG
Project Refinement Emissions (Unmitigated/Mitigated*)								
Phase 1	1.3/1.2	0.4/0.4	38.9/38.9	1.0/1.0	1.8/1.6	0.6/0.5	53.6/53.6	1.4/1.4
Phase 2	1.2/1.1	0.4/0.4	34.3/24.3	0.9/0.9	1.6/1.5	0.5/0.5	46.2/43.2	1.2/1.2
Project Maximum Daily Emissions (Total Mitigated* Project Emissions [Highest Identified in Phase 4b EIS/EIR] plus Mitigated* Project Refinement Emissions)								
Phase 1	976.0	88.6	436.4	100.5	976.4	88.2	451.1	100.9
Phase 2	975.9	88.6	431.8	100.4	976.3	88.6	440.7	100.7

Notes: A portion of emissions from the project refinements in the SMAQMD shown in this table were analyzed in the Phase 4b EIS/EIR.
*Mitigated emissions include Sacramento Air Quality Management District recommended measures and do not show reductions after purchase of NOx emissions credits.
ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic diameter less than 10 micrometers; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 micrometers; SMAQMD = Sacramento Metropolitan Air Quality Management District
Source: Appendix A, emissions modeled by Rincon Consultants, Inc., in 2020

The Phase 4b EIS/EIR identified potentially significant impacts from temporary and short-term emissions of ROG, NOx, and PM_{10} during construction. Mitigation Measure 4.11-a, "Implement Applicable District-Recommended Control Measures to Minimize Temporary and Short-Term Emission of ROG, NOx, and PM_{10} During Construction," which was previously adopted and incorporated into the Phase 4b project, includes measures that must be implemented during all project construction activities throughout the project area (regardless of air quality management district). Therefore, implementation of Mitigation Measure 4.11-a would substantially reduce PM_{10} and $PM_{2.5}$ emissions from the project refinements in the YSAQMD by requiring watering of the unpaved portion of the CCSB excavation site as needed to prevent dust impacts off site, applying a chemical dust suppressant to unpaved roadways, and limiting truck speed to less than 15 miles per hour. With implementation of Mitigation Measure 4.11-a, PM_{10} emissions from both haul route options would be reduced to a level below the YSAQMD threshold, as shown in Table 6.2-1.

Project-wide emissions in the SMAQMD would occur from the project refinements and other project activities covered in the Phase 4b EIS/EIR and previous Addenda occurring on the same days. Implementation of Mitigation Measure 4.11-a also includes SMAQMD-recommended measures and payment into off-site mitigation plans for NOx emissions remaining above the SMAQMD's threshold. The project refinements would potentially result in a very small increase to the highest maximum daily emissions of NOx, ROG, and $PM_{2.5}$ estimated in the Phase 4b EIS/EIR, as shown in Table 6.2-2. Mitigated emissions shown include SMAQMD-recommended measures, before accounting for payments to offset NOx emissions. With implementation of Mitigation Measure 4.11-a, project-wide NOx and PM_{10} emissions, including with the project refinements, would result in temporary and short-term construction-related emissions that are less than significant for PM_{10} and below applicable mass emissions thresholds for NOx and ROG in the SMAQMD.

Because the relative increase in emissions from the project refinements is small compared to project-wide emissions, and emissions would remain below applicable thresholds, there would not be a substantial increase in the severity of impacts from construction emissions of criteria air pollutants.

6.2.2 Other Air Quality Impacts

The project as refined would result in a less-than-significant impact related to conflicts with or obstruction of implementation of applicable air quality plans, because it would not violate any air quality standard, and would not 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.

6.3 Biological Resources

Additional biological resources investigations were conducted for the CCSB excavation site because the site is outside of areas covered by previous investigation efforts conducted for the Phase 4b EIS/EIR and previous Addenda. GEI biologists conducted a reconnaissance-level survey of the approximately 58-acre CCSB excavation site for biological resources on November 1, 2019. An additional survey was conducted by a GEI biologist on April 10, 2020. The pedestrian surveys in 2019 and 2020 included photographing the extent of the survey area, identifying and mapping vegetation communities, and documenting the potential for protected habitats and special-status species to occur. Drainages adjacent to the excavation site were also evaluated for potential biological resources.

A review of online biological resources databases was also conducted for this Addendum and results are provided in Appendix B. The following biological resources databases were queried: the USFWS Information for Planning and Consultation database (USFWS 2019); the California Natural Diversity Database (CDFW 2019); and the California Native Plant Society online inventory of rare and endangered plants (CNPS 2019) (Attachment A). These sources were queried for the Woodland U.S. Geological Survey 7.5-minute quadrangle, within which the CCSB excavation site is located, and the eight surrounding quadrangles: Zamora, Eldorado Bend, Madison, Merritt, Knights Landing, Davis, Winters, and Grays Bend. The USFWS National Wetland Inventory was reviewed to identify any sensitive aquatic features that may have been previously mapped within the CCSB excavation site.

Vegetation at the CCSB excavation site is primarily ruderal (weedy) and non-native grassland. The project refinements would avoid disturbance to stands of Great Valley riparian scrub, a sensitive habitat, located to the north, south, and east of the excavation site, as shown in Figure 4-1. There are no wetlands present on the CCSB excavation site. The Great Valley riparian scrub areas are dominated by boxelder (*Acer negundo*), black willow (*Salix nigra),* sandbar willow (*Salix exigua*), and Fremont cottonwood. The southern area also includes a large amount of tamarisk (*Tamarix parviflora*) and arundo. Cache Creek to the west and a drainage to the east would not be disturbed by the project refinements. Weedy species commonly encountered include wild teasel (*Dipsacus fullonum*), Queen Anne's lace (*Daucus carota*), bur-clover (*Medicago polymorpha*), wild radish (*Raphanus sativus),* wild oats (*Avena fatua*), and yellow star-thistle (*Centaurea solstitialis*). Isolated trees and shrubs are located throughout the ruderal and non-native grassland areas, including California black walnut (*Juglans hindsii*), Fremont cottonwood (*Populus fremontii*), coyote brush (*Baccharis pilularis*), and arundo (*Arundo donax*).

6.3.1 Special-status Species

Valley Elderberry Longhorn Beetle

Blue elderberry shrubs (*Sambucus nigra ssp. cerulea*) are interspersed throughout the ruderal areas, as well as within the Great Valley riparian scrub (Figure 4-1). These shrubs provide suitable habitat for VELB. The project refinements have been designed to minimize impacts to elderberry shrubs. Phase 1 of the project refinements would be conducted while avoiding work within 100 feet of elderberry shrubs and would not impact VELB. Phase 2 of the project refinements requires working within 100 feet of 48 elderberry shrubs. Conducting work within 20 feet and direct impacts to most of these elderberry shrubs would be avoided. It is estimated work would occur within 20 feet of 10 elderberry shrubs, requiring removal of these shrubs; however, the final number of shrubs requiring removal would be determined in consultation with USFWS.

The Phase 4b EIS/EIR identified a potentially significant impact related to potential loss of or direct impact to elderberry shrubs and/or potential loss of VELB. Implementation of Mitigation Measure 4.7-g, "Conduct Focused Surveys for Elderberry Shrubs as Needed, Implement All Woodland Habitat Improvements and All Management Agreements, Ensure Adequate Compensation for Loss of Shrubs, and Obtain Incidental Take Authorization," which was previously incorporated into the project, requires exclusionary fencing for all elderberry shrubs that are within 100 feet of the construction footprint, implementing construction in a manner that minimizes disturbance of areas that support elderberry shrubs, transplanting of shrubs that require removal at woodland creation areas (for NLIP) or alternate locations approved by USFWS, determining replacement elderberry shrub ratios based on USFWS guidelines, planting associated native species at ratios ranging from 1:1 to 2:1 for each elderberry shrub planting, and obtaining take authorization for VELB under Section 7 of the Federal Endangered Species Act and implementing all measures. The Phase 4b EIS/EIR broadly identifies potential direct impacts for an unknown quantity of elderberry shrubs and VELB and requires implementation of Mitigation Measure 4.7-g. Therefore, the project refinements would not result in new significant or substantially more severe impacts to elderberry shrubs and VELB beyond those described and disclosed in the EIS/EIR for the Phase 4b project.

Bats

Two special-status bat species, western red bat (*Lasirurus blossevillii*) and pallid bat (*Antrozous pallidus*), are included in the biological database occurrences that were reviewed for the CCSB excavation site, but neither species was addressed in the Phase 4B EIS/EIR. However, both species are extremely unlikely to roost at the excavation site and be impacted by excavation activities. Western red bats are almost exclusively associated with mature riparian habitat corridors and orchards of large trees (e.g., walnuts). If this species occurs in the project vicinity, individuals are much more likely to roost in riparian and orchard habitats along the Sacramento River or Cache Creek. Occurrences of pallid bat documented in the California Natural Diversity Database from nearby areas are more than 50 years old. The CCSB excavation site does not provide suitable roosting habitat for this species, which is much more likely to occur in foothill regions to the east and west. If either of these species forage over the CCSB excavation site, foraging activities would not be disturbed by excavation activities.

Birds

Five special-status birds that were addressed in the Phase 4b EIS/EIR have potential to nest and forage on or adjacent to the CCSB excavation site, including Swainson's hawk (*Buteo swainsonii*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus husonius*), and tricolored blackbird (*Agelaius tricolor*). Riparian trees such as Fremont cottonwood within the CCSB excavation site provide suitable nest sites for Swainson's hawk, white-tailed kite, and other tree-nesting raptor species (e.g., red-tailed hawk [*Buteo jamaicensis*]). Although no burrowing owls were observed during the 2019 or 2020 surveys, annual grasslands provide potentially suitable habitat for burrowing owls. In addition, song sparrows could nest in riparian scrub. Riparian scrub provides marginally suitable habitat for tricolored blackbird. All of these species also could forage on and adjacent to the excavation site. Implementing Mitigation Measure 4.7-f, "Minimize Potential Impacts on Swainson's Hawk and Other Special-status Birds Foraging and Nesting Habitat, Monitor Active Nests during Construction, Implement All Upland and Agricultural Habitat Improvements and Management Agreements to Compensate for Loss of Quantity and Quality of Foraging Habitat, Obtain Incidental Take Authorization," and Mitigation Measure 4.7-h, "Conduct Focused Surveys for Northwestern Pond Turtles and Burrowing Owls, Relocate Northwestern Pond Turtles as Needed, Minimize Impacts on Burrowing Owls, and Relocate Burrowing Owls as Needed," which were previously adopted and incorporated into the project, would reduce all potentially significant impacts to these species to a less-than-significant level.

Modesto song sparrow (*Melospiza melodia*) also has potential to nest in Great Valley riparian scrub adjacent to the CCSB excavation site. This species was not addressed in the Phase 4b EIS/EIR. However, because a very small area of potential nesting habitat is adjacent to the excavation site, a very small number of individuals, if any, would be impacted indirectly by construction activities. This would not have a substantial adverse effect on the local or regional population of Modesto song sparrow and would be a less-than-significant impact.

Bank swallow (*Riparia riparia*) and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) have potential to forage on the excavation site, but there is no suitable nesting habitat for either of these species. Project activities are unlikely to disturb bank swallow foraging activities. The excavation site generally provides poor-quality foraging habitat for yellow-billed cuckoo, and higher-quality habitat occurs along Cache Creek. Therefore, disturbance of foraging activities is unlikely and would be very limited in extent. This impact would be less than significant.

Other Species

Based on current habitat conditions and restricted distribution, the CCSB excavation site does not provide suitable habitat to support special-status plant species. The predominance of upland agriculture surrounding the excavation site reduces habitat suitability for semi-aquatic wildlife, such as western pond turtle (*Emys marmorata*) and giant garter snake (*Thamnophis gigas*). During the giant garter snake's active season (May 1 – October 1), drainages within and adjacent to the CCSB excavation site, including Cache Creek, receive a small amount of water from irrigation runoff (Water Resources Association of Yolo County 2018). However, the amount of water in adjacent drainages is inadequate to provide suitable foraging habitat for either western pond turtle or giant garter snake. Moreover, the density of willow thickets and shaded areas along the banks of Cache Creek and other adjacent drainage features limit upland habitat and basking areas suitable for western pond turtle and giant garter snake. Vernal pools and other seasonal wetlands that could provide suitable habitat for vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and California tiger salamander

(*Ambystoma californiense*) are absent from both the site and the area adjacent to the CCSB excavation site. Suitable habitat to support fish species is also absent from the CCSB excavation site.

6.3.2 Fish and Wildlife Movement and Migratory Corridors

The proposed CCSB site does not serve as a corridor between isolated habitat areas, and disturbance of the excavation site would not substantially interfere with movement of terrestrial or aquatic animals or with use of an established migratory corridor. Terrestrial and aquatic animals would be able to move around the proposed excavation site freely and without interference by Phase 4b Project activities. Suitable habitat to support fish species is absent from the CCSB excavation site. Therefore, this impact would remain less than significant and there would not be a substantial increase in impact severity, compared to the previous evaluation in the Phase 4b EIS/EIR.

6.3.3 Habitat Conservation Plans

The CCSB excavation site is located within the boundaries of the Yolo Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP). The use of the CCSB excavation site is anticipated to result in take of one special-status species, VELB, which is covered by the Yolo HCP/NCCP. The Yolo HCP/NCCP provides a streamlined approach for Section 7 ESA compliance. However, SAFCA would obtain Section 7 ESA compliance for VELB by amending the Biological Opinion previously issued by USFWS for the NLIP Project and following all mitigation measures. In addition, implementing the above-mentioned Mitigation Measures (4.7-g, 4.7-f, and 4.7-h) previously adopted and incorporated into the project would reduce impacts to special-status species covered by the Yolo HCP/NCCP to a less-than-significant level. Therefore, the project refinements do not preclude or conflict with achieving the biological goals and objectives of the Yolo HCP/NCCP. This impact would be less than significant.

6.4 Cultural Resources

Additional cultural resources investigations were conducted for the CCSB excavation site because the site is outside of areas covered by previous investigation efforts conducted for the Phase 4b EIS/EIR and previous Addenda. A GEI archeologist conducted a cultural resources pedestrian survey encompassing the CCSB excavation site on April 10, 2020; the survey was conducted at a reconnaissance level (i.e., using transects spaced greater than 49 feet apart). No cultural resources were identified during the pedestrian survey within the CCSB excavation site. In addition, GEI has requested a records search at the Northwest Information Center (NWIC) and a request of the Native American Heritage Commission sacred lands file. However, due to current restrictions on access, both facilities are experiencing major backlogs in services; and at the time of publication of this document neither facility has completed the records or file searches. A review of GEI's ethnographic records of the area did not identify major Native American settlements in the general vicinity of the CCSB (Bennyhoff 1977 Map 3). The CCSB excavation site is also situated on agricultural land, indicating the upper 3 feet of the site has likely been previously disturbed. The results of these identification efforts, while not conclusive or completed, do seem to indicate a tentative low sensitivity for archaeological resources.

There is a possibility that historical, archaeological, or paleontological resources and human remains may be discovered during project refinement activities. If this were to occur, this occurrence would be consistent with the type and severity of potentially significant impacts that were identified in the Phase 4b EIS/EIR. SAFCA would implement Mitigation Measures 4.8-c, "Train Construction Workers before Construction, Monitor Construction Activities, Stop Potentially Damaging Activities, Evaluate any

Discoveries, and Resolve Adverse Effects on Eligible Resources, if Encountered," and 4.8-d "Stop Work Within an Appropriate Radius around the Find, Notify the Applicable county Coroner and Most Likely Descendant, and Treat Remains in Accordance with State Law and Measures Stipulated in an HPTP Developed in Consultation between the Project Proponent(s) and the SHPO," which were previously adopted and incorporated into the project, would reduce impacts on historical, archaeological, or paleontological resources and human remains to a less-than-significant level.

6.5 Paleontological Resources

The CCSB excavation site is located on Pleistocene-Holocene alluvium, lake, playa, and terrace deposits (CGS 2010). The bedrock underlying the site is comprised of marine and nonmarine sedimentary rock. Sediments associated with Holocene-age alluvium are too young to contain paleontologically sensitive resources and the likelihood of finding paleontological resources is unlikely. As stated in the Phase 4b EIS/EIR, due to number of recorded fossils in the Riverbank and Modesto Formations within the Central Valley, they are considered paleontologically sensitive rock formations under the Society of Vertebrate Paleontology criteria. However, this is not a concern at the CCSB excavation site because this site is located outside of the Riverbank and Modesto Formations, as shown on the Geologic Map of the Sacramento Quadrangle (CGS 1981). Therefore, there would be no impact to paleontological resources.

6.6 Geology, Soils, and Mineral Resources

The CCSB is located on soils designated as laugenour very fine sandy loam, laugenour very fine sandy loam flooded, and riverwash. Nearby faults include the potentially active Dunnigan Hills fault, located approximately 7 miles to the west, and the Willows fault zone, located approximately 9 miles to the easts (CGS 2010, Yolo County 2009). There are no Alquist-Priolo Earthquake fault zones located in the vicinity of the CCSB excavation site.

The project refinements would not change the previously identified impacts in Phase 4b EIS/EIR Section 4.4, "Geology, Soils, and Mineral Resources," because project-related construction would occur in similar soil types and because geologic impacts were evaluated at a regional scale. Potentially significant impacts were previously identified for construction-related soil erosion. Implementation of Mitigation Measure 4.4-a(1) requires implementation of Mitigation Measure 4.6-a, "Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions," which was previously adopted and incorporated into the project, would reduce all potentially significant impacts from construction-related soil erosion to a less-than-significant level.

There are no known mineral resources located at the CCSB excavation site (CGS 2015). There would be no impact to mineral resources from the project refinements.

6.7 Hazards and Hazardous Materials

6.7.1 Known Hazardous Materials

To identify known hazardous materials and contaminated sites, a database search was conducted for all data sources in the Cortese List (enumerated in PRC Section 65962.5), including: the GeoTracker database, a groundwater information management system that is maintained by the State Water Resources Control Board (SWRCB); the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2020, SWRCB 2020a and 2020b, CalEPA 2016). There were no

hazardous materials sites identified within 0.25 mile of the CCSB excavation site. There are also no known naturally occurring asbestos hazards in the vicinity of the CCSB excavation site (DOC 2000).

Sediment within the broader CCSB contains metals from naturally occurring and mercury mining in the Coast Range. The Delta Mercury Control Program identified the CCSB as a source of mercury and methylmercury to the Yolo Bypass and set a total maximum daily load requirement for CCSB discharge. The formation of methylmercury only occurs in non-agricultural areas of the CCSB that are periodically inundated wetland habitat with poor drainage. The CCSB excavation area has relatively low concentrations of total mercury. Soil samples collected from the excavation site in 2019 contained mercury levels ranging from 0.037 to 0.093 milligrams per kilogram (Geosyntec 2019), which are below the screening limit of 0.35 milligrams per kilogram (DWR 1995) used by NLIP for imported fill. The excavation site is not the type of environment in which methylmercury could form because the site is at relatively higher elevations, is not periodically inundated, contains limited organic material, and drains easily due to the sandy nature of the soils. Therefore, the project refinements would not increase the severity of any previously identified significant impacts related to disturbance of known hazardous materials.

6.7.2 Emergency Access

Hauling trucks would use one of the routes shown in Figure 4-2. Slow-moving trucks entering and exiting the CCSB excavation site could pose hazards to vehicles on roads immediately adjacent to the site and could slow emergency response vehicles. Implementation of Mitigation Measure 4.10-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," and Mitigation Measure 4.10-c, "Notify Emergency Service Providers about Project Construction and Maintain Emergency Access or Coordinate Detours with Providers," which have been previously adopted and incorporated into the project and require a traffic safety and control plan and notifications to emergency service providers, would reduce potentially significant impacts related to traffic hazards and emergency access to a less-than-significant level.

6.7.3 Other Hazard Impacts

There are no airports or schools located within 0.25 mile of the CCSB. The nearest school to the excavation site is the Ramon S. Tafoya Elementary School located approximately 3.5 miles south of the CCSB. The nearest airport is the Sacramento International Airport located approximately 6.5 miles east of the CCSB. The CCSB is not located in a very high severity fire hazard zone (CalFire 2007a and 2007b).

6.8 Hydrology and Hydraulics

6.8.1 Surface Water

The CCSB was designed by the U.S. Army Corps of Engineers (USACE) as part of the Sacramento River Flood Control Project and the State Plan of Flood Control. Its primary purpose, upon original construction, was to preserve the floodway capacity of the Yolo Bypass by trapping the heavy sediment load of approximately 550,000 cubic yards per year (or approximately 340 acre-feet per year) carried by Cache Creek. Cache Creek is located immediately to the west of the CCSB excavation site. Overland flow at the CCSB excavation site results from precipitation and is collected in adjacent drainage ditches at an elevation of 35 feet.

The CCSB excavation site is in the Sacramento Hydrologic Basin Planning Area and the Lower Putah Creek Hydrologic Subarea, as designated by the Central Valley Regional Water Quality Control Board (CVRWQCB) (CVRWQCB 2018). CCSB is located within Zone AE, an area of special flood hazards designated by the Federal Emergency Management Agency (FEMA) (FEMA 2012). The CCSB excavation site is not located within a documented dam inundation zone (DWR 2020). Additionally, because the CCSB excavation site is many miles inland from the coast and San Francisco Bay, the CCSB excavation site is not exposed to flooding risks from tsunamis.

The project refinements would not substantially change the geometry of existing channels within the CCSB or cause adverse hydraulic effects upstream or downstream of the project area during peak flows. Earthwork associated with removal of sediment from the excavation site would ensure that existing site drainage patterns are preserved. The final grade of excavated areas would be no lower than an elevation of 35 feet and grading would facilitate drainage to existing drainages, as currently occurs, thereby avoiding ponding or backwater effects in the excavated portions of the CCSB excavation site. Therefore, hydrologic impacts from altering the existing drainage pattern of the CCSB excavation site would be less than significant (impacts from alteration of the site related to water quality, including erosion, are discussed in Section 6.9, “Water Quality,” below).

Implementation of the project refinements would not increase flood risk. Due to the type and erodibility of soils in the Cache Creek watershed, over the many years of operation the capacity of CCSB has been reduced due to siltation. Capacity of the CCSB has been enlarged in the past, and there are ongoing California Department of Water Resources and USACE studies exploring the possibility of and need to again increase the capacity of CCSB, whether through levee raises or excavation of in situ sediment. The project refinements would remove sediment from CCSB resulting in increased capacity in the CCSB. Therefore, the project refinements would have a less-than-significant (and beneficial) impact regarding flood risk.

6.8.2 Groundwater

The groundwater basin underlying the CCSB is designated by Department of Water Resources (DWR) Bulletin 118 (DWR 2016) as the Yolo Subbasin (Basin Number 5-21.67) of the Sacramento Valley Groundwater Subbasin. The project area also lies within a Subbasin defined by the Yolo County Flood Control and Water Conservation District (YCFCWCD), as the East Yolo Subbasin in its Groundwater Management Plan (YCFCWCD 2006). This Subbasin designation differs from the boundaries used in DWR’s Bulletin 118 and encompasses the eastern-central part of Yolo County, and extends north-south of Woodland. The closest groundwater monitoring wells to the CCSB excavation site are to the west. Groundwater underlying the CCSB excavation site varies seasonally and ranges from 10 to 70 feet below ground level (Yolo County 2020). Excavation of earthen soil material would not occur to a depth that groundwater would be encountered. At the highest seasonal levels, groundwater in the vicinity is 10 feet below ground level and excavation of earthen soil material would stop at elevation 35 above ground level, and no dewatering would be needed during excavation activities. There would be no impact.

6.9 Water Quality

6.9.1 Mercury and Methylmercury

Water quality in the project area is regulated by the CVRWQCB's *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (Basin Plan) (CVRWQCB 2018). A segment of Cache Creek (from Clear Lake to CCSB) is 303(d) listed as impaired for mercury and boron (SWRCB 2016).

The upper reaches of the Cache Creek watershed receive hundreds of pounds of mercury per year from both natural and anthropogenic sources (Domagalski et al., 2004). Although upstream sources of mercury are prevalent, preliminary data from ongoing studies collected over the last decade show the CCSB appears to be trapping 70 to 80 percent of the annual total mercury load carried by Cache Creek (UC Davis 2015). While the CCSB has efficiently trapped total mercury, the CCSB has been identified by the CVRWQCB as a point source of methylmercury produced from cyclical wetting and drying of vegetated areas, reportedly discharging higher concentrations of methylmercury into the Yolo Bypass, and subsequently into the Delta, than are received into the CCSB from the upstream Cache Creek watershed. This has resulted in the CCSB falling under significant regulatory directives of the CVRWQCB to reduce total maximum daily loads (TMDLs) of mercury and methylmercury from exiting the CCSB and entering the Yolo Bypass.

The CCSB experiences periodic inundation during flood events, as Cache Creek flows back up in the CCSB, before overtopping the CCSB Weir and flowing into the Yolo Bypass. During normal operations of the CCSB, surface fines and other sediment are periodically mobilized and deposited within the basin by flood flows. Methylmercury is found in non-agricultural areas of the CCSB that are periodically inundated wetland habitat. The highest levels of methylmercury appear to be most prevalent in the CCSB along periodically inundated non-agricultural floodplains and the low-flow channels and low-lying riparian habitat areas. The CCSB excavation site does not represent an environment in which methylmercury could form because the site is at relatively higher elevations, is not periodically inundated, contains limited organic material, and drains easily due to the sandy nature of the soils. Therefore, it is not anticipated that the site would contain methylmercury.

Although mercury has been documented in CCSB, the use of earthen soil material from the CCSB excavation site is unlikely to cause impacts to water quality at the Reach B construction site. The use of CCSB sediment as earthen soil material has been considered viable by past studies, including by the CVRWQCB, the regulatory agency overseeing implementation of the current Delta Mercury TMDL. An April 2010 CVRWQCB Basin Plan Amendment Staff Report notes that periodic sediment removal from the CCSB is a reasonable method of improving trapping efficiency and because the sediment likely does not contain hazardous concentrations of mercury, it could be used for building materials, landfill cover, or other construction projects (CVRWQCB 2010). Additionally, the methylation of mercury is unlikely at the Reach B construction site because seasonal inundation of exposed sediment would not occur. Sediment excavated from CCSB would be used as fill and buried and, therefore, no longer exposed to oxygen and water and the associated repeat cycles of wetting and drying that cause methylation. In addition, as discussed above, grading of excavated areas within CCSB would occur to ensure proper site drainage and avoidance of ponding or standing water. Therefore, no additional periodically inundated/ponded sites within the CCSB excavation site that could contribute to methylation potential at the CCSB excavation site, above existing levels, would be created by the project refinements. Therefore, the potential impact to water quality from mercury attributed to the project refinements would be less than significant.

6.9.2 Soil Erosion

Soil would be temporarily exposed to wind and potentially subject to water erosion during excavation activities at the CCSB excavation site. If precautions are not taken to contain sediments, construction activities could produce sediment-laden storm runoff that would degrade water quality. Exposure of construction materials to rain or wind could also result in adverse water quality impacts. Regardless of construction timing, direct and indirect impacts to water quality from erosion and stormwater runoff, and ponding during unforeseen storm events, have the possibility to occur and be potentially significant. Potentially significant impacts were previously identified for construction-related water quality impacts during preparation of the Phase 4b EIS/EIR. Implementation of Mitigation Measure 4.4-a(1) "Implement Mitigation Measure 4.6-a, Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions," which was previously adopted and incorporated into the project, would reduce all potentially significant impacts from construction-related soil erosion to a less-than-significant level.

6.10 Noise

6.10.1 Construction Noise

Noise generation, including from operating construction equipment and hauling material within Yolo County, was not evaluated in the Phase 4b EIS/EIR. Land uses at and adjacent to the CCSB excavation site are agricultural with scattered rural residences. The closest sensitive receptor/residence is located approximately 0.5 mile north of the excavation site. The primary existing noise sources at the CCSB excavation site and vicinity are on-road mobile sources (automobiles and truck traffic), distant aircraft over flight noise, and agricultural activities. The Yolo County 2030 General Plan Action HS-A61 states a goal of developing a comprehensive Noise Ordinance. As of preparation of this addendum, no County ordinance is in place. Existing noise conditions in Yolo County were assessed as part of the Yolo County 2030 General Plan Update and the Day/Night Average Sound Level (L_{dn}) along the rural, Yolo County portion of the haul route (County Road 102) range from 59.5 L_{dn} 100 feet from the road centerline to 70 L_{dn} less than 50 feet from the road centerline (Yolo County 2009).

A short segment of the haul route (both options) also passes through the City of Woodland. Woodland has established a noise policy for all construction projects in or near residential areas. The policy prohibits noise on Monday-Saturday before 7 a.m. and after 6 p.m. and on Sunday before 9 a.m. and after 6 p.m., but no maximum allowable noise levels are stated in the Woodland City Code (City of Woodland 2020).

Construction noise impacts typically occur when construction activities take place during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), when construction activities occur immediately adjacent to noise-sensitive land uses, or when construction durations last over extended periods of time. The project would temporarily generate construction noise from operation of construction equipment at the CCSB excavation site and from transport of construction workers, construction materials, and equipment to and from the CCSB excavation site. The list of typical construction equipment that may be used for construction and typical noise levels generated at 50 feet from each equipment type (reference levels) are presented in **Table 6.10-1**.

Table 6.10-1. Construction Equipment and Typical Equipment Noise Levels.

Type of Equipment	Typical Noise Levels (dB) L_{max} at 50 Feet
Backhoe	80
Dump Truck	76
Excavator with Hammer	81
Grader	85
Pick-up Truck	75

Notes: dB = decibels; L_{max} = maximum instantaneous sound level;
Source: Construction equipment list based on Federal Highway Administration 2006, adapted by GEI Consultants, Inc. in 2020

Excavation of sediment and hauling would generate temporary construction noise at the CCSB excavation site and along the haul route. The beginning and end of both haul route options pass though rural and agricultural areas, but most of the haul route is along I-5. Haul truck noise levels would be similar to existing highway truck traffic on I-5 and would not represent a significant increase above existing noise levels. Although the beginning and end portions of the haul route are off highway, and travel through agricultural areas, the operation of heavy-duty equipment associated with agricultural activities is common along these portions of the haul route, during noise sensitive times of day, and can typically result in noise levels of approximately 75 A-weighted decibels (dBA) equivalent sound level (Leq) at 50 feet (EPA 1974). Sound levels attributable to equipment use at the CCSB excavation site and along haul routes for the project refinements would also be similar to existing sound levels along County Roads 102, 17, and 103 at approximately 70 L_{dn} less than 50 feet from the road centerline.

Construction would be limited to weekdays between 7 a.m. and 5 p.m., which is within the hours allowed under Woodland City Code, and all construction equipment would be properly maintained and equipped with standard noise control components, such as mufflers, per manufacturer's specifications. This impact would be less than significant because no maximum noise levels are applicable to the project area and construction and hauling route noise associated with the project refinements would be short-term, temporary, similar to periodic noise levels caused by agricultural equipment typically operating in the project area, and similar to existing noise levels along County Roads 102, 17, and 103.

6.10.2 Construction Groundborne Vibrations

The project would generate temporary groundborne vibrations from grading and hauling and transient groundborne vibration from construction equipment use. However, the duration of construction would cause only short-term and temporary vibrations, the nearest sensitive receptor/residence is located approximately 0.5 mile north of the CCSB excavation site, and there are no local or County vibration standards applicable to the CCSB excavation site. Therefore, this impact would be less than significant.

6.11 Transportation and Circulation

The transport and use of earthen soil material were previously covered in the Phase 4b EIS/EIR; however, trips were not considered in Yolo County. As stated in Phase 4b EIS/EIR Section 4.10, "Transportation and Circulation," traffic impacts were analyzed using the traffic analysis methodology from the Institute of Transportation Engineers (ITE) (ITE 1989). To account for the large percentage of heavy trucks associated with a large construction project, ITE recommends that the threshold level be reduced to 50 or more new peak-direction trips. For construction projects that create temporary and short-term traffic increases, this criterion is considered conservative by ITE (ITE 1989).

The project refinements would result in substantial temporary and short-term increases in traffic on local roadways. Construction-related traffic would consist of daily commute trips by construction workers and truck trips to haul earthen soil material from the CCSB excavation site to Reach B. The haul route options are shown in Figure 4-2 and discussed in Section 4, "Modifications and Refinements to the Project." Maximum daily and hourly truck trips for each haul route option and excavation phase would be as follows:

- Haul Route Option 1:
    - Phase 1. Maximum of 134 daily haul trips and 14 trips per hour
    - Phase 2. Maximum of 124 daily haul trips and 13 trips per hour
- Haul Route Option 2:
    - Phase 1. Maximum of 185 daily haul trips and 19 trips per hour
    - Phase 2. Maximum of 167 haul trips and 17 trips per hour

The project refinements would result in up to 19 additional truck trips per hour, including during peak hours, which is well below the threshold for traffic impacts. Therefore, the project refinements would not conflict with adopted applicable policies or plans related to the performance of the circulation system. Therefore, this impact would be less than significant.

6.12 Visual Resources

Changes to aesthetics in the Yolo County geographic area were not previously analyzed in the Phase 4b EIS/EIR. The CCSB excavation site and both haul route options are primarily located in unincorporated Yolo County (Figure 4-2). The CCSB excavation site is bordered by agricultural land to the north and east; Cache Creek, riparian vegetation, and levees to the west; and natural vegetation and the remainder of the CCSB to the south. Gravel/dirt field roads intersect and border the excavation site and provide access for operations and maintenance equipment. There are no scenic vistas or scenic highways located in the vicinity of the CCSB excavation site. Access points to the CCSB excavation site, east from County Road 102 for Haul Route Option 1 and south on County Road 103 for Haul Route Option 2, are blocked from public access and, therefore, there are no publicly accessible views of the CCSB excavation site. Access is provided by property owners through locked gates. Viewer sensitivity is low given the limited views due to the surrounding vegetation, levee system, and agricultural areas.

6.12.1 Visual Changes

Excavation of earthen soil material at the CCSB excavation site for the project refinements would require short-term and temporary use of construction equipment for a portion of the year over a period of 2 years. There would be short-term impacts to the overall visual character of the CCSB excavation site during each phase/year of construction from use of construction equipment. Use of construction equipment is not new or substantially different from operations and maintenance and agricultural equipment and would not be visible to most of the public. Therefore, temporary impacts to visual resources during construction would be less than significant.

The project refinements would require removal of sparse vegetation from an area of approximately 58 acres. Removal of these trees and shrubs would not substantially impact the overall visual character of the site as the majority of the natural vegetation in the area, including riparian vegetation, would remain intact after construction. The CCSB excavation site would be excavated to an point elevation of approximately 35 feet at the lowest point so as to not impact the existing drainage patterns on the site,

and would be hydroseeded for erosion control. Therefore, permanent impacts to visual resources from the project refinements would be less than significant.

6.12.2 Lighting and Glare

Construction activities would be conducted during daylight hours, the project refinements would not require any new built structures, and there would be no new sources of light or glare. Therefore, this impact would be less than significant.

7. Conclusions

As described in the preceding sections, the proposed modifications and refinements to the project do not require any revisions to the Phase 4b EIS/EIR because they would not result in any new or substantially more severe significant environmental impacts or potentially significant environmental impacts. Therefore, none of the conditions listed in Section 15162 would occur.

Based on the analysis and substantial evidence in Section 6, "Environmental Analysis," the proposed project modifications and refinements described in this Addendum would not result in any of the conditions described in Section 15162 of the State CEQA Guidelines calling for preparation of a Subsequent EIR. In summary, the proposed project changes:

- would not result in any new significant environmental effects, and
- would not substantially increase the severity of previously identified significant effects.

Further, there is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, that shows any of the following:

- The project will have one or more significant effects not discussed in the previous EIR;
- Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- Mitigation measures or alternatives which are considerably different from those analyzed in the prior EIR would substantially reduce one or more significant effects on the physical environment, but the project proponents decline to adopt the mitigation measure or alternative.

These conclusions confirm that a subsequent EIR is not required, and this Addendum No. 6 to the Final EIR for the Phase 4b Project is the appropriate CEQA document under State CEQA Guidelines Section 15164 to evaluate the environmental effects of the proposed modifications and refinements to the project. No changes are needed to the certified Final EIR or the adopted MMRP.

8. References

Bennyhoff, J.A. 1977. Ethnogeography of the Plains Miwok. Center for Archaeological Research at Davis, Publication No. 5, University of California, Davis. Davis California.

California Department of Fish and Wildlife (CDFW). 2018. California Natural Diversity Database (CNDDB), Wildlife and Habitat Data Analysis Branch, RareFind Version 5. Commercial version. Available at: https://www.wildlife.ca.gov/Data/CNDDB. Accessed October 28, 2019.

California Department of Water Resources (DWR). 1995. *Compilation of Sediment & Soil Standards, Criteria & Guidelines*. February 1995.

———. 2016. *California Groundwater Basin Boundary Classifications*. <http://water.ca.gov/groundwater/sgm/basin_boundaries.cfm>. Accessed April 9, 2020.

_____. 2020. *Dam Breach Inundation Map Web Publisher*. Available: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed: April 9, 2020.

CalFire. 2007a. *Draft Fire Hazard Severity Zones in LRA*. Available: https://osfm.fire.ca.gov/media/6854/fhszl06_1_map57.pdf Accessed: April 2, 2020.

CalFire 2007b. *Fire Hazard Severity Zones in SRA*. Available: https://osfm.fire.ca.gov/media/6855/fhszs_map57.pdf Accessed: April 2, 2020.

California Geological Survey (CGS). 1981. *Geologic Map of the Sacramento Quadrangle*. Available: https://www.conservation.ca.gov/cgs/maps-data/rgm Accessed: April 10, 2020.

California Geological Survey (CGS). 2015. *CGS Warehouse Information Warehouse: Mineral Land Classification*. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps Accessed: April 7, 2020.

California Native Plant Society (CNPS). 2018. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, California. Available at: http://www.cnps.org/cnps/rareplants/inventory/. Accessed October 28, 2019.

California Department of Toxic Substances Control. (DTSC) 2020. *Envirostor Hazardous Waste and Substances Site List (Cortese)*. Available: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE). Accessed: April 8, 2020.

California Environmental Protection Agency (CalEPA). 2016. *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit*. Available:

https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf. Accessed: April 8, 2020.

California Geological Survey (CGS). 2010. Geologic Map of California (2010). Available: https://maps.conservation.ca.gov/cgs/gmc/ Accessed: April 13, 2020.

California State Water Resources Control Board (SWRCB). 2020a. *GeoTracker Database*. Available: https://geotracker.waterboards.ca.gov/map/?global_id=T0601700073. Accessed: April 8, 2020.

_____. 2020b. *CDO-CAO List*. Available: https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CDOCAOList.xlsx. Accessed: April 8, 2020.

California Department of Conservation (DOC). 2000. *A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, 2000, Map scale 1:1,100,000, Open-File Report 2000-19*. Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf. Accessed: March April 8, 2020.

Central Valley Regional Water Quality Control Board (CVRWQCB). 2018. Water Quality Control Plan (Basin Plan) for the Central Valley Region. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf. Accessed: April 9, 2020.

_____2004. *Cache Creek, Bear Creek, and Harley Gulch TMDL for Mercury*, Staff Report. November.

Churchill, R.K., and Clinkenbeard, J.P. 2002. *Assessment of the feasibility of the remediation of mercury mine sources in the Cache Creek Watershed: Assessment of the feasibility of remediation of mercury mine sources in the Cache Creek Watershed.* Task 5C1. Final report, California Department of Conservation, California Geological Survey: Prepared for the CALFED Bay-Delta Program. Directed action #99-B06. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/mining/sulphur_creek/index.html. Accessed: April 9, 2020.

City of Woodland. 2020. *Construction Noise Guidelines*. Available: https://www.cityofwoodland.org/370/Construction-Noise-Guidelines. Accessed: April 9, 2020.

Domagalski, Joseph L., Slotten, Darell G., Alpers, Charles N., Suchanek, Thomas H., Churchill, Ronald K., Bloom, Nicolas., Ayers, Shaun M., and Clinkenbeard, John P. (2004). *Summary and Synthesis of Mercury Studies in the Cache Creek Watershed, California 2000-01*. U.S. Geological Survey, Water-Resources Investigations Report 03-4335. Prepared in cooperation with the California Bay-Delta Authority. Available: https://pubs.usgs.gov/wri/wri034335/. Accessed: April 9, 2020.

Federal Emergency Management Agency (FEMA). 2012. National Flood Hazard Layer Flood Insurance Rate Maps, Yuba County, CA. Available: https://msc.fema.gov/portal Accessed: April 9, 2020.

Geosyntec. 2019. *Cache Creek Soil Sampling Data, Northern Borrow Area, Soil Investigation Results.* September 2019.

Institute of Transportation Engineers (ITE). 1989. *Traffic Access and Impact Studies for Site Development*. Transportation Planners Council. Washington, D.C.

SAFCA. 2010. *Final EIS/EIR on the American River Watershed Common Features Project/Natomas Post-authorization Change Report/Natomas Levee Improvement Program, Phase 4b Landside Improvements Project*. Available: http://www.safca.org/Programs_Natomas.html Accessed: April 13, 2020.

State Water Resources Control Board (SWRCB). 2016. *Final 2014 and 2016 Integrated Report (CWA Section 303(d) List/ 305(b) Report)*. Available: https://www.waterboards.ca.gov/water_issues/programs/tmdl/2014_16state_ir_reports/category5_report.shtml. Accessed: April 9, 2020.

University of California, Davis (June 2015-draft). *"Cache Creek Settling Basin Trap Efficiency Study Progress Report." Draft*. Available: https://water.ca.gov/LegacyFiles/floodmgmt/fmo/docs/CCSB_AppA-2-2015ProgressReport_rvsdSept2015.pdf. Accessed: April 9, 2020.

U.S. Environmental Protection Agency (EPA). 1974. Information On Levels Of Environmental Noise Requisite To Protect Public Health and Welfare With An Adequate Margin Of Safety. March. Prepared by Office of U.S. Environmental Protection Agency Office of Noise Abatement and Control. Available: https://nepis.epa.gov/Exe/ZyPDF.cgi/ 2000L3LN.PDF?Dockey=2000L3LN.PDF. Accessed: March 13, 2020.

U.S. Fish and Wildlife Service (USFWS). 2018. Information for Planning and Conservation (IPAC). Species list generator. Available at: https://ecos.fws.gov/ipac/ Accessed October 28, 2019.

Water Resources Association of Yolo County. 2018. *Storm Water Resource Plan for Yolo County*. Available: http://www.yolowra.org/grants/SWRP%20Prop1/FINAL_SWRP_YoloCo_Dec2018--hi-res.pdf Accessed: April 15, 2020.

Westside Sacramento Regional Water Management Group. 2013. *Westside Sacramento Integration Regional Water Management Plan*. Available: http://www.westsideirwm.com/ Accessed: April 15, 2020.

Yolo County. 2009. 2030 Countywide General Plan. November. Available: https://www.yolocounty.org/general-government/general-government-departments/county-administrator/general-plan/adopted-general-plan. Accessed: April 9, 2020.

_____. 2014. *Adopted Zoning – July 2014*. Available: https://www.yolocounty.org/home/showdocument?id=31376 Accessed: April 9, 2020.

Yolo County Flood Control and Water Conservation District. 2006 (June). *Groundwater Management Plan*. Woodland, CA.

Yolo Subbasin Groundwater Agency. 2020. *Groundwater Monitoring Well Information*. Available: https://www.yologroundwater.org/. Accessed: April 9, 2020.

Appendix A – Air Emissions Modeling

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Project No: 19-08851

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Subject: **Air Quality Modeling Results for the Sacramento Area Flood Control Agency, Natomas Levee Improvement Program Phase 4b Project EIR/EIS Addendum No. 6 Project Refinements, Sacramento and Yolo Counties, California**

Dear Mr. Jolley:

Rincon Consultants, Inc. (Rincon) completed criteria air pollutant emission estimates using the California Emissions Estimator Model (CalEEMod) for the Sacramento Area Flood Control Agency (SAFCA) Natomas Levee Improvement Program (NLIP) Phase 4b Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) Addendum No. 6 Project Refinements. As detailed in the analysis below, criteria air pollutant emissions generated by project refinements using either Haul Route Option 1 or Haul Route Option 2 would not exceed the thresholds recommended by the Yolo-Solano Air Quality Management District (YSAQMD).

Project Description

The SAFCA NLIP Phase 4b Project entails improvements to the Natomas Levee located in Yolo County; the proposed improvements are covered under a previously certified EIR/EIS. However, as the project nears the end of construction, it has been determined that additional hauling trips would be required to import approximately 400,000 cubic yards (CY) of soil material to the project site from the Cache Creek Settling Basin Borrow Site located west of the project site in unincorporated Yolo County. The Cache Creek Settling Basin Borrow Site and a majority of the haul route would be within the jurisdictional area of the Yolo-Solano Air Quality Management District (YSAQMD) and the remaining portion of the haul route would be in Sacramento County within the jurisdictional area of the Sacramento Metropolitan Air Quality Management District (SMAQMD). This analysis quantifies emissions from all project refinement activities, but only compares emissions from activities occurring in Yolo County (within the YSAQMD jurisdictional area) to the thresholds of significance because air quality impacts in this jurisdiction were not previously evaluated in the Final EIR/EIS for the NLIP Phase 4b Project. Emissions occurring in Sacramento County (within the SMAQMD jurisdictional area) are provided for informational purposes only.

Import of material would occur in two phases over the course of two years. Phase I would include import of approximately 168,000 CY, and Phase II would include import of approximately 302,600 CY of soil material. Haul trucks would have a 14-CY capacity. The following two hauling scenarios are under consideration:

1. Haul Route Option 1 is a 16.0-mile haul route that would utilize County Road 102 and an unnamed road to access the Cache Creek Settling Basin Borrow Site. Approximately 10.7 miles of the haul route would be in Yolo County within the jurisdictional area of the YSAQMD, and approximately 5.3 miles of the haul route would be in Sacramento County in the jurisdictional area of the SMAQMD. Approximately 11.2 percent of the haul route (1.12 miles) within Yolo County would be unpaved. The entire haul route within Sacramento County would be paved. If Haul Route Option 1 is utilized, Phase I would occur over the course of approximately 18 weeks during Year 1, and Phase II would occur over the course of approximately 35 weeks in Year 2.
2. Haul Route Option 2 is a 17.3-mile haul route that would utilize County Road 102, County Road 17, and County Road 103 to access the Cache Creek Settling Basin Borrow Site. Approximately 12.0 miles of the haul route would be in Yolo County within the jurisdictional area of the YSAQMD, and approximately 5.3 miles of the haul route would be in Sacramento County within the jurisdictional area of the SMAQMD. Approximately 6.7 percent of the haul route (0.8 mile) within Yolo County would be unpaved. The entire haul route within Sacramento County would be paved. If Haul Route Option 2 is utilized, Phase I would occur over the course of approximately 13 weeks during Year 1, and Phase II would occur over the course of approximately 26 weeks in Year 2.

Construction activities at the Cache Creek Settling Basin Borrow Site would require the use of one water truck, two dozers, three excavators, and two loaders. Phase I would require approximately 34 construction workers each day, and Phase II would require approximately 52 construction workers each day. Construction activities would occur for 10 hours each day, five days per week.

It is assumed that activities related to the project refinements would comply with Mitigation Measure 4.11-a from the Final EIR/EIS for the NLIP Phase 4b Project, which requires implementation of the following measures for all project construction activities regardless of location:

- An operational water truck shall be on site at all times. Water shall be applied to control dust as needed to prevent dust impacts off site. Unpaved areas subject to vehicle traffic, including employee parking areas and equipment staging areas, shall be stabilized by being kept wet, treated with a chemical dust suppressant or soil binders, or covered.
- The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventive measures. Wet sweeping or a high-efficiency particulate air filter equipped vacuum device shall be used for roadway dust removal.
- Existing power sources or clean fuel generators shall be used rather than temporary power generators to the extent feasible.
- Low-sulfur fuel shall be used for stationary construction equipment.
- Low-emission on-site stationary equipment shall be used.
- Vehicle speeds on unpaved roadways shall be limited to 15 miles per hour.
- Idling time for all heavy-duty equipment shall be limited to five minutes.
- When feasible and determined to be necessary, California Air Resources Board-certified Level 3 diesel particulate filters shall be installed on diesel-powered construction equipment pieces. All diesel particulate filters shall be kept in working order and maintained in operable condition according to manufacturer's specifications.

Mitigation Measure 4.11-1-a also requires implementation of the following for construction activities in Sacramento County:

- The project proponent(s) shall prepare a construction emissions dust control plan(s) in accordance with SMAQMD recommendations that reduces fugitive dust emissions by at least 85 percent (or shall provide calculations based on SMAQMD-approved methodologies showing that emissions would be reduced to less than 100 tons per year assuming a conservative reduction of 75 percent with typical mitigation). All grading operations shall be suspended when fugitive dust levels exceed levels specified by SMAQMD rules. The project proponent(s) and primary construction contractors shall ensure that dust is not causing a nuisance beyond the property line of the construction site.
- If overlapping construction phases in Sacramento County create unmitigated PM_{10} emissions[1] in excess of the General Conformity threshold, per SMAQMD Rule 104, of 100 tons per year, the project proponent(s) shall use advanced dust suppressant materials (such as EnviroTac II) on all unpaved roadways and stockpiled materials to ensure enhanced fugitive dust control up to 90 percent or greater of fugitive dust and PM_{10} emissions.
- The project proponent(s) shall develop a plan, in consultation with SMAQMD, demonstrating that the heavy-duty (greater than 50 horsepower [hp]), off-road vehicles to be used in the construction project (including owned, leased, and subcontractor vehicles) shall achieve a project-wide fleet-average 40 percent nitrogen oxide (NO_X) reduction and 45 percent particulate reduction compared to the most recent California Air Resources Board fleet average at the time of construction.[2]
- A comprehensive inventory of all off-road construction equipment equal to or greater than 50 hp that will be used for an aggregate of 40 or more hours during any portion of project construction shall be submitted to SMAQMD. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction operations occur. At least 48 hours before heavy-duty off-road equipment is used, the project proponent(s) shall provide SMAQMD with the anticipated construction timeline, including the start date, and the name and phone number of the contractor's project manager and on-site foreman.
- Emissions from off-road, diesel-powered equipment used on the project site shall not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified of noncompliant equipment within 48 hours of identification. A visual survey of all in-operation equipment shall be made at least weekly. A monthly summary of visual survey results shall be submitted to SMAQMD throughout the construction period, except that the monthly summary shall not be required for any 30-day period in which no construction operations occur. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. SMAQMD and/or other officials may conduct periodic site inspections to determine compliance.
- The project proponent(s) shall pay SMAQMD an off-site mitigation fee for implementation of any proposed alternatives for the purpose of reducing NO_X emissions impacts to a less-than-significant level. An initial payment, based on 50 percent of the estimated fee, shall be remitted to SMAQMD

[1] PM_{10} is particulate matter measuring 10 microns or less in diameter.
[2] Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, particulate-matter traps, engine retrofit technology, after-treatment products, and/or such other options as become available.

before groundbreaking. The final mitigation fee shall be based on contractor equipment inventories provided by the project proponent(s) to SMAQMD and would reconcile any fee discrepancies due to schedule adjustments or increased equipment inventories.

Methodology

Emissions of criteria air pollutants associated with project refinements were estimated using CalEEMod version 2016.3.2. Emissions modeled include emissions generated by construction equipment used at the Cache Creek Settling Basin Borrow Site and emissions generated by vehicle trips associated with the project refinements, such as worker, water truck, and haul truck trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Project refinements were analyzed based on the construction schedule, construction equipment, haul truck trip estimates, and construction worker estimates provided by GEI Consultants. It is assumed that all construction equipment used would be diesel-powered. Based on the requirements of Mitigation Measure 4.11-a of the Final EIR/EIS for the NLIP Phase 4b Project, modeling included the following emission reduction measures:

- Watering active construction sites twice daily (results in 50 percent reduction in on-site fugitive dust emissions)[3]
- Applying chemical dust suppressant to unpaved roads (results in 80 percent reduction in off-site fugitive dust emissions)[4]
- Wet sweeping public paved roadways (results in 14 percent reduction in off-site fugitive dust emissions)[5]
- Limiting vehicle speeds on unpaved roads to 15 miles per hour (results in eight percent reduction in off-site PM_{10} emissions and eight to nine percent reduction in off-site $PM_{2.5}$ emissions[6] in conjunction with applying a chemical dust suppressant)[7]

Thresholds

The YSAQMD has adopted guidelines for quantifying and determining the significance of air quality emissions.[8] The thresholds of significance for construction activities adopted by YSAQMD are summarized in Table 1.

[3] YSAQMD. 2007. *Handbook for Assessing and Mitigating Air Quality Impacts.* July 11, 2007. http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf (accessed March 2020).

[4] The United States Environmental Protection Agency's AP-42 Section 13.2.2 (Unpaved Roads) states that chemical dust suppressants provide a PM_{10} control efficiency of approximately 80 percent when applied at regular intervals of two weeks to one month. This is also consistent with guidance provided by the YSAQMD in the *Handbook for Assessing and Mitigating Air Quality Impacts* (2007).

[5] Ibid.

[6] $PM_{2.5}$ is particulate matter measuring 2.5 microns or less in diameter.

[7] Estimated reductions are consistent with CalEEMod default calculations.

[8] YSAQMD. 2007. *Handbook for Assessing and Mitigating Air Quality Impacts.* July 11, 2007. http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf (accessed March 2020).

Table 1 YSAQMD Air Quality Thresholds of Significance for Construction Activities

ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
10 tons/ year	10 tons/ year	Violation of a State ambient air quality standard for CO	N/A	80 lbs/day	N/A

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less; YSAQMD = Yolo-Solano Air Quality Management District; lbs/day = pounds per day; N/A = not adopted (i.e., YSAQMD has not adopted a threshold of significance for this pollutant)

Sources: YSAQMD 2007

Analysis

Criteria pollutant emissions associated with project refinement activities within the YSAQMD jurisdictional area for Haul Route Options 1 and 2 are summarized in Table 2 and Table 3, respectively, and compared to the YSAQMD thresholds of significance. As shown therein, daily and annual emissions for both Haul Route Options 1 and 2 would not exceed YSAQMD recommended thresholds of significance with implementation of Mitigation Measure 4.11-a from the Final EIR/EIS for the NLIP Phase 4b Project. See Attachment A for CalEEMod results.

Table 2 Criteria Pollutant Emissions within Jurisdiction of YSAQMD – Haul Route Option 1

	Criteria Pollutant Emissions (unmitigated/mitigated)[1]			
Construction Phase	**ROG (tons/year)**	**NO_X (tons/year)**	**PM_{10} (lbs/day)**	**$PM_{2.5}$ (lbs/day)**
Phase I	0.3/0.3	4.9/4.9	547.7/77.8	63.8/13.8
Phase II	0.6/0.6	8.4/8.4	550.0/77.9	63.9/13.7
YSAQMD Thresholds of Significance [2]	*10*	*10*	*80*	*N/A*
Exceed Threshold?	**No**	**No**	**No**	**N/A**

[1] Emissions estimates obtained from Sections 3.2 and 3.4 of the CalEEMod results (Attachment A).

[2] YSAQMD. 2007. *Handbook for Assessing and Mitigating Air Quality Impacts.* July 11, 2007. http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf (accessed March 2020).

Notes: ROG = reactive organic gases; NO_X= nitrogen oxides; PM_{10}= particulate matter with aerodynamic diameter less than 10 micrometers; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less; lbs/day = pounds per day; YSAQMD = Yolo-Solano Air Quality Management District; N/A = not adopted (the YSAQMD has not adopted a threshold of significance for $PM_{2.5}$); CalEEMod = California Emissions Estimator Model

See Attachment A for CalEEMod results.

Table 3 Criteria Pollutant Emissions within Jurisdiction of YSAQMD – Haul Route Option 2

Construction Phase	Criteria Pollutant Emissions (unmitigated/mitigated)[1]			
	ROG (tons/year)	NO_X (tons/year)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Phase I	0.3/0.3	4.3/4.3	520.2/77.7	63.6/15.2
Phase II	0.5/0.5	7.5/7.5	514.4/76.5	62.8/14.8
YSAQMD Thresholds of Significance [2]	*10*	*10*	*80*	*N/A*
Exceed Threshold?	**No**	**No**	**No**	**N/A**

[1] Emissions estimates obtained from Sections 3.2 and 3.4 of the CalEEMod results (Attachment A).

[2] YSAQMD. 2007. *Handbook for Assessing and Mitigating Air Quality Impacts.* July 11, 2007. http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf (accessed March 2020).

Notes: ROG = reactive organic gases; NO_X= nitrogen oxides; PM_{10}= particulate matter with aerodynamic diameter less than 10 micrometers; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less; lbs/day = pounds per day; YSAQMD = Yolo-Solano Air Quality Management District; N/A = not adopted (the YSAQMD has not adopted a threshold of significance for $PM_{2.5}$); CalEEMod = California Emissions Estimator Model

See Attachment A for CalEEMod results.

Table 4 and Table 5 provide criteria pollutant emissions within the jurisdiction of SMAQMD for Haul Routes Options 1 and 2, respectively, for informational purposes.

Table 4 Criteria Pollutant Emissions within Jurisdiction of SMAQMD – Haul Route Option 1

Construction Phase	Criteria Pollutant Emissions (unmitigated/mitigated)[1]					
	Annual (tons/year)		Daily (lbs/day)			
	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
Phase I	0.1/ 0.1	< 0.1/ < 0.1	1.0/1.0	38.9/38.9	1.3/1.2	0.4/0.4
Phase II	0.1/0.1	< 0.1/ < 0.1	0.9/0.9	34.3/34.3	1.2/1.1	0.4/0.4

[1] Emissions estimates obtained from Sections 3.3 and 3.5 of the CalEEMod results (Attachment A).

Notes: lbs/day = pounds per day; ROG = reactive organic gases; NO_X= nitrogen oxides; PM_{10}= particulate matter with aerodynamic diameter less than 10 micrometers; $PM_{2.5}$= particulate matter with aerodynamic diameter less than 2.5 micrometers; SMAQMD = Sacramento Metropolitan Air Quality Management District; CalEEMod = California Emissions Estimator Model

See Attachment A for CalEEMod results.

Table 5 Criteria Pollutant Emissions within Jurisdiction of SMAQMD – Haul Route Option 2

Construction Phase	Criteria Pollutant Emissions (unmitigated/mitigated)[1]					
	Annual (tons/year)		Daily (lbs/day)			
	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
Phase I	0.1/0.1	< 0.1/< 0.1	1.4/1.4	53.6/53.6	1.8/1.6	0.6/0.5
Phase II	0.1/0.1	< 0.1/ < 0.1	1.2/1.2	46.2/43.2	1.6/1.5	0.5/0.5

[1] Emissions estimates obtained from Sections 3.3 and 3.5 of the CalEEMod results (Attachment A).

Notes: lbs/day = pounds per day; ROG = reactive organic gases; NO_X= nitrogen oxides; PM_{10}= particulate matter with aerodynamic diameter less than 10 micrometers; $PM_{2.5}$= particulate matter with aerodynamic diameter less than 2.5 micrometers; SMAQMD = Sacramento Metropolitan Air Quality Management District; CalEEMod = California Emissions Estimator Model

See Attachment A for CalEEMod results.

Conclusion

Criteria air pollutant emissions generated in Yolo County by project refinements under Addendum No. 6 utilizing either Haul Route Option 1 or Haul Route Option 2 would not exceed the thresholds recommended by the YSAQMD with implementation of Mitigation Measure 4.11-a from the Final EIR/EIS for the NLIP Phase 4b Project.

Thank you for the opportunity to assist with this assignment. Please do not hesitate to contact us if you have questions about this report.

Sincerely,
Rincon Consultants, Inc.

Hannah Mize
Sustainability Project Manager

Jennifer Haddow, PhD
Principal Environmental Scientist

Attachments

Attachment A Air Quality Modeling Results

Attachment A

Air Quality Modeling Results

Natomas Levee Addendum No. 6 - Haul Route Option 1

Yolo/Solano AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	96.00	Acre	96.00	4,181,760.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Natomas Levee Addendum No. 6 - Haul Route Option 1 - Yolo/Solano AQMD Air District, Annual

Project Characteristics - No electricity.

Land Use - Size of Cache Creek Settling Basin Borrow Site.

Construction Phase - Schedule provided by GEI.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limitations.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Trips and VMT - Provided by GEI. 14-CY haul trucks. Only haul trips evaluated for Sac County.

On-road Fugitive Dust - Based on haul route.

Grading - Provided by GEI.

Construction Off-road Equipment Mitigation - Mitigation Measure 4.11-a from Final EIR/EIS

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	50
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155.00	91.00
tblConstructionPhase	NumDays	155.00	91.00
tblConstructionPhase	NumDays	155.00	175.00
tblConstructionPhase	NumDays	155.00	175.00
tblGrading	AcresOfGrading	151.88	99.00
tblGrading	AcresOfGrading	300.00	150.00
tblGrading	MaterialExported	0.00	168,000.00
tblGrading	MaterialExported	0.00	302,600.00
tblOffRoadEquipment	HorsePower	187.00	158.00

tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	94.00	88.80
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblOnRoadDust	HaulingPercentPave	94.00	88.80
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	10.70
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripLength	20.00	10.70
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripNumber	21,000.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	37,825.00	43,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	43,230.00

tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	68.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	104.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

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					
2020	0.3699	6.6577	2.0636	0.0123	21.2226	0.1447	21.3673	2.4256	0.1335	2.5591						
2021	0.6600	11.4693	3.8337	0.0224	40.9938	0.2517	41.2456	4.6970	0.2322	4.9292						
Maximum	**0.6600**	**11.4693**	**3.8337**	**0.0224**	**40.9938**	**0.2517**	**41.2456**	**4.6970**	**0.2322**	**4.9292**						

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					
2020	0.3699	6.6577	2.0636	0.0123	3.0005	0.1447	3.1452	0.4658	0.1335	0.5993						
2021	0.6600	11.4693	3.8337	0.0224	5.7964	0.2517	6.0482	0.9056	0.2322	1.1378						
Maximum	**0.6600**	**11.4693**	**3.8337**	**0.0224**	**5.7964**	**0.2517**	**6.0482**	**0.9056**	**0.2322**	**1.1378**						

	ROG	**NOx**	**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**	**85.86**	**0.00**	**85.32**	**80.75**	**0.00**	**76.80**	**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	**5-1-2020**	**7-31-2020**	5.0382	5.0382
2	**8-1-2020**	**10-31-2020**	1.9167	1.9167
3	**11-1-2020**	**1-31-2021**	1.3814	1.3814
4	**2-1-2021**	**4-30-2021**	4.3868	4.3868
5	**5-1-2021**	**7-31-2021**	4.5263	4.5263
6	**8-1-2021**	**9-30-2021**	1.6728	1.6728
		Highest	5.0382	5.0382

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	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**						

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	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**						

	ROG	**NOx**	**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

Natomas Levee Addendum No. 6 - Haul Route Option 1 - Yolo/Solano AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Yolo Haul Trips Phase 1	Grading	5/1/2020	9/4/2020	5	91	
2	Sacramento Haul Trips Phase 1	Grading	5/1/2020	9/4/2020	5	91	
3	Yolo Haul Trips Phase 2	Grading	1/4/2021	9/3/2021	5	175	
4	Sacramento Haul Trips Phase 2	Grading	1/4/2021	9/3/2021	5	175	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 96

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
Yolo Haul Trips Phase 1	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 1	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 1	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 1	Graders	1	0.00	187	0.41
Yolo Haul Trips Phase 2	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 2	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 2	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 2	Graders	1	0.00	187	0.41

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
Yolo Haul Trips Phase 1	7	68.00	2.00	24,000.00	10.00	7.00	10.70	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 1	1	0.00	0.00	24,000.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT
Yolo Haul Trips Phase 2	7	104.00	2.00	43,230.00	10.00	7.00	10.70	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 2	1	0.00	0.00	43,230.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Yolo Haul Trips Phase 1 - 2020

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					0.7034	0.0000	0.7034	0.3471	0.0000	0.3471						
Off-Road	0.2490	2.5277	1.3835	2.2100e-003		0.1340	0.1340		0.1233	0.1233						
Total	**0.2490**	**2.5277**	**1.3835**	**2.2100e-003**	**0.7034**	**0.1340**	**0.8374**	**0.3471**	**0.1233**	**0.4704**						

3.2 Yolo Haul Trips Phase 1 - 2020

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	0.0641	2.3240	0.3530	6.0100e-003	18.0748	6.6600e-003	18.0814	1.8214	6.3700e-003	1.8278						
Vendor	3.2000e-004	0.0104	2.0500e-003	3.0000e-005	0.0483	5.0000e-005	0.0484	4.9300e-003	4.0000e-005	4.9700e-003						
Worker	0.0108	7.3000e-003	0.0746	2.3000e-004	2.3419	1.6000e-004	2.3421	0.2373	1.5000e-004	0.2375						
Total	**0.0752**	**2.3417**	**0.4296**	**6.2700e-003**	**20.4650**	**6.8700e-003**	**20.4719**	**2.0637**	**6.5600e-003**	**2.0702**						

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					0.3517	0.0000	0.3517	0.1735	0.0000	0.1735						
Off-Road	0.2490	2.5277	1.3835	2.2100e-003		0.1340	0.1340		0.1233	0.1233						
Total	**0.2490**	**2.5277**	**1.3835**	**2.2100e-003**	**0.3517**	**0.1340**	**0.4857**	**0.1735**	**0.1233**	**0.2968**						

3.2 Yolo Haul Trips Phase 1 - 2020

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	0.0641	2.3240	0.3530	6.0100e-003	2.2908	6.6600e-003	2.2975	0.2446	6.3700e-003	0.2510						
Vendor	3.2000e-004	0.0104	2.0500e-003	3.0000e-005	6.3500e-003	5.0000e-005	6.3900e-003	7.3000e-004	4.0000e-005	7.7000e-004						
Worker	0.0108	7.3000e-003	0.0746	2.3000e-004	0.3031	1.6000e-004	0.3033	0.0334	1.5000e-004	0.0336						
Total	**0.0752**	**2.3417**	**0.4296**	**6.2700e-003**	**2.6003**	**6.8700e-003**	**2.6071**	**0.2788**	**6.5600e-003**	**0.2853**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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	0.0456	1.7883	0.2505	3.7900e-003	0.0542	3.8200e-003	0.0580	0.0149	3.6600e-003	0.0186						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0456**	**1.7883**	**0.2505**	**3.7900e-003**	**0.0542**	**3.8200e-003**	**0.0580**	**0.0149**	**3.6600e-003**	**0.0186**						

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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	0.0456	1.7883	0.2505	3.7900e-003	0.0485	3.8200e-003	0.0523	0.0135	3.6600e-003	0.0172						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0456**	**1.7883**	**0.2505**	**3.7900e-003**	**0.0485**	**3.8200e-003**	**0.0523**	**0.0135**	**3.6600e-003**	**0.0172**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					1.3582	0.0000	1.3582	0.6819	0.0000	0.6819						
Off-Road	0.4454	4.4962	2.6143	4.2600e-003		0.2347	0.2347		0.2160	0.2160						
Total	**0.4454**	**4.4962**	**2.6143**	**4.2600e-003**	**1.3582**	**0.2347**	**1.5929**	**0.6819**	**0.2160**	**0.8978**						

3.4 Yolo Haul Trips Phase 2 - 2021

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	0.1079	3.8953	0.5965	0.0107	32.5572	0.0105	32.5676	3.2808	0.0100	3.2908						
Vendor	5.2000e-004	0.0184	3.4400e-003	5.0000e-005	0.0929	4.0000e-005	0.0930	9.4800e-003	4.0000e-005	9.5200e-003						
Worker	0.0295	0.0192	0.2001	6.5000e-004	6.8880	4.6000e-004	6.8885	0.6980	4.2000e-004	0.6984						
Total	**0.1379**	**3.9330**	**0.8000**	**0.0114**	**39.5381**	**0.0110**	**39.5491**	**3.9882**	**0.0105**	**3.9987**						

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					0.6791	0.0000	0.6791	0.3409	0.0000	0.3409						
Off-Road	0.4454	4.4962	2.6143	4.2600e-003		0.2347	0.2347		0.2160	0.2160						
Total	**0.4454**	**4.4962**	**2.6143**	**4.2600e-003**	**0.6791**	**0.2347**	**0.9138**	**0.3409**	**0.2160**	**0.5569**						

3.4 Yolo Haul Trips Phase 2 - 2021

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	0.1079	3.8953	0.5965	0.0107	4.1263	0.0105	4.1368	0.4406	0.0100	0.4506						
Vendor	5.2000e-004	0.0184	3.4400e-003	5.0000e-005	0.0122	4.0000e-005	0.0123	1.4000e-003	4.0000e-005	1.4500e-003						
Worker	0.0295	0.0192	0.2001	6.5000e-004	0.8915	4.6000e-004	0.8920	0.0984	4.2000e-004	0.0988						
Total	**0.1379**	**3.9330**	**0.8000**	**0.0114**	**5.0300**	**0.0110**	**5.0410**	**0.5403**	**0.0105**	**0.5508**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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	0.0767	3.0401	0.4194	6.7500e-003	0.0976	6.0300e-003	0.1036	0.0268	5.7700e-003	0.0326						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0767**	**3.0401**	**0.4194**	**6.7500e-003**	**0.0976**	**6.0300e-003**	**0.1036**	**0.0268**	**5.7700e-003**	**0.0326**						

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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	0.0767	3.0401	0.4194	6.7500e-003	0.0874	6.0300e-003	0.0934	0.0243	5.7700e-003	0.0301						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0767**	**3.0401**	**0.4194**	**6.7500e-003**	**0.0874**	**6.0300e-003**	**0.0934**	**0.0243**	**5.7700e-003**	**0.0301**						

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.526397	0.037140	0.194621	0.111857	0.019784	0.005283	0.037518	0.055864	0.001328	0.001945	0.006704	0.000686	0.000873

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						
Electricity Unmitigated						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						
NaturalGas Unmitigated	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					
Other Non-Asphalt Surfaces	0	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**						

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	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	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**						

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

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	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Unmitigated	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						

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	0.0872					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.2703					0.0000	0.0000		0.0000	0.0000						
Landscaping	8.0000e-005	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						

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	0.0872					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.2703					0.0000	0.0000		0.0000	0.0000						
Landscaping	8.0000e-005	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				
Unmitigated				

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0				
Total					

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0				
Total					

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				
Unmitigated				

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

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

Natomas Levee Addendum No. 6 - Haul Route Option 1

Yolo/Solano AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	96.00	Acre	96.00	4,181,760.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Natomas Levee Addendum No. 6 - Haul Route Option 1 - Yolo/Solano AQMD Air District, Summer

Project Characteristics - No electricity.

Land Use - Size of Cache Creek Settling Basin Borrow Site.

Construction Phase - Schedule provided by GEI.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limitations.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Trips and VMT - Provided by GEI. 14-CY haul trucks. Only haul trips evaluated for Sac County.

On-road Fugitive Dust - Based on haul route.

Grading - Provided by GEI.

Construction Off-road Equipment Mitigation - Mitigation Measure 4.11-a from Final EIR/EIS

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	50
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155.00	91.00
tblConstructionPhase	NumDays	155.00	91.00
tblConstructionPhase	NumDays	155.00	175.00
tblConstructionPhase	NumDays	155.00	175.00
tblGrading	AcresOfGrading	151.88	99.00
tblGrading	AcresOfGrading	300.00	150.00
tblGrading	MaterialExported	0.00	168,000.00
tblGrading	MaterialExported	0.00	302,600.00
tblOffRoadEquipment	HorsePower	187.00	158.00

tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	94.00	88.80
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblOnRoadDust	HaulingPercentPave	94.00	88.80
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	10.70
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripLength	20.00	10.70
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripNumber	21,000.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	37,825.00	43,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	43,230.00

tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	68.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	104.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

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					
2020	8.0962	145.2403	44.3639	0.2742	545.8684	3.1747	549.0430	61.2535	2.9290	64.1825						
2021	7.5307	130.2264	43.0518	0.2606	548.2902	2.8721	551.1623	61.6582	2.6491	64.3073						
Maximum	**8.0962**	**145.2403**	**44.3639**	**0.2742**	**548.2902**	**3.1747**	**551.1623**	**61.6582**	**2.9290**	**64.3073**						

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					
2020	8.0962	145.2403	44.3639	0.2742	75.7553	3.1747	78.9300	11.2295	2.9290	14.1585						
2021	7.5307	130.2264	43.0518	0.2606	76.1005	2.8721	78.9726	11.3463	2.6491	13.9954						
Maximum	**8.0962**	**145.2403**	**44.3639**	**0.2742**	**76.1005**	**3.1747**	**78.9726**	**11.3463**	**2.9290**	**14.1585**						

	ROG	**NOx**	**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**	**86.12**	**0.00**	**85.65**	**81.63**	**0.00**	**78.09**	**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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

	ROG	NOx	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	Yolo Haul Trips Phase 1	Grading	5/1/2020	9/4/2020	5	91	
2	Sacramento Haul Trips Phase 1	Grading	5/1/2020	9/4/2020	5	91	
3	Yolo Haul Trips Phase 2	Grading	1/4/2021	9/3/2021	5	175	
4	Sacramento Haul Trips Phase 2	Grading	1/4/2021	9/3/2021	5	175	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 96

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
Yolo Haul Trips Phase 1	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 1	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 1	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 1	Graders	1	0.00	187	0.41
Yolo Haul Trips Phase 2	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 2	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 2	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 2	Graders	1	0.00	187	0.41

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
Yolo Haul Trips Phase 1	7	68.00	2.00	24,000.00	10.00	7.00	10.70	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 1	1	0.00	0.00	24,000.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT
Yolo Haul Trips Phase 2	7	104.00	2.00	43,230.00	10.00	7.00	10.70	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 2	1	0.00	0.00	43,230.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Yolo Haul Trips Phase 1 - 2020

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					15.4599	0.0000	15.4599	7.6278	0.0000	7.6278						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**15.4599**	**2.9454**	**18.4052**	**7.6278**	**2.7097**	**10.3376**						

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	1.3768	50.2040	7.1523	0.1340	467.3999	0.1436	467.5435	47.0404	0.1374	47.1778						
Vendor	6.9800e-003	0.2253	0.0416	5.7000e-004	1.2486	9.9000e-004	1.2496	0.1270	9.4000e-004	0.1279						
Worker	0.2696	0.1438	1.8792	5.5400e-003	60.5348	3.5300e-003	60.5383	6.1223	3.2600e-003	6.1255						
Total	**1.6534**	**50.5731**	**9.0731**	**0.1401**	**529.1833**	**0.1481**	**529.3314**	**53.2896**	**0.1416**	**53.4312**						

3.2 Yolo Haul Trips Phase 1 - 2020

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					7.7299	0.0000	7.7299	3.8139	0.0000	3.8139						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**7.7299**	**2.9454**	**10.6753**	**3.8139**	**2.7097**	**6.5237**						

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	1.3768	50.2040	7.1523	0.1340	58.9834	0.1436	59.1270	6.2441	0.1374	6.3815						
Vendor	6.9800e-003	0.2253	0.0416	5.7000e-004	0.1626	9.9000e-004	0.1636	0.0184	9.4000e-004	0.0193						
Worker	0.2696	0.1438	1.8792	5.5400e-003	7.7836	3.5300e-003	7.7871	0.8488	3.2600e-003	0.8520						
Total	**1.6534**	**50.5731**	**9.0731**	**0.1401**	**66.9296**	**0.1481**	**67.0777**	**7.1113**	**0.1416**	**7.2529**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	0.9699	39.1125	4.8836	0.0854	1.2252	0.0812	1.3064	0.3361	0.0777	0.4138						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.9699**	**39.1125**	**4.8836**	**0.0854**	**1.2252**	**0.0812**	**1.3064**	**0.3361**	**0.0777**	**0.4138**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	0.9699	39.1125	4.8836	0.0854	1.0959	0.0812	1.1770	0.3044	0.0777	0.3820						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.9699**	**39.1125**	**4.8836**	**0.0854**	**1.0959**	**0.0812**	**1.1770**	**0.3044**	**0.0777**	**0.3820**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					15.5217	0.0000	15.5217	7.7928	0.0000	7.7928						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**15.5217**	**2.6826**	**18.2044**	**7.7928**	**2.4680**	**10.2608**						

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	1.2039	43.8218	6.2737	0.1241	437.7898	0.1172	437.9070	44.0603	0.1122	44.1724						
Vendor	5.8100e-003	0.2078	0.0361	5.6000e-004	1.2486	4.8000e-004	1.2491	0.1270	4.6000e-004	0.1274						
Worker	0.3826	0.1966	2.6281	8.1800e-003	92.5826	5.2500e-003	92.5879	9.3635	4.8400e-003	9.3683						
Total	**1.5923**	**44.2263**	**8.9379**	**0.1328**	**531.6210**	**0.1230**	**531.7440**	**53.5507**	**0.1175**	**53.6682**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					7.7609	0.0000	7.7609	3.8964	0.0000	3.8964						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**7.7609**	**2.6826**	**10.4435**	**3.8964**	**2.4680**	**6.3644**						

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	1.2039	43.8218	6.2737	0.1241	55.2465	0.1172	55.3637	5.8485	0.1122	5.9606						
Vendor	5.8100e-003	0.2078	0.0361	5.6000e-004	0.1626	4.8000e-004	0.1631	0.0184	4.6000e-004	0.0189						
Worker	0.3826	0.1966	2.6281	8.1800e-003	11.9043	5.2500e-003	11.9095	1.2981	4.8400e-003	1.3029						
Total	**1.5923**	**44.2263**	**8.9379**	**0.1328**	**67.3134**	**0.1230**	**67.4363**	**7.1649**	**0.1175**	**7.2824**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	0.8477	34.6150	4.2363	0.0791	1.1474	0.0665	1.2139	0.3148	0.0636	0.3783						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.8477**	**34.6150**	**4.2363**	**0.0791**	**1.1474**	**0.0665**	**1.2139**	**0.3148**	**0.0636**	**0.3783**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	0.8477	34.6150	4.2363	0.0791	1.0263	0.0665	1.0927	0.2850	0.0636	0.3486						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.8477**	**34.6150**	**4.2363**	**0.0791**	**1.0263**	**0.0665**	**1.0927**	**0.2850**	**0.0636**	**0.3486**						

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.526397	0.037140	0.194621	0.111857	0.019784	0.005283	0.037518	0.055864	0.001328	0.001945	0.006704	0.000686	0.000873

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						
NaturalGas Unmitigated	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					
Other Non-Asphalt Surfaces	0	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**						

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					
Other Non-Asphalt Surfaces	0	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**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Unmitigated	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**						

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

Natomas Levee Addendum No. 6 - Haul Route Option 1

Yolo/Solano AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	96.00	Acre	96.00	4,181,760.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Natomas Levee Addendum No. 6 - Haul Route Option 1 - Yolo/Solano AQMD Air District, Winter

Project Characteristics - No electricity.

Land Use - Size of Cache Creek Settling Basin Borrow Site.

Construction Phase - Schedule provided by GEI.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limitations.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Trips and VMT - Provided by GEI. 14-CY haul trucks. Only haul trips evaluated for Sac County.

On-road Fugitive Dust - Based on haul route.

Grading - Provided by GEI.

Construction Off-road Equipment Mitigation - Mitigation Measure 4.11-a from Final EIR/EIS

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	50
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155.00	91.00
tblConstructionPhase	NumDays	155.00	91.00
tblConstructionPhase	NumDays	155.00	175.00
tblConstructionPhase	NumDays	155.00	175.00
tblGrading	AcresOfGrading	151.88	99.00
tblGrading	AcresOfGrading	300.00	150.00
tblGrading	MaterialExported	0.00	168,000.00
tblGrading	MaterialExported	0.00	302,600.00
tblOffRoadEquipment	HorsePower	187.00	158.00

Natomas Levee Addendum No. 6 - Haul Route Option 1 - Yolo/Solano AQMD Air District, Winter

tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	94.00	88.80
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblOnRoadDust	HaulingPercentPave	94.00	88.80
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	10.70
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripLength	20.00	10.70
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripNumber	21,000.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	37,825.00	43,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	43,230.00

tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	68.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	104.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

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					
2020	8.2406	145.7017	47.1945	0.2639	545.8684	3.1881	549.0564	61.2535	2.9418	64.1954						
2021	7.6493	130.4927	45.4302	0.2506	548.2902	2.8838	551.1740	61.6582	2.6603	64.3185						
Maximum	**8.2406**	**145.7017**	**47.1945**	**0.2639**	**548.2902**	**3.1881**	**551.1740**	**61.6582**	**2.9418**	**64.3185**						

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					
2020	8.2406	145.7017	47.1945	0.2639	75.7553	3.1881	78.9434	11.2295	2.9418	14.1714						
2021	7.6493	130.4927	45.4302	0.2506	76.1005	2.8838	78.9843	11.3463	2.6603	14.0067						
Maximum	**8.2406**	**145.7017**	**47.1945**	**0.2639**	**76.1005**	**3.1881**	**78.9843**	**11.3463**	**2.9418**	**14.1714**						

	ROG	**NOx**	**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**	**86.12**	**0.00**	**85.65**	**81.63**	**0.00**	**78.07**	**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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

	ROG	NOx	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	Yolo Haul Trips Phase 1	Grading	5/1/2020	9/4/2020	5	91	
2	Sacramento Haul Trips Phase 1	Grading	5/1/2020	9/4/2020	5	91	
3	Yolo Haul Trips Phase 2	Grading	1/4/2021	9/3/2021	5	175	
4	Sacramento Haul Trips Phase 2	Grading	1/4/2021	9/3/2021	5	175	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 96

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
Yolo Haul Trips Phase 1	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 1	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 1	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 1	Graders	1	0.00	187	0.41
Yolo Haul Trips Phase 2	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 2	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 2	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 2	Graders	1	0.00	187	0.41

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
Yolo Haul Trips Phase 1	7	68.00	2.00	24,000.00	10.00	7.00	10.70	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 1	1	0.00	0.00	24,000.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT
Yolo Haul Trips Phase 2	7	104.00	2.00	43,230.00	10.00	7.00	10.70	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 2	1	0.00	0.00	43,230.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Yolo Haul Trips Phase 1 - 2020

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					15.4599	0.0000	15.4599	7.6278	0.0000	7.6278						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**15.4599**	**2.9454**	**18.4052**	**7.6278**	**2.7097**	**10.3376**						

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	1.4559	50.8759	8.6473	0.1292	467.3999	0.1503	467.5502	47.0404	0.1438	47.1842						
Vendor	7.3800e-003	0.2282	0.0502	5.5000e-004	1.2486	1.0200e-003	1.2497	0.1270	9.7000e-004	0.1279						
Worker	0.2551	0.1810	1.6816	4.9200e-003	60.5348	3.5300e-003	60.5383	6.1223	3.2600e-003	6.1255						
Total	**1.7184**	**51.2851**	**10.3791**	**0.1347**	**529.1833**	**0.1549**	**529.3382**	**53.2896**	**0.1480**	**53.4376**						

3.2 Yolo Haul Trips Phase 1 - 2020

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					7.7299	0.0000	7.7299	3.8139	0.0000	3.8139						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**7.7299**	**2.9454**	**10.6753**	**3.8139**	**2.7097**	**6.5237**						

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	1.4559	50.8759	8.6473	0.1292	58.9834	0.1503	59.1337	6.2441	0.1438	6.3879						
Vendor	7.3800e-003	0.2282	0.0502	5.5000e-004	0.1626	1.0200e-003	0.1636	0.0184	9.7000e-004	0.0194						
Worker	0.2551	0.1810	1.6816	4.9200e-003	7.7836	3.5300e-003	7.7871	0.8488	3.2600e-003	0.8520						
Total	**1.7184**	**51.2851**	**10.3791**	**0.1347**	**66.9296**	**0.1549**	**67.0844**	**7.1113**	**0.1480**	**7.2593**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.0494	38.8619	6.4082	0.0806	1.2252	0.0879	1.3131	0.3361	0.0841	0.4202						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.0494**	**38.8619**	**6.4082**	**0.0806**	**1.2252**	**0.0879**	**1.3131**	**0.3361**	**0.0841**	**0.4202**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.0494	38.8619	6.4082	0.0806	1.0959	0.0879	1.1837	0.3044	0.0841	0.3884						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.0494**	**38.8619**	**6.4082**	**0.0806**	**1.0959**	**0.0879**	**1.1837**	**0.3044**	**0.0841**	**0.3884**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					15.5217	0.0000	15.5217	7.7928	0.0000	7.7928						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**15.5217**	**2.6826**	**18.2044**	**7.7928**	**2.4680**	**10.2608**						

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	1.2730	44.3119	7.5881	0.1196	437.7898	0.1231	437.9129	44.0603	0.1178	44.1780						
Vendor	6.1800e-003	0.2098	0.0440	5.4000e-004	1.2486	5.1000e-004	1.2492	0.1270	4.9000e-004	0.1275						
Worker	0.3623	0.2474	2.3414	7.2600e-003	92.5826	5.2500e-003	92.5879	9.3635	4.8400e-003	9.3683						
Total	**1.6415**	**44.7691**	**9.9734**	**0.1274**	**531.6210**	**0.1289**	**531.7499**	**53.5507**	**0.1231**	**53.6738**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					7.7609	0.0000	7.7609	3.8964	0.0000	3.8964						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**7.7609**	**2.6826**	**10.4435**	**3.8964**	**2.4680**	**6.3644**						

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	1.2730	44.3119	7.5881	0.1196	55.2465	0.1231	55.3696	5.8485	0.1178	5.9662						
Vendor	6.1800e-003	0.2098	0.0440	5.4000e-004	0.1626	5.1000e-004	0.1631	0.0184	4.9000e-004	0.0189						
Worker	0.3623	0.2474	2.3414	7.2600e-003	11.9043	5.2500e-003	11.9095	1.2981	4.8400e-003	1.3029						
Total	**1.6415**	**44.7691**	**9.9734**	**0.1274**	**67.3134**	**0.1289**	**67.4422**	**7.1649**	**0.1231**	**7.2880**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	0.9172	34.3385	5.5792	0.0746	1.1474	0.0723	1.2198	0.3148	0.0692	0.3839						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.9172**	**34.3385**	**5.5792**	**0.0746**	**1.1474**	**0.0723**	**1.2198**	**0.3148**	**0.0692**	**0.3839**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	0.9172	34.3385	5.5792	0.0746	1.0263	0.0723	1.0986	0.2850	0.0692	0.3542						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.9172**	**34.3385**	**5.5792**	**0.0746**	**1.0263**	**0.0723**	**1.0986**	**0.2850**	**0.0692**	**0.3542**						

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.526397	0.037140	0.194621	0.111857	0.019784	0.005283	0.037518	0.055864	0.001328	0.001945	0.006704	0.000686	0.000873

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						
NaturalGas Unmitigated	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					
Other Non-Asphalt Surfaces	0	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**						

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					
Other Non-Asphalt Surfaces	0	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**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Unmitigated	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**						

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

Natomas Levee Addendum No. 6 - Haul Route Option 2

Yolo/Solano AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	96.00	Acre	96.00	4,181,760.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - No electricity.

Land Use - Size of Cache Creek Settling Basin Borrow Site.

Construction Phase - Schedule provided by GEI.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limitations.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Trips and VMT - Provided by GEI. 14-CY haul trucks. Only haul trips evaluated for Sac County.

On-road Fugitive Dust - Based on haul route.

Grading - Provided by GEI.

Construction Off-road Equipment Mitigation - Mitigation Measure 4.11-a from Final EIR/EIS

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	50
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155.00	66.00
tblConstructionPhase	NumDays	155.00	66.00
tblConstructionPhase	NumDays	155.00	130.00
tblConstructionPhase	NumDays	155.00	130.00
tblGrading	AcresOfGrading	151.88	99.00
tblGrading	AcresOfGrading	300.00	150.00
tblGrading	MaterialExported	0.00	168,000.00
tblGrading	MaterialExported	0.00	302,600.00
tblOffRoadEquipment	HorsePower	187.00	158.00

tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	94.00	93.30
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblOnRoadDust	HaulingPercentPave	94.00	93.30
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripLength	20.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripNumber	21,000.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	37,825.00	43,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	43,230.00

tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	68.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	104.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

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					
2020	0.3029	6.0874	1.6872	0.0121	14.6666	0.1085	14.7751	1.7731	0.1002	1.8734						
2021	0.5453	10.5093	3.1518	0.0221	28.5725	0.1923	28.7648	3.4596	0.1776	3.6372						
Maximum	**0.5453**	**10.5093**	**3.1518**	**0.0221**	**28.5725**	**0.1923**	**28.7648**	**3.4596**	**0.1776**	**3.6372**						

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					
2020	0.3029	6.0874	1.6872	0.0121	2.2055	0.1085	2.3140	0.3882	0.1002	0.4884						
2021	0.5453	10.5093	3.1518	0.0221	4.2853	0.1923	4.4776	0.7570	0.1776	0.9346						
Maximum	**0.5453**	**10.5093**	**3.1518**	**0.0221**	**4.2853**	**0.1923**	**4.4776**	**0.7570**	**0.1776**	**0.9346**						

	ROG	**NOx**	**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**	**84.99**	**0.00**	**84.40**	**78.12**	**0.00**	**74.18**	**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	**5-1-2020**	**7-31-2020**	6.3044	6.3044
3	**11-1-2020**	**1-31-2021**	1.6947	1.6947
4	**2-1-2021**	**4-30-2021**	5.3787	5.3787
5	**5-1-2021**	**7-31-2021**	3.7961	3.7961
		Highest	6.3044	6.3044

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	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**						

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	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**						

	ROG	**NOx**	**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

Natomas Levee Addendum No. 6 - Haul Route Option 2 - Yolo/Solano AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Yolo Haul Trips Phase 1	Grading	5/1/2020	7/31/2020	5	66	
2	Sacramento Haul Trips Phase 1	Grading	5/1/2020	7/31/2020	5	66	
3	Yolo Haul Trips Phase 2	Grading	1/4/2021	7/2/2021	5	130	
4	Sacramento Haul Trips Phase 2	Grading	1/4/2021	7/2/2021	5	130	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 96

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
Yolo Haul Trips Phase 1	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 1	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 1	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 1	Graders	1	0.00	187	0.41
Yolo Haul Trips Phase 2	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 2	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 2	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 2	Graders	1	0.00	187	0.41

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
Yolo Haul Trips Phase 1	7	68.00	2.00	24,000.00	10.00	7.00	12.00	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 1	1	0.00	0.00	24,000.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT
Yolo Haul Trips Phase 2	7	104.00	2.00	43,230.00	10.00	7.00	12.00	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 2	1	0.00	0.00	43,230.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Yolo Haul Trips Phase 1 - 2020

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					0.7034	0.0000	0.7034	0.3471	0.0000	0.3471						
Off-Road	0.1806	1.8333	1.0034	1.6100e-003		0.0972	0.0972		0.0894	0.0894						
Total	**0.1806**	**1.8333**	**1.0034**	**1.6100e-003**	**0.7034**	**0.0972**	**0.8006**	**0.3471**	**0.0894**	**0.4365**						

3.2 Yolo Haul Trips Phase 1 - 2020

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	0.0686	2.4530	0.3777	6.5400e-003	12.1754	7.3500e-003	12.1827	1.2355	7.0300e-003	1.2425						
Vendor	2.3000e-004	7.5500e-003	1.4900e-003	2.0000e-005	0.0351	3.0000e-005	0.0351	3.5700e-003	3.0000e-005	3.6100e-003						
Worker	7.8400e-003	5.2900e-003	0.0541	1.7000e-004	1.6986	1.2000e-004	1.6987	0.1721	1.1000e-004	0.1722						
Total	**0.0766**	**2.4658**	**0.4333**	**6.7300e-003**	**13.9090**	**7.5000e-003**	**13.9165**	**1.4112**	**7.1700e-003**	**1.4183**						

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					0.3517	0.0000	0.3517	0.1735	0.0000	0.1735						
Off-Road	0.1806	1.8333	1.0034	1.6100e-003		0.0972	0.0972		0.0894	0.0894						
Total	**0.1806**	**1.8333**	**1.0034**	**1.6100e-003**	**0.3517**	**0.0972**	**0.4489**	**0.1735**	**0.0894**	**0.2630**						

3.2 Yolo Haul Trips Phase 1 - 2020

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	0.0686	2.4530	0.3777	6.5400e-003	1.5809	7.3500e-003	1.5882	0.1763	7.0300e-003	0.1834						
Vendor	2.3000e-004	7.5500e-003	1.4900e-003	2.0000e-005	4.6000e-003	3.0000e-005	4.6400e-003	5.3000e-004	3.0000e-005	5.6000e-004						
Worker	7.8400e-003	5.2900e-003	0.0541	1.7000e-004	0.2199	1.2000e-004	0.2200	0.0243	1.1000e-004	0.0244						
Total	**0.0766**	**2.4658**	**0.4333**	**6.7300e-003**	**1.8053**	**7.5000e-003**	**1.8128**	**0.2011**	**7.1700e-003**	**0.2083**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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	0.0456	1.7883	0.2505	3.7900e-003	0.0542	3.8200e-003	0.0580	0.0149	3.6600e-003	0.0186						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0456**	**1.7883**	**0.2505**	**3.7900e-003**	**0.0542**	**3.8200e-003**	**0.0580**	**0.0149**	**3.6600e-003**	**0.0186**						

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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	0.0456	1.7883	0.2505	3.7900e-003	0.0485	3.8200e-003	0.0523	0.0135	3.6600e-003	0.0172						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0456**	**1.7883**	**0.2505**	**3.7900e-003**	**0.0485**	**3.8200e-003**	**0.0523**	**0.0135**	**3.6600e-003**	**0.0172**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					1.3582	0.0000	1.3582	0.6819	0.0000	0.6819						
Off-Road	0.3309	3.3400	1.9420	3.1700e-003		0.1744	0.1744		0.1604	0.1604						
Total	**0.3309**	**3.3400**	**1.9420**	**3.1700e-003**	**1.3582**	**0.1744**	**1.5325**	**0.6819**	**0.1604**	**0.8423**						

3.4 Yolo Haul Trips Phase 2 - 2021

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	0.1154	4.1012	0.6391	0.0116	21.9309	0.0115	21.9424	2.2254	0.0110	2.2364						
Vendor	3.9000e-004	0.0137	2.5600e-003	4.0000e-005	0.0690	3.0000e-005	0.0691	7.0400e-003	3.0000e-005	7.0700e-003						
Worker	0.0219	0.0143	0.1486	4.8000e-004	5.1168	3.4000e-004	5.1172	0.5185	3.1000e-004	0.5188						
Total	**0.1377**	**4.1292**	**0.7903**	**0.0122**	**27.1168**	**0.0119**	**27.1287**	**2.7509**	**0.0114**	**2.7623**						

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					0.6791	0.0000	0.6791	0.3409	0.0000	0.3409						
Off-Road	0.3309	3.3400	1.9420	3.1700e-003		0.1744	0.1744		0.1604	0.1604						
Total	**0.3309**	**3.3400**	**1.9420**	**3.1700e-003**	**0.6791**	**0.1744**	**0.8534**	**0.3409**	**0.1604**	**0.5014**						

3.4 Yolo Haul Trips Phase 2 - 2021

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	0.1154	4.1012	0.6391	0.0116	2.8475	0.0115	2.8590	0.3176	0.0110	0.3287						
Vendor	3.9000e-004	0.0137	2.5600e-003	4.0000e-005	9.0700e-003	3.0000e-005	9.1000e-003	1.0400e-003	3.0000e-005	1.0700e-003						
Worker	0.0219	0.0143	0.1486	4.8000e-004	0.6623	3.4000e-004	0.6626	0.0731	3.1000e-004	0.0734						
Total	**0.1377**	**4.1292**	**0.7903**	**0.0122**	**3.5188**	**0.0119**	**3.5308**	**0.3917**	**0.0114**	**0.4031**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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	0.0767	3.0401	0.4194	6.7500e-003	0.0976	6.0300e-003	0.1036	0.0268	5.7700e-003	0.0326						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0767**	**3.0401**	**0.4194**	**6.7500e-003**	**0.0976**	**6.0300e-003**	**0.1036**	**0.0268**	**5.7700e-003**	**0.0326**						

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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	0.0767	3.0401	0.4194	6.7500e-003	0.0874	6.0300e-003	0.0934	0.0243	5.7700e-003	0.0301						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**0.0767**	**3.0401**	**0.4194**	**6.7500e-003**	**0.0874**	**6.0300e-003**	**0.0934**	**0.0243**	**5.7700e-003**	**0.0301**						

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.526397	0.037140	0.194621	0.111857	0.019784	0.005283	0.037518	0.055864	0.001328	0.001945	0.006704	0.000686	0.000873

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						
Electricity Unmitigated						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						
NaturalGas Unmitigated	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					
Other Non-Asphalt Surfaces	0	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**						

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	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	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**						

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

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	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Unmitigated	0.3576	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						

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	0.0872					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.2703					0.0000	0.0000		0.0000	0.0000						
Landscaping	8.0000e-005	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						

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	0.0872					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.2703					0.0000	0.0000		0.0000	0.0000						
Landscaping	8.0000e-005	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						
Total	**0.3576**	**1.0000e-005**	**8.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				
Unmitigated				

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0				
Total					

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0				
Total					

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				
Unmitigated				

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0				
Total					

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

Natomas Levee Addendum No. 6 - Haul Route Option 2

Yolo/Solano AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	96.00	Acre	96.00	4,181,760.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - No electricity.

Land Use - Size of Cache Creek Settling Basin Borrow Site.

Construction Phase - Schedule provided by GEI.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limitations.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Trips and VMT - Provided by GEI. 14-CY haul trucks. Only haul trips evaluated for Sac County.

On-road Fugitive Dust - Based on haul route.

Grading - Provided by GEI.

Construction Off-road Equipment Mitigation - Mitigation Measure 4.11-a from Final EIR/EIS

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	50
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155.00	66.00
tblConstructionPhase	NumDays	155.00	66.00
tblConstructionPhase	NumDays	155.00	130.00
tblConstructionPhase	NumDays	155.00	130.00
tblGrading	AcresOfGrading	151.88	99.00
tblGrading	AcresOfGrading	300.00	150.00
tblGrading	MaterialExported	0.00	168,000.00
tblGrading	MaterialExported	0.00	302,600.00
tblOffRoadEquipment	HorsePower	187.00	158.00

tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	94.00	93.30
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblOnRoadDust	HaulingPercentPave	94.00	93.30
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripLength	20.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripNumber	21,000.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	37,825.00	43,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	43,230.00

tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	68.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	104.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

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					
2020	9.1202	182.7539	49.6760	0.3735	518.6757	3.2805	521.9562	61.1631	3.0303	64.1934						
2021	8.3563	160.3613	47.3501	0.3455	513.0515	2.9521	516.0036	60.5804	2.7257	63.3061						
Maximum	**9.1202**	**182.7539**	**49.6760**	**0.3735**	**518.6757**	**3.2805**	**521.9562**	**61.1631**	**3.0303**	**64.1934**						

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					
2020	9.1202	182.7539	49.6760	0.3735	76.0460	3.2805	79.3265	12.7014	3.0303	15.7317						
2021	8.3563	160.3613	47.3501	0.3455	75.0430	2.9521	77.9951	12.5748	2.7257	15.3004						
Maximum	**9.1202**	**182.7539**	**49.6760**	**0.3735**	**76.0460**	**3.2805**	**79.3265**	**12.7014**	**3.0303**	**15.7317**						

	ROG	**NOx**	**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**	**85.36**	**0.00**	**84.84**	**79.24**	**0.00**	**75.66**	**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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

	ROG	NOx	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	Yolo Haul Trips Phase 1	Grading	5/1/2020	7/31/2020	5	66	
2	Sacramento Haul Trips Phase 1	Grading	5/1/2020	7/31/2020	5	66	
3	Yolo Haul Trips Phase 2	Grading	1/4/2021	7/2/2021	5	130	
4	Sacramento Haul Trips Phase 2	Grading	1/4/2021	7/2/2021	5	130	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 96

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
Yolo Haul Trips Phase 1	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 1	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 1	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 1	Graders	1	0.00	187	0.41
Yolo Haul Trips Phase 2	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 2	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 2	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 2	Graders	1	0.00	187	0.41

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
Yolo Haul Trips Phase 1	7	68.00	2.00	24,000.00	10.00	7.00	12.00	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 1	1	0.00	0.00	24,000.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT
Yolo Haul Trips Phase 2	7	104.00	2.00	43,230.00	10.00	7.00	12.00	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 2	1	0.00	0.00	43,230.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Yolo Haul Trips Phase 1 - 2020

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					21.3159	0.0000	21.3159	10.5172	0.0000	10.5172						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**21.3159**	**2.9454**	**24.2612**	**10.5172**	**2.7097**	**13.2269**						

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	2.0334	72.9023	10.6146	0.2010	433.8871	0.2187	434.1058	43.9333	0.2093	44.1425						
Vendor	6.9800e-003	0.2253	0.0416	5.7000e-004	1.2486	9.9000e-004	1.2496	0.1270	9.4000e-004	0.1279						
Worker	0.2696	0.1438	1.8792	5.5400e-003	60.5348	3.5300e-003	60.5383	6.1223	3.2600e-003	6.1255						
Total	**2.3100**	**73.2714**	**12.5354**	**0.2071**	**495.6705**	**0.2233**	**495.8938**	**50.1825**	**0.2135**	**50.3960**						

3.2 Yolo Haul Trips Phase 1 - 2020

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					10.6579	0.0000	10.6579	5.2586	0.0000	5.2586						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**10.6579**	**2.9454**	**13.6033**	**5.2586**	**2.7097**	**7.9683**						

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	2.0334	72.9023	10.6146	0.2010	55.9309	0.2187	56.1497	6.1561	0.2093	6.3653						
Vendor	6.9800e-003	0.2253	0.0416	5.7000e-004	0.1626	9.9000e-004	0.1636	0.0184	9.4000e-004	0.0193						
Worker	0.2696	0.1438	1.8792	5.5400e-003	7.7836	3.5300e-003	7.7871	0.8488	3.2600e-003	0.8520						
Total	**2.3100**	**73.2714**	**12.5354**	**0.2071**	**63.8771**	**0.2233**	**64.1003**	**7.0232**	**0.2135**	**7.2367**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.3373	53.9278	6.7334	0.1177	1.6893	0.1119	1.8012	0.4634	0.1071	0.5705						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.3373**	**53.9278**	**6.7334**	**0.1177**	**1.6893**	**0.1119**	**1.8012**	**0.4634**	**0.1071**	**0.5705**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.3373	53.9278	6.7334	0.1177	1.5109	0.1119	1.6229	0.4196	0.1071	0.5267						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.3373**	**53.9278**	**6.7334**	**0.1177**	**1.5109**	**0.1119**	**1.6229**	**0.4196**	**0.1071**	**0.5267**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					20.8946	0.0000	20.8946	10.4903	0.0000	10.4903						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**20.8946**	**2.6826**	**23.5773**	**10.4903**	**2.4680**	**12.9583**						

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	1.7361	61.9745	9.1057	0.1816	396.7810	0.1743	396.9552	40.1760	0.1667	40.3427						
Vendor	5.8100e-003	0.2078	0.0361	5.6000e-004	1.2486	4.8000e-004	1.2491	0.1270	4.6000e-004	0.1274						
Worker	0.3826	0.1966	2.6281	8.1800e-003	92.5826	5.2500e-003	92.5879	9.3635	4.8400e-003	9.3683						
Total	**2.1245**	**62.3790**	**11.7699**	**0.1904**	**490.6122**	**0.1800**	**490.7922**	**49.6664**	**0.1720**	**49.8385**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					10.4473	0.0000	10.4473	5.2452	0.0000	5.2452						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**10.4473**	**2.6826**	**13.1299**	**5.2452**	**2.4680**	**7.7132**						

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	1.7361	61.9745	9.1057	0.1816	51.1473	0.1743	51.3216	5.6294	0.1667	5.7962						
Vendor	5.8100e-003	0.2078	0.0361	5.6000e-004	0.1626	4.8000e-004	0.1631	0.0184	4.6000e-004	0.0189						
Worker	0.3826	0.1966	2.6281	8.1800e-003	11.9043	5.2500e-003	11.9095	1.2981	4.8400e-003	1.3029						
Total	**2.1245**	**62.3790**	**11.7699**	**0.1904**	**63.2142**	**0.1800**	**63.3942**	**6.9459**	**0.1720**	**7.1180**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.1411	46.5971	5.7027	0.1064	1.5446	0.0895	1.6341	0.4237	0.0856	0.5093						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.1411**	**46.5971**	**5.7027**	**0.1064**	**1.5446**	**0.0895**	**1.6341**	**0.4237**	**0.0856**	**0.5093**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.1411	46.5971	5.7027	0.1064	1.3815	0.0895	1.4710	0.3837	0.0856	0.4693						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.1411**	**46.5971**	**5.7027**	**0.1064**	**1.3815**	**0.0895**	**1.4710**	**0.3837**	**0.0856**	**0.4693**						

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.526397	0.037140	0.194621	0.111857	0.019784	0.005283	0.037518	0.055864	0.001328	0.001945	0.006704	0.000686	0.000873

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						
NaturalGas Unmitigated	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					
Other Non-Asphalt Surfaces	0	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**						

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					
Other Non-Asphalt Surfaces	0	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**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Unmitigated	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**						

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

Natomas Levee Addendum No. 6 - Haul Route Option 2

Yolo/Solano AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	96.00	Acre	96.00	4,181,760.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Natomas Levee Addendum No. 6 - Haul Route Option 2 - Yolo/Solano AQMD Air District, Winter

Project Characteristics - No electricity.

Land Use - Size of Cache Creek Settling Basin Borrow Site.

Construction Phase - Schedule provided by GEI.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limitations.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Grader input with zero hours to allow for haul trips.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Off-road Equipment - Provided by GEI. Grader used as proxy for excavator with excavator specs due to model limits.

Trips and VMT - Provided by GEI. 14-CY haul trucks. Only haul trips evaluated for Sac County.

On-road Fugitive Dust - Based on haul route.

Grading - Provided by GEI.

Construction Off-road Equipment Mitigation - Mitigation Measure 4.11-a from Final EIR/EIS

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	50
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155.00	66.00
tblConstructionPhase	NumDays	155.00	66.00
tblConstructionPhase	NumDays	155.00	130.00
tblConstructionPhase	NumDays	155.00	130.00
tblGrading	AcresOfGrading	151.88	99.00
tblGrading	AcresOfGrading	300.00	150.00
tblGrading	MaterialExported	0.00	168,000.00
tblGrading	MaterialExported	0.00	302,600.00
tblOffRoadEquipment	HorsePower	187.00	158.00

tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	94.00	93.30
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblOnRoadDust	HaulingPercentPave	94.00	93.30
tblOnRoadDust	HaulingPercentPave	94.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripLength	20.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	5.30
tblTripsAndVMT	HaulingTripNumber	21,000.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,000.00
tblTripsAndVMT	HaulingTripNumber	37,825.00	43,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	43,230.00

tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	68.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	104.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

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					
2020	9.3244	183.6811	53.6406	0.3595	518.6757	3.2990	521.9747	61.1631	3.0480	64.2110						
2021	8.5228	160.9500	50.6392	0.3324	513.0515	2.9679	516.0194	60.5804	2.7408	63.3212						
Maximum	**9.3244**	**183.6811**	**53.6406**	**0.3595**	**518.6757**	**3.2990**	**521.9747**	**61.1631**	**3.0480**	**64.2110**						

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					
2020	9.3244	183.6811	53.6406	0.3595	76.0460	3.2990	79.3450	12.7014	3.0480	15.7494						
2021	8.5228	160.9500	50.6392	0.3324	75.0430	2.9679	78.0109	12.5748	2.7408	15.3155						
Maximum	**9.3244**	**183.6811**	**53.6406**	**0.3595**	**76.0460**	**3.2990**	**79.3450**	**12.7014**	**3.0480**	**15.7494**						

	ROG	**NOx**	**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**	**85.36**	**0.00**	**84.84**	**79.24**	**0.00**	**75.64**	**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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**						

	ROG	NOx	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	Yolo Haul Trips Phase 1	Grading	5/1/2020	7/31/2020	5	66	
2	Sacramento Haul Trips Phase 1	Grading	5/1/2020	7/31/2020	5	66	
3	Yolo Haul Trips Phase 2	Grading	1/4/2021	7/2/2021	5	130	
4	Sacramento Haul Trips Phase 2	Grading	1/4/2021	7/2/2021	5	130	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 96

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
Yolo Haul Trips Phase 1	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 1	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 1	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 1	Graders	1	0.00	187	0.41
Yolo Haul Trips Phase 2	Graders	3	10.00	158	0.38
Yolo Haul Trips Phase 2	Rubber Tired Dozers	2	10.00	247	0.40
Yolo Haul Trips Phase 2	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Sacramento Haul Trips Phase 2	Graders	1	0.00	187	0.41

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
Yolo Haul Trips Phase 1	7	68.00	2.00	24,000.00	10.00	7.00	12.00	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 1	1	0.00	0.00	24,000.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT
Yolo Haul Trips Phase 2	7	104.00	2.00	43,230.00	10.00	7.00	12.00	LD_Mix	HDT_Mix	HHDT
Sacramento Haul Trips Phase 2	1	0.00	0.00	43,230.00	10.00	7.00	5.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Yolo Haul Trips Phase 1 - 2020

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					21.3159	0.0000	21.3159	10.5172	0.0000	10.5172						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**21.3159**	**2.9454**	**24.2612**	**10.5172**	**2.7097**	**13.2269**						

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	2.1423	74.1349	12.6660	0.1943	433.8871	0.2280	434.1151	43.9333	0.2181	44.1514						
Vendor	7.3800e-003	0.2282	0.0502	5.5000e-004	1.2486	1.0200e-003	1.2497	0.1270	9.7000e-004	0.1279						
Worker	0.2551	0.1810	1.6816	4.9200e-003	60.5348	3.5300e-003	60.5383	6.1223	3.2600e-003	6.1255						
Total	**2.4048**	**74.5441**	**14.3978**	**0.1997**	**495.6705**	**0.2325**	**495.9030**	**50.1825**	**0.2223**	**50.4048**						

3.2 Yolo Haul Trips Phase 1 - 2020

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					10.6579	0.0000	10.6579	5.2586	0.0000	5.2586						
Off-Road	5.4728	55.5547	30.4072	0.0487		2.9454	2.9454		2.7097	2.7097						
Total	**5.4728**	**55.5547**	**30.4072**	**0.0487**	**10.6579**	**2.9454**	**13.6033**	**5.2586**	**2.7097**	**7.9683**						

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	2.1423	74.1349	12.6660	0.1943	55.9309	0.2280	56.1589	6.1561	0.2181	6.3742						
Vendor	7.3800e-003	0.2282	0.0502	5.5000e-004	0.1626	1.0200e-003	0.1636	0.0184	9.7000e-004	0.0194						
Worker	0.2551	0.1810	1.6816	4.9200e-003	7.7836	3.5300e-003	7.7871	0.8488	3.2600e-003	0.8520						
Total	**2.4048**	**74.5441**	**14.3978**	**0.1997**	**63.8771**	**0.2325**	**64.1096**	**7.0232**	**0.2223**	**7.2455**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.4468	53.5823	8.8356	0.1111	1.6893	0.1212	1.8105	0.4634	0.1159	0.5793						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.4468**	**53.5823**	**8.8356**	**0.1111**	**1.6893**	**0.1212**	**1.8105**	**0.4634**	**0.1159**	**0.5793**						

3.3 Sacramento Haul Trips Phase 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.4468	53.5823	8.8356	0.1111	1.5109	0.1212	1.6321	0.4196	0.1159	0.5355						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.4468**	**53.5823**	**8.8356**	**0.1111**	**1.5109**	**0.1212**	**1.6321**	**0.4196**	**0.1159**	**0.5355**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					20.8946	0.0000	20.8946	10.4903	0.0000	10.4903						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**20.8946**	**2.6826**	**23.5773**	**10.4903**	**2.4680**	**12.9583**						

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	1.8290	62.8828	10.8658	0.1756	396.7810	0.1822	396.9631	40.1760	0.1743	40.3503						
Vendor	6.1800e-003	0.2098	0.0440	5.4000e-004	1.2486	5.1000e-004	1.2492	0.1270	4.9000e-004	0.1275						
Worker	0.3623	0.2474	2.3414	7.2600e-003	92.5826	5.2500e-003	92.5879	9.3635	4.8400e-003	9.3683						
Total	**2.1975**	**63.3400**	**13.2511**	**0.1834**	**490.6122**	**0.1879**	**490.8001**	**49.6664**	**0.1796**	**49.8460**						

3.4 Yolo Haul Trips Phase 2 - 2021

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					10.4473	0.0000	10.4473	5.2452	0.0000	5.2452						
Off-Road	5.0907	51.3851	29.8775	0.0487		2.6826	2.6826		2.4680	2.4680						
Total	**5.0907**	**51.3851**	**29.8775**	**0.0487**	**10.4473**	**2.6826**	**13.1299**	**5.2452**	**2.4680**	**7.7132**						

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	1.8290	62.8828	10.8658	0.1756	51.1473	0.1822	51.3295	5.6294	0.1743	5.8037						
Vendor	6.1800e-003	0.2098	0.0440	5.4000e-004	0.1626	5.1000e-004	0.1631	0.0184	4.9000e-004	0.0189						
Worker	0.3623	0.2474	2.3414	7.2600e-003	11.9043	5.2500e-003	11.9095	1.2981	4.8400e-003	1.3029						
Total	**2.1975**	**63.3400**	**13.2511**	**0.1834**	**63.2142**	**0.1879**	**63.4021**	**6.9459**	**0.1796**	**7.1255**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.2347	46.2248	7.5105	0.1004	1.5446	0.0974	1.6420	0.4237	0.0931	0.5169						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.2347**	**46.2248**	**7.5105**	**0.1004**	**1.5446**	**0.0974**	**1.6420**	**0.4237**	**0.0931**	**0.5169**						

3.5 Sacramento Haul Trips Phase 2 - 2021

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Off-Road	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**						

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	1.2347	46.2248	7.5105	0.1004	1.3815	0.0974	1.4789	0.3837	0.0931	0.4768						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Total	**1.2347**	**46.2248**	**7.5105**	**0.1004**	**1.3815**	**0.0974**	**1.4789**	**0.3837**	**0.0931**	**0.4768**						

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.526397	0.037140	0.194621	0.111857	0.019784	0.005283	0.037518	0.055864	0.001328	0.001945	0.006704	0.000686	0.000873

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						
NaturalGas Unmitigated	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					
Other Non-Asphalt Surfaces	0	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**						

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					
Other Non-Asphalt Surfaces	0	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**						

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	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Unmitigated	1.9600	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-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	lb/day										lb/day					
Architectural Coating	0.4779					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.4812					0.0000	0.0000		0.0000	0.0000						
Landscaping	9.1000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005						
Total	**1.9600**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**						

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

Appendix B – Biological Database Searches

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

17 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812178, 3812177, 3812176, 3812168, 3812167, 3812166, 3812158 3812157 and 3812156;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	4.3	S4	G4
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
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
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 palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	3.3	S3	G3Q
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Symphyotrichum lentum	Suisun Marsh	Asteraceae	perennial rhizomatous	(Apr)May-	1B.2	S2	G2

	aster		herb	Nov			
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 29 December 2019].

Search the Inventory

Simple Search
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Glossary

Information

About the Inventory
About the Rare Plant Program
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Contributors

The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments

rareplants@cnps.org

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Woodland (3812167) OR Zamora (3812178) OR Eldorado Bend (3812177) OR Knights Landing (3812176) OR Grays Bend (3812166) OR Davis (3812156) OR Merritt (3812157) OR Winters (3812158))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Charadrius montanus mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 6 chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
Plegadis chihi white-faced ibis	ABNGE02020	None	None	G5	S3S4	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thaleichthys pacificus eulachon	AFCHB04010	Threatened	None	G5	S3	
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	

Record Count: 50

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

NOT FOR CONSULTATION

Location

Yolo County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

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

Endangered species

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

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

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

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

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

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

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

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

Birds

NAME	STATUS

NOT FOR CONSULTATION

Western Snowy Plover Charadrius nivosus nivosus — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/8035

Yellow-billed Cuckoo Coccyzus americanus — Threatened
There is **proposed** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/3911

Reptiles

NAME	STATUS
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. 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. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. 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 is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

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Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. 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. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Palmate-bracted Bird's Beak Cordylanthus palmatus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1616	Endangered

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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Data limitations

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

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

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

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged

aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

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

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