

**Addendum No. 2 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**

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Prepared for:



Sacramento Area Flood  
Control Agency

September 2018

State Clearinghouse  
No. 2009112025`

Prepared by:



Consulting  
Engineers and  
Scientists



Addendum No. 2 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**

State Clearinghouse No. 2009112025

Prepared for:

Sacramento Area Flood Control Agency  
1007 7th Street, 7th Floor  
Sacramento, CA 95814

Contact:

John Bassett, PE  
Director of Engineering  
(916) 874-7606

Prepared by:

GEI Consultants, Inc.  
2868 Prospect Park Drive, Suite 400  
Sacramento, CA 95670

Contact:

Drew Sutton  
Environmental Project Manager  
(916) 631-4500

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Project No. 1602400

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# Abbreviations and Acronyms

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ARCF GRR	American River Common Features General Reevaluation Report
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CRHR	California Register of Historic Resources
dbh	diameter at breast height
EIR	Environmental Impact Report
FWARG	Far Western Anthropological Research Group, Inc.
IDM	investigation-derived material
LAP	Levee Accreditation Project
MMRP	Mitigation Monitoring and Reporting Program
NHPA	National Historic Preservation Act
NEMDC	Natomas East Main Drainage Canal
NRHP	National Register of Historic Places
SAFCA	Sacramento Area Flood Control Agency
SRCSD	Sacramento Regional County Sanitation District
UAIC	United Auburn Indian Community
USACE	U.S. Army Corps of Engineers





**Table 1. Natomas Levee Improvement Program Environmental Documentation**

Document Title	Related Project Refinements and Modifications
	<p><i>hauling, including transporting excess soil from Reach I to Reach 19A and the Hewitt site.</i></p> <p>Analyzed use of borrow material for improvements in Reach I. <i>Project modifications and refinements no longer require local soil borrow.</i></p> <p>Analyzed staging areas, including Discovery Park. <i>Project modifications and refinements include additional detail concerning staging areas, and potential use of Reach 19A or Hewitt site for staging.</i></p> <p>Analyzed temporary closure of Garden Highway during construction. <i>Modifications and refinements include additional lane closures on Garden Highway.</i></p>
<p>Addendum to the Environmental Impact Report on the Natomas Levee Improvement Program, Phase 4a Landside Improvements Project. SCH 2009032097 (February 2011)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>2<sup>nd</sup> Addendum to the Environmental Impact Report on the Natomas Levee Improvement Program, Landside Improvements Program Phase 3 Landside Improvements Project. SCH 2008072060 (August 2011)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>2<sup>nd</sup> Addendum to the Environmental Impact Report on the Natomas Levee Improvement Program, Phase 4a Landside Improvements Project. SCH 2009032097 (April 2012)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>3<sup>rd</sup> Addendum to the Environmental Impact Report on the Natomas Levee Improvement Program, Phase 4a Landside Improvements Project. SCH 2009032097 (July 2012)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>Supplemental Environmental Impact Report No. 2 for the Natomas Levee Improvement Program Landside Improvements Project (Phase 2) SCH 2007062016 (October 2012)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>3<sup>rd</sup> Addendum to the Environmental Impact Report on the Natomas Levee Improvement Program, Landside Improvements Program Phase 3 Landside Improvements Project. SCH 2008072060 (July 2014)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>4<sup>th</sup> Addendum to the Environmental Impact Report on the Natomas Levee Improvement Program, Landside Improvements Program Phase 3 Landside Improvements Project. SCH 2008072060 (May 2017)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>
<p>Addendum 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. SCH 2009112025 (April 2018)</p>	<p>Not related to project refinements and modifications analyzed in this Addendum.</p>

### **3. Summary of the Phase 4b Project**

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The Phase 4b Project addresses underseepage, stability, erosion, penetrations, and levee encroachments along approximately 3.4 miles of the Sacramento River east levee (Reach A:16–20), approximately 1.8 miles of the American River north levee (Reach I:1–4), approximately 6.8 miles of the Natomas East Main Drainage Canal (NEMDC) west levee (Reach F–G), approximately 3.3 miles of the Pleasant Grove Creek Canal (PGCC) west levee (Reach E), and the gaps left in the improvements of previous phases at levee penetrations and road crossings on the Natomas Cross Canal (NCC) south levee. Plate 1 in Appendix A illustrates the reaches and phases of the NLIP project.

The Phase 4b project includes the following actions to address underseepage, stability, erosion, penetrations, and encroachments:

- 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.
- Installing a cutoff wall in the American River north levee east of Gateway Oaks Drive to Northgate Boulevard, and landside slope flattening.
- 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.
- Constructing waterside erosion protection in locations along the PGCC and NEMDC (south of Elkhorn Boulevard).
- Upgrading or removing culverts located beneath the PGCC, and providing replacement flood storage as needed.
- 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.
- 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.
- 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.

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

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### **4.1 Minor Project Refinements with No Environmental Impacts Not Evaluated in Detail**

The minor project refinements listed below would result in no new environmental impacts and would not increase the intensity or severity of impacts previously evaluated in the prior EIR, and therefore are not evaluated further in this Addendum.

- Change cutoff wall material to use slag cement-cement-bentonite (SCCB) to construct cutoff walls rather than cement-bentonite (CB), soil-cement-bentonite (SCB) or soil-bentonite (SB) backfill, as analyzed in the EIS/EIR for the Phase 4b Project. This change from the project as analyzed in the EIS/EIR for the Phase 4b Project would reduce the extent of the levee degrade required for construction because SCCB requires less material on either side of the cutoff wall trench to avoid potential cracking in the levee during construction; therefore, the previously construction impacts would be reduced.
- Instead of a levee and roadway raise of Garden Highway to replace City Sump 58 discharge pipes, the project has been modified to raise the pipes by 3 feet to span over the newly constructed cutoff wall instead. The relocated (raised) pipes, which would require less construction work than the levee and roadway raise would cross Garden Highway approximately 1 foot below the surface of the existing road, and would be placed within cement-based backfill material with a strength sufficient to allow traffic on Garden Highway to cross over the pipes without damaging them. The construction-related impacts associated with relocating these pipes was analyzed in the EIS/EIR for the Phase 4b Project, and this change would reduce those impacts by avoiding a raise to the roadway.
- Archaeological monitoring and Native American consultation would be conducted in accordance with the 2015 Programmatic Agreement for the American River Common Features project.

### **4.2 Minor Project Refinements Evaluated in Detail**

#### **4.2.1 Soil Balance**

Local soil borrow is no longer required for this Reach of the project. The EIS/EIR for the Phase 4b Project stated that up to 167,000 cubic yards of borrow would come from the Fisherman’s Lake Borrow Area and West Lakeside School Site. A commercial source of 15,900 tons within 30 miles was also

identified, along with haul routes along public roadways and adjacent to borrow sites and associated truck trips. The proposed modifications and refinements include a reduction in the amount of borrow that would be needed based on the change in cutoff wall type and construction refinements, all of which were analyzed in previous environmental documentation (see Table 1 for details). Approximately 1,740 tons of aggregate base and approximately 6,700 tons of asphalt concrete for the reconstruction of Garden Highway would be hauled from commercial sources within 30 miles of the project site. Approximately 7,800 tons of controlled low strength material (a sand-cement mixture) would be hauled to the project site to be used for capping the cutoff wall, and pipe bedding at City Sump 58.

Based on the reduction in the amount of borrow needed and considering potential haul of commercial fill material, there would be a net reduction in truck trips overall for USACE commercial import hauling, but the timing of hauling would change compared to what was analyzed in the EIS/EIR for the Phase 4b Project.

Excess soil material would need to be removed from the levee improvement sites along the American River north levee in Reach I. USACE has identified two sites to receive this excess material. At Reach 19A (located within Reach A, across Garden Highway from Sand Cove Park), these excess materials could be used to construct the planned seepage berm (also analyzed in the EIS/EIR for the Phase 4b project). This would reduce the amount of borrow material required for subsequent Reach A construction in 2023, and would result in earlier construction of the seepage berm in 2019.

USACE would also place excess soil material at the “Hewitt” site, located in Reach B, approximately 1.6 miles south of the Interstate 5 (I-5) Sacramento River crossing near the Sacramento International Airport. The Hewitt site was identified in the 2009 Phase 4a FEIR as the site of a “private river pump” where pump discharge pipes would be extended through the new levee footprint in this reach. Levee construction in the vicinity of the Hewitt site and the haul route is covered in the Phase 4a EIR, and the haul route from Reach I to the Hewitt site is covered in the EIS/EIR for the Phase 4b Project. During implementation of the activities covered by the Phase 4a FEIR, a portion of the Hewitt site was used for borrow, and the land surface is now 5 feet below the previous grade. As part of the proposed modifications and refinements to the project, excess soil materials excavated from the cutoff wall trench would be placed in this area to “re-fill” the borrow area back to grade. Neither SAFCA nor USACE are proposing to change the ultimate reuse of the Hewitt site (which was identified in the prior environmental documents as being returned to crop land), and the haul routes were previously identified in prior environmental documents (see Table 1 for details).

## **4.2.2 Drainage Blanket**

USACE proposes to install a drainage blanket on the landside slope of the American River north levee under the I-5 Bridges in place of a cutoff wall across the bridges. The existing concrete apron located on the landside slope would be removed, a drainage blanket would be placed within the existing levee slope, and the concrete apron would be replaced. The drainage blanket would provide a 200-foot overlap with the new cutoff wall being constructed on each side of I-5, further reducing flood risk in this area. The blanket drain and cutoff wall overlap would enable the construction of seepage remediation features without impacting traffic on I-5, and all construction activities would fall within the footprint analyzed in the EIS/EIR for the Phase 4b Project.



The traffic controls for cutoff wall construction would include minor modifications from those described in the EIS/EIR for the Phase 4b Project. Although the full closure of Garden Highway would last for 6 months or less and occur as described in the EIS/EIR for the Phase 4b Project, some lane closures would occur before and after the full closure of Garden Highway. Two left turn lanes from the off-ramps from I-5 onto Garden Highway, as well as the southern eastbound lane of Garden Highway would be closed for approximately 4 weeks.

## 5. Standard for Preparation of an Addendum

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If, after adoption of an EIR, altered conditions or changes or additions to a project are proposed, the State CEQA Guidelines provide three ways to address these changes: a Subsequent EIR (Section 15162), a Supplemental EIR (Section 15163), or an Addendum (Section 15164).

State CEQA Guidelines Section 15162<sup>2</sup> describe the conditions when preparing a Subsequent EIR is required.<sup>3</sup> A Subsequent EIR is appropriate if 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:

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

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<sup>2</sup> See State CEQA Guidelines, Section 15162(a)(1)-(3).

<sup>3</sup> A Supplemental EIR is required if any of the conditions described in Section 15162 would require preparation of a Subsequent EIR, but only minor additions or changes would be necessary to make the previous EIR adequate. State CEQA Guidelines, Section 15163(a)(1)-(2).

- 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 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 states that a lead agency may prepare an Addendum to a certified EIR if some changes or additions are necessary, but none of the conditions described above in Sections 15162 or 15163 calling for the preparation of a Subsequent or Supplemental EIR have occurred.

As explained in the analysis in Section 6, “Environmental Analysis,” the proposed minor 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 intensity or severity of previously identified significant or potentially significant effects.

In addition, no new information of substantial importance has arisen that shows that:

- the project would have new significant or potentially significant effects,
- the project would have substantially more intense or severe 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 have 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 substantiate that none of the conditions described in Section 15162 have occurred.

## **6. Environmental Analysis**

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This section of the Addendum analyzes the potential effects on the physical environment from implementation of the proposed minor modifications and refinements to the project. This analysis has been prepared to determine whether any of the conditions in State CEQA Guidelines Section 15162 (described in Section 1.4) would occur as a result of the proposed modifications and refinements.

The proposed project modifications and refinements in Section 4 would not cause any new significant or potentially significant impacts or a substantial increase in the intensity or severity of the impacts analyzed and disclosed in the prior EIR for the following topic areas, because the activities associated with the proposed modifications and refinements would result in negligible additional impacts that would not substantially increase the magnitude from the prior EIR:

- Agricultural Resources
- Land Use, Socioeconomics, and Population and Housing
- Geology, Soils, and Mineral Resources
- Hydrology and Hydraulics
- Water Quality
- Cultural Resources
- Paleontological Resources
- Noise
- Visual Resources
- Utilities and Service Systems
- Hazards and Hazardous Materials
- Environmental Justice

The following topic areas may be affected by the proposed modifications and refinements to the project and, therefore, are analyzed below.

## **6.1 Biological Resources**

USACE identified two additional special-status species that may be present at the project site: Western yellow-billed cuckoo and least Bell's vireo.

USACE reinitiated formal consultation on the Natomas Basin Project with the U.S. Fish and Wildlife Service (USFWS) on June 20, 2016. On August 11, 2016, USFWS responded with an amended Biological Opinion. Given the proposed avoidance measures and the few occurrences of both species in the Sacramento Valley, USFWS believes that adverse effects to least Bell's vireo are unlikely to occur and are therefore discountable for the purposes of consultation. USFWS found that the project may affect, but is not likely to adversely affect, the Western yellow-billed cuckoo because the affected potential habitat would be replaced in mitigation sites within the Natomas Basin, and there is other available habitat for the Western yellow-billed cuckoo to use during its migration. Correspondence related to special-status species is included in Appendix B.

Based on USFWS's findings in the Biological Opinion, potential impacts on the Western yellow-billed cuckoo and the least Bell's vireo would be less than significant.

Implementing Mitigation Measures 4.7-a (Minimize Effects on Woodland Habitat; Implement Woodland Habitat Improvements and Management Agreements; Compensate for Loss of Habitat; and Comply with Section 7 of the Federal Endangered Species Act, Section 2081 of the California Endangered Species Act, and Section 1602 of the California Fish and Game Code) and 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), which were previously adopted and

incorporated into the EIS/EIR for the Phase 4b Project, would further reduce these less-than-significant impacts. No further mitigation is required.

## 6.2 Transportation and Circulation

The traffic controls for cutoff wall construction would include minor modifications from those described in the EIS/EIR for the Phase 4b Project. Although the full closure of Garden Highway would last for 6 months or less and occur as described in the EIS/EIR for the Phase 4b Project, some lane closures would occur before and after the full closure of Garden Highway. Two left turn lanes from the off-ramps from I-5 onto Garden Highway, as well as the southern eastbound lane of Garden Highway would be closed for approximately 4 weeks. Although these lane closures would prolong impacts to traffic, these would not substantially worsen the significant traffic impact identified in the EIS/EIR for the Phase 4b Project.

The project modifications and refinements would reduce the amount of soil borrow needed, but would include transport of excess soil from Reach I to Reach 19A and/or the Hewitt site, and would include use of commercial aggregate materials. The net effect of these changes would be a reduction in the total number of truck trips compared to what was analyzed in the EIS/EIR for the Phase 4b Project. Due to the schedule changes, this hauling would occur over a different time period compared to what was analyzed in the EIS/EIR for the Phase 4b Project.

The trips and road closures would occur during September to November 2018, and April to November 2019. In the event that construction of Reach H would also occur in 2019, as part of its traffic safety and control plan USACE has committed that bridge closures on the NEMDC would not overlap with the closure of Garden Highway between Truxel Road and Northgate Boulevard. (USACE 2018)

Implementing Mitigation Measure 4.10-a (Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips) which was previously adopted and incorporated into the EIS/EIR for the Phase 4b Project, would reduce the impacts, but, as described in the EIS/EIR for the Phase 4b Project, the impact would remain significant and unavoidable.

## 6.3 Air Quality

USACE conducted an air quality analysis using the Sacramento Metropolitan Air Quality Management District’s (SMAQMD’s) Road Construction Emissions Model, versions 8.1.0 and 9.0.0 for the cutoff wall portion of the proposed modifications and refinements. This model estimates emission rates for reactive organic gases (ROG), nitrogen oxides (NO<sub>x</sub>), particulate matter up to 10 microns in diameter (PM<sub>10</sub>), particulate matter up to 2.5 microns in diameter (PM<sub>2.5</sub>), carbon dioxide (CO<sub>2</sub>), and carbon dioxide equivalent (CO<sub>2e</sub>). Modeling results are provided in Appendix C to this document.

**Table 1. Estimated Air Emissions for Natomas Reach I Cutoff Wall Project (Unmitigated)**

	ROG	CO	NOX	PM10	PM2.5	CO2	CO2e
Estimated Maximum Emissions (lbs/day)	9	56	95	25	9	10,307	10,411
SMAQMD Thresholds (lbs/day)	N/A	N/A	85	80	82	N/A	1,100*
Total (tons/project)	0.6	4.8	6.2	2.3	0.7	881.5	895.1
Federal Standards (tons/year)	25	100	25	100	100	N/A	N/A

Source: USACE 2018

**Table 2. Estimated Air Emissions for Natomas Reach I Cutoff Wall Project (Mitigated)**

	ROG	CO	NOX	PM10	PM2.5	CO2	CO2e
Estimated Maximum Emissions (lbs/day)	9	56	77	23	7	10,307	<b>10,411</b>
SMAQMD Thresholds (lbs/day)	N/A	N/A	85	80	82	N/A	1,100
Total (tons/project)	0.7	4.8	5	2.1	0.6	881.5	895.1
Federal Standards (tons/year)	25	100	25	100	N/A	N/A	N/A

Source: USACE 2018

USACE’s modeled emissions for construction of the Reach I cutoff wall are only slightly higher (approximately 2- to 4-pound-per-day increase) than those presented in the EIS/EIR for the Phase 4b Project. Implementing Mitigation Measure 4.11-a (Implement Applicable District-Recommended Control Measures to Minimize Temporary and Short-Term Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> During Construction), which was previously adopted and incorporated into the EIS/EIR for the Phase 4b Project, would reduce these impacts to a less-than-significant level. No further mitigation is required

Due to scheduling changes, the Reach I construction will now likely occur simultaneously with construction of improvements in Reach H. The EIS/EIR for the Phase 4b Project identified a cumulatively considerable significant impact regarding air quality, but the cumulative air emissions from simultaneous construction at Reaches H and I would not substantially increase this impact because the EIS/EIR for the Phase 4b Project analyzed cumulative impacts of construction during the Phase 3, 4a, and 4b projects, including simultaneous construction of levee improvements in multiple reaches. No revisions to the EIS/EIR for the Phase 4b Project are required.

## 6.4 Recreation

The proposed modifications and refinements include changes to recreational trail detours during construction. A temporary trail along the waterside top of the levee beneath I-5 would serve as the detour during construction of the drainage blanket. A temporary bike lane extending from Natomas Park Drive to Gateway Oaks Drive would also be made available during cutoff wall construction between Natomas Park Drive and Gateway Oaks Drive. The availability of these temporary trails and lanes during construction would reduce the temporary construction impact on recreational trail users identified in the EIS/EIR for the Phase 4b Project.

## 7. Conclusions

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As described in the preceding sections, the proposed minor modifications and refinements to the project do not require any revisions to the prior EIR because no new or substantially more intense or severe significant environmental impacts or potentially significant environmental impacts would result from the proposed modifications and refinements to the project. Section 15162 thresholds would not be triggered.

Based on the analysis in Section 3, “Environmental Analysis,” the proposed modifications and refinements to the project as 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 or Supplemental EIR. In summary, the proposed modifications and refinements to the project would not

- result in any new significant or potentially significant environmental effects,
- substantially increase the intensity or severity of previously identified effects,
- result in mitigation measures or alternatives previously found to be infeasible becoming feasible, or
- result in availability/implementation of mitigation measures or alternatives that are considerably different from those analyzed in the prior EIR that would substantially reduce one or more significant or potentially significant effects on the physical environment.

These conclusions confirm that a Subsequent or Supplemental EIR is not warranted, and this Addendum No. 2 to the prior EIR pursuant to State CEQA Guidelines Section 15164 is the appropriate CEQA document to evaluate and document the modifications and refinements (i.e., modifications to the timing of construction, and modifications to the size and location of woodland mitigation sites) to the project, and resulting impacts thereof. No changes are needed to the certified EIR or the adopted MMRP for the project.

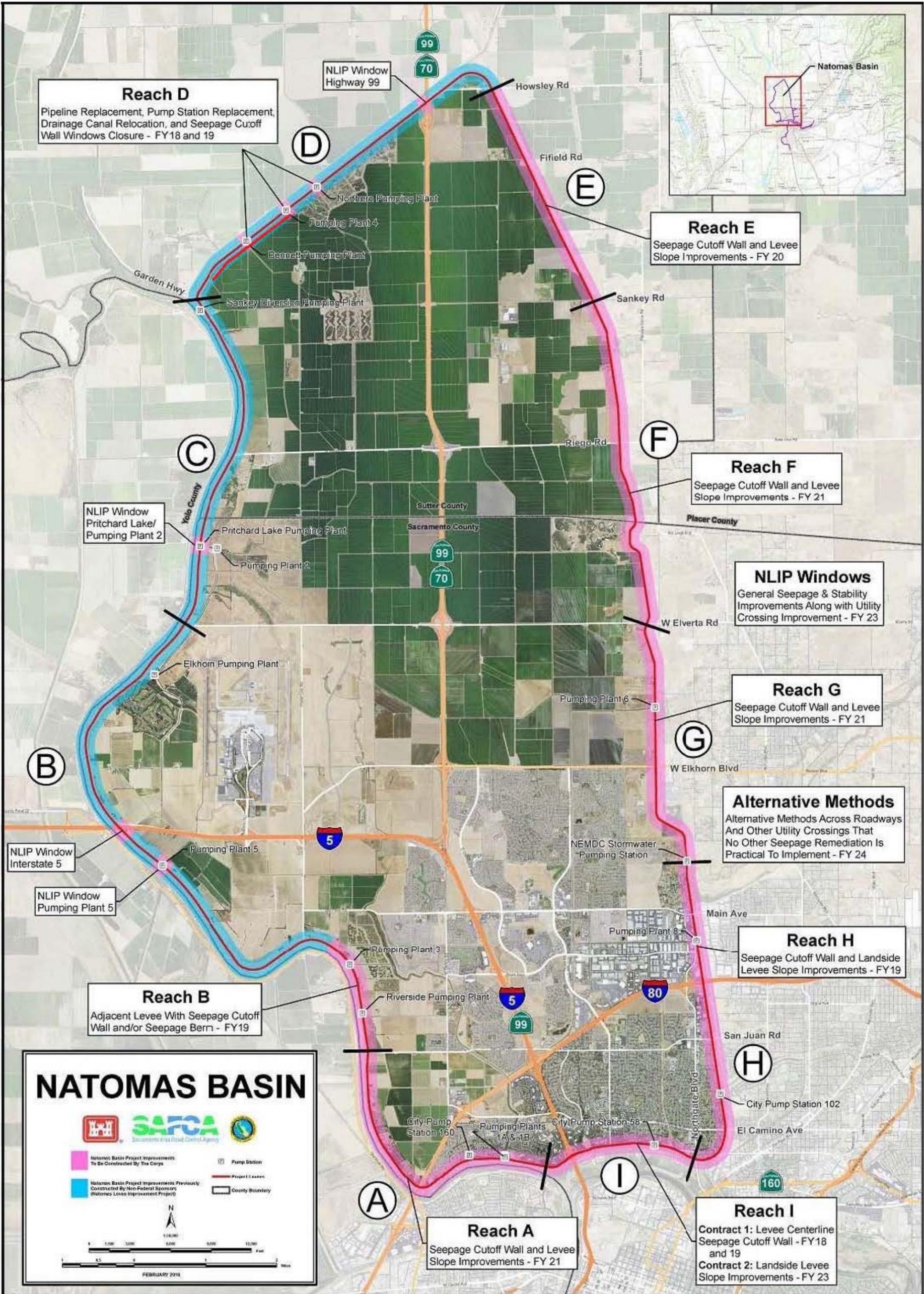
## 8. References

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United States Army Corps of Engineers, Sacramento District. 2018 (May 23) *Memorandum for Record: American River Common Features Natomas Basin Project, Reach I Construction Schedule Updates*. Sacramento, CA.

## **Appendix A. Plates**

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**Appendix B. Biological Resources  
Correspondence**

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# United States Department of the Interior



In Reply Refer to:  
08ESMF00-  
2010-F-0949-R002

FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Suite W-2605  
Sacramento, California 95825-1846

AUG 11 2016

Ms. Alicia E. Kirchner  
Chief, Planning Division  
U.S. Army Corps of Engineers, Sacramento District  
1325 J Street  
Sacramento, California 95814

Subject: Reinitiation of Formal Consultation on the Natomas Levee Improvement Program's  
Landside Improvements Phase 4b Project, Sacramento and Sutter Counties, California

Dear Ms. Kirchner:

This is in response to your June 20, 2016, request to reinitiate formal consultation with the U.S. Fish and Wildlife Service (Service) on the Natomas Levee Improvement Program (NLIP), Landside Improvements Project, Phase 4b (Phase 4b) in Sacramento and Sutter Counties, California. Your request was received in our office on June 22, 2016. The Phase 4b biological opinion (81420-2010-F-0949-1) was completed on October 12, 2010, amended on December 8, 2014, and tiered off a programmatic biological opinion (81420-2008-F-0195-5) for the entire NLIP project that was issued on October 9, 2008. The U.S. Army Corps of Engineers (Corps) has requested to reinitiate consultation on Phase 4b due to changes to the project description and in order to analyze effects to the federally listed as threatened western yellow-billed cuckoo (*Coccyzus americanus*) and endangered least Bell's vireo (*Vireo bellii pusillus*). In order for plans and specifications for the project to proceed, the Corps must conduct geotechnical borings. While this activity was included in the previous consultation, it was described as occurring during the active season of the federally-threatened giant garter snake (*Thamnophis gigas*). The Corps is now proposing to conduct geotechnical borings during the inactive season (October thru April). This biological opinion is issued under the authority of section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

This biological opinion is based on: (1) your June 20, 2016, biological assessment requesting reinitiation; (2) electronic mail sent from the Corps to the Service; and (3) other information available to the Service.

To provide ease of reading, language changed within a paragraph from the original biological opinion will be underlined. Therefore, the Phase 4b biological opinion is now amended as follows:

Page 2: Add the following paragraph just before **Consultation History for Phase 4b**:

Western Yellow-Billed Cuckoo

Nesting habitat for the yellow-billed cuckoo is comprised of large areas (at least 50 acres) of riparian habitat composed of cottonwood and willow trees. Due to the urbanization of the Sacramento area large amounts of riparian habitat have been lost along the Sacramento River. However, habitat does occur within the surrounding area along the lower American River and in the Yolo Bypass. Yellow-billed cuckoos have been observed along the lower American River as close as 3 miles to the action area in 2013 and 2015. Currently habitat in the action area exists on levees and consists of narrow, poorly connected habitat patches. It is unlikely that cuckoos would use this habitat for nesting. However, cuckoos could use the woody vegetation as stopover habitat during their spring migration to areas further north in the Sacramento Valley. The Corps has proposed to remove vegetation during the non-breeding season in order to avoid disturbing any birds that may be migrating through the area. The Corps will continue creating a woodland corridor on the western portion of the Natomas Basin as it parallels the Sacramento River. The project will double the amount of vegetation that is being removed through the creation of the corridor. Because there is other available habitat for the cuckoo to use during its migration and the habitat will be replaced, the Service concurs with the Corps finding of may affect, not likely to adversely affect the yellow-billed cuckoo.

Least Bell's Vireo

Least Bell's vireo uses early successional, dense, variable height structure, riparian habitat for nesting and foraging. While this habitat exists just outside the action area, construction will not occur in suitable nesting habitat for the vireo. Woody vegetation exists on the levee and landside toe, but is maintained for an open understory in order to conduct levee inspections. Vegetation in the action area will be removed prior to March when birds begin to migrate into California. Dense riparian habitat is available for the vireo in the lower American River Parkway as well as in the Yolo Bypass. There have been a small number of least Bell's vireo observed in the Yolo Bypass and in southern Sacramento County at the Bufferlands, however there are no known recent occurrences of breeding of least Bell's vireo in the Sacramento Valley. Given the recent occurrences 2010, 2011, and 2013 (eBird 2016) in the surrounding area it is possible that over the course of the project timeframe vireos may use the surrounding area more frequently. However, the habitat quality makes it unlikely that they would use the riparian vegetation that is being removed as part of the project. The Corps is planning to continue creating a woodland corridor on the western portion of the Natomas Basin as it parallels the Sacramento River. The project will double the amount of vegetation that is being removed through the creation of the corridor. Given the avoidance measures that the Corps intends to include (vegetation removal prior to the nesting season) and the few occurrences in the Sacramento Valley, the Service believes that adverse effects to the least Bell's vireo are unlikely to occur, and are therefore discountable for the purposes of this consultation.

Page 2: Add the following under **Consultation History for Phase 4b:**

June 20, 2016. The Corps reinitiated section 7 consultation on Phase 4b due to changes in the project description and an analysis for western yellow-billed cuckoo and least Bell's vireo.

Page 5: Add the following paragraph in the **Project Description** under **Levee Modifications and Seepage Remediation:**

Eighty geotechnical borings will be conducted along Reaches E, F, and G in order to identify utilities and refine final designs of the project. All of the borings will be done with a drill rig and occur between November and March of 2016/2017 in upland giant garter snake habitat.

Page 8: Add the following paragraph under **American River North Levee Reach I: 1-4:**

A portion of Discovery Park will serve as a staging area for construction of Reach I. The levee crown will also serve as additional staging areas during construction. No woody vegetation will be removed in the staging area. The area is currently in annual grassland.

Page 10: Add the following paragraph under **Natomas East Main Drainage Canal West Levee, Reaches F-H:**

Staging for Reach H will occur on both the landside and the waterside toe of the levee. The waterside staging will occur between the West El Camino and San Juan Bridges. It is a large annual grassland and will be used for soil storage. Storm water pollution prevention measures will be installed, including sediment fencing which will prevent spills of soil into the channel. Due to high amounts of urbanization on the landside of the levee and presence of woody vegetation along the channel it is unlikely that giant garter snakes will use this portion of the Natomas East Main Drainage Canal.

Page 33: Change the following paragraph in the **Conservation Measures** under *Giant Garter Snake* from:

Some components of the proposed project may occur prior to the beginning of the defined GGS active season. Activities such as utility relocations, removal of residential or agricultural structures, or certain geotechnical borings (38 borings along the NEMDC between the American River Parkway and the Pump Station) will be conducted before May 1. Typically, this work will occur farther than 200 feet from suitable aquatic habitat for GGS or in areas unsuitable for estivation such as roads. Twenty-seven hand borings will occur in areas where GGS may be overwintering. A Corps biologist will survey the area prior to hand boring site selection. Boring locations will be selected that are at least 30 feet from any crack or burrow in the levee that could be used by the snake for overwintering. A biologist will be present on site during boring activities occurring outside the active season of the GGS. All other borings will occur between May 1 and October 1.

To:

Some components of the proposed project may occur prior to the beginning of the defined GGS active season. Activities such as utility relocations, removal of residential or agricultural structures, or certain geotechnical borings (38 borings along the NEMDC between the American River Parkway and the Pump Station and 80 borings along the Reaches E, F, and G) will be conducted before May 1. Typically, this work will occur farther than 200 feet from suitable aquatic habitat for GGS or in areas unsuitable for estivation such as roads. Twenty-seven hand borings and 80 drill rig borings will occur in areas where GGS may be overwintering. A Corps biologist will survey the area prior to hand boring site selection. Boring locations will be selected that are at least 30 feet from any crack or burrow in the levee that could be used by the snake for overwintering. A biologist will be present on-site during boring activities occurring outside the active season of the GGS. All other borings will occur between May 1 and October 1.

Page 38: Change the following paragraph in the **Effects of the Project** under Giant Garter Snake from:

Components of Phase 4b work that will occur outside of the GGS's active season include utility relocation, removal of residential or agricultural structures, and transplantation and planting of trees and elderberry shrubs. These will be conducted before April 15. GGS have been observed to overwinter as far as 250 meters from aquatic habitat (Wylie *et al.* 1997). Given that GGS are generally inactive during the winter months, SAFCA's working during the inactive season will kill GGS that may be overwintering within the construction footprint. To reduce disturbing and/or killing GGS that may be overwintering due to the 38 borings the Corps/SAFCA will have a biologist survey the proposed hand auger site and select sites that are at least 30 feet from a crack or burrow that could be used by an overwintering GGS. This should reduce the likelihood of the hand augering killing or injuring an overwintering snake. For other activities, to reduce disturbing and/or killing GGS that may be overwintering in uplands that will be affected by working out of season, SAFCA has proposed to place exclusionary fencing which will be erected prior to October 1 in areas in which GGS may overwinter and SAFCA is proposing to remove/plant trees or elderberries. The fencing will exclude GGS from entering the area where SAFCA will be construction during the winter. This fence will be monitored daily prior to and during construction to insure that there are no breaches that a snake could get through. Excluding snakes from these areas will affect the GGS by limiting its ability to utilize suitable upland habitat for winter hibernation and by changing its dispersal behavior. Increased construction activity in areas where GGS are known to occur could expose snakes to increased risks of injury and mortality from predation, exposure, vehicular traffic, and construction equipment. It may be forced to disperse through and/or around the construction sites in response to habitat changes and seasonal indicators at a time when snakes are slower moving due to temperatures. Areas that are unlikely to have overwintering GGS include areas, which have active construction or agricultural activities occurring on them.

To:

Components of Phase 4b work that will occur outside of the GGS's active season include utility relocation, removal of residential or agricultural structures, and transplantation and planting of trees and elderberry shrubs. These will be conducted before April 15. GGS have been observed to overwinter as far as 250 meters from aquatic habitat (Wylie *et al.* 1997). Given that GGS are generally inactive during the winter months, SAFCA's working during the inactive season will kill GGS that may be overwintering within the construction footprint. To reduce disturbing and/or killing GGS that may be overwintering due to the 118 borings, the Corps/SAFCA will have a biologist survey the proposed hand auger site and select sites that are at least 30 feet from a crack or burrow that could be used by an overwintering GGS. This should reduce the likelihood of the hand augering killing or injuring an overwintering snake. For other activities, to reduce disturbing and/or killing GGS that may be overwintering in uplands that will be affected by working out of season, SAFCA has proposed to place exclusionary fencing which will be erected prior to October 1 in areas in which GGS may overwinter and SAFCA is proposing to remove/plant trees or elderberries. The fencing will exclude GGS from entering the area where SAFCA will be construction during the winter. This fence will be monitored daily prior to and during construction to insure that there are no breaches that a snake could get through. Excluding snakes from these areas will affect the GGS by limiting its ability to utilize suitable upland habitat for winter hibernation and by changing its dispersal behavior. Increased construction activity in areas where GGS are known to occur could expose snakes to increased risks of injury and mortality from predation, exposure, vehicular traffic, and construction equipment. It may be forced to disperse through and/or around the construction sites in response to habitat changes and seasonal indicators at a time when snakes are slower moving

due to temperatures. Areas that are unlikely to have overwintering GGS include areas, which have active construction or agricultural activities occurring on them.

Page 48: Add the following to the Literature Cited:

eBird. 2016. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: <http://www.ebird.org>. (Accessed: August 10, 2016).

The remaining portions of the December 8, 2014, biological opinion remain the same. This concludes formal consultation with the Corps on the Natomas Levee Improvement Program, Landside Improvements Phase 4b Project. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the proposed action may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this opinion; or (4) a new species or critical habitat is designated that may be affected by the proposed action.

If you have any questions regarding this biological opinion on the Natomas Landside Improvements Project, please contact Jennifer Hobbs ([Jennifer\\_hobbs@fws.gov](mailto:Jennifer_hobbs@fws.gov)), Senior Fish and Wildlife Biologist at (916) 414-6541.

Sincerely,



 Jennifer M. Norris  
Field Supervisor

cc:

Robin Rosenau, Corps, Sacramento, CA  
Tanya Sheya, CDFW, Rancho Cordova, CA  
Peter Buck, SAFCA, Sacramento, CA

## **Appendix C. Air Quality Modeling Data**

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Equipment default values for horsepower and hours/day can be overridden in cells D391 through D424 and F391 through F4

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		226		8
Crawler Tractors		209		8
Crushing/Proc. Equipment		85		8
Excavators		163		8
Forklifts		89		8
Generator Sets		84		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		46		8

END OF DATA ENTRY SHEET

















Signal Boards		6		8	3.00	0.53	5.0
Skid Steer Loaders		65		8	35.00	0.27	2.0
Surfacing Equipment		254		8	954.00	0.50	0.0
Sweepers/Scrubbers		64		8	64.00	0.42	6.0
Tractors/Loaders/Backhoes		98		8	28.00	0.27	0.0
Trenchers		81		8	21.00	0.50	0.0
Welders		46		8	4.00	0.45	6.0

END OF DATA ENTRY SHEET