4.0 REVISIONS TO THE DEIS/DEIR

Changes to the text of the Phase 3 DEIS/DEIR are shown in this chapter, in page order, with a line through the text that has been deleted (~~strikeout~~) or underlining where new text has been added.

4.1 REVISIONS TO CHAPTER 1.0, "INTRODUCTION AND STATEMENT OF PURPOSE AND NEED"

PAGE 1-13

In response to Comments O2-5, O2-6, O2-7, O5-8, and I2-4, the paragraph entitled, "Encroachment" in Section 1.4.2.1, "Flood Problems and Needs," on page 1-13 of the Phase 3 DEIS/DEIR is revised as follows:

> USACE levee guidance requires the removal of vegetation greater than 2 inches in diameter on the levee slopes and within 15 feet of the waterside and landside levee toes. This guidance also may require removal of encroachments on the levee slopes, including utilities, fences, structures, retaining walls, driveways, and other features that penetrate the levee prism or affect operation and maintenance of the levee system. Substantial encroachments are present on the Sacramento River east levee. **Plates 6a** and **6b** illustrate typical encroachments in the area. Should any of these existing encroachments be determined to threaten the integrity of the levee or otherwise increase flood risk unacceptably, the encroachments would need to be removed. RD 1000 is the entity initially responsible for removing encroachments that have been identified as threatening levee integrity. Any such encroachment removal would be subject to future, separate environmental review.

4.2 REVISIONS TO CHAPTER 2.0, "ALTERNATIVES"

PAGE 2-21

To provide clarification regarding the proposed habitat conservation components for Swainson's hawk foraging habitat on agricultural lands, Section 2.3.3.3, "Rice and Field Crop Preservation," of the Phase 3 DEIS/DEIR is revised as follows:

> A significant portion of the borrow material needed to construct the Phase 3 Project would be obtained from existing rice or field crop lands. Following removal, stockpiling, and respreading of the topsoil, these lands would be graded, returned to rice or field crop cultivation, and managed to enhance the habitat values associated with these agricultural activities. It is estimated that rice production would be lost for one year, and field crop production would be lost for two years.
>
> To partially mitigate impacts to suitable Swainson's hawk foraging habitat, SAFCA would create, enhance, and preserve (where feasible) agricultural lands, preferably on sites (as identified in Section 2.3.8.3) used to obtain borrow material where feasible. Particular types of foraging habitat, particularly alfalfa and hay crops, provide higher value foraging habitat for Swainson's hawks than other habitat types (Estep 1989, Estep 2008, Woodbridge 1998). The characteristics that contribute to the high value of this habitat include:
>
> - low vegetation structure, which increases prey accessibility;
> - relatively large prey populations due to abundant cover and food;
> - farming operations, such as weekly irrigation, which increases cover and food for prey; and
> - regular mowing, which lowers vegetation structure, disturbs prey, and increases accessibility.

SAFCA would acquire and preserve agricultural land (preferably lands also used to obtain borrow material) and manage it specifically to provide habitat types (e.g., agricultural and/or other vegetation types) that would provide high-quality foraging habitat for Swainson's hawk throughout the nesting season. Other factors that contribute to the value of the Swainson's hawk foraging habitat being preserved include:

- its proximity to other preserved habitat (i.e., larger contiguous parcels of suitable foraging habitat generally provide greater foraging value than smaller parcels), and

- managing foraging habitat for Swainson's hawk over the long term or in perpetuity.

Giant garter snakes have adapted successfully to typical rice agricultural practices because rice fields provide sufficient water, cover, and food during the snake's active season. Therefore, the success criterion for the Brookfield rice mitigation site is the continued production of rice using the methodologies developed for the NBHCP. In the first year, t~~T~~his site would be monitored qualitatively once per month between May 1 and September 30~~, and through the annual review of water supply and harvest records.~~ to demonstrate successful site restoration to rice production. Subsequently, the site would be managed according to NBHCP guidelines to ensure that rice production continues appropriately in perpetuity.

PAGE 2-21

As a clarification regarding consultation with agencies for woodland habitat performance criteria, the first paragraph on page 2-21 of the Phase 3 DEIS/DEIR (Section 2.3.3.5, "Woodlands") is revised as follows:

A monitoring plan with performance criteria would be developed to determine the progress of the woodland habitats towards providing adequate mitigation. The criteria for measuring performance would be used to determine if the conservation component is trending toward sustainability (reduced human intervention) and to assess the need for adaptive management (e.g., changes in design or maintenance revisions). These criteria must be met for the conservation component to be declared successful, both during a particular monitoring year and at the end of the establishment period. These performance criteria, which would be developed in consultation with USFWS, National Marine Fisheries Service (NMFS), and DFG, would include, but are not limited to:

PAGE 2-27

In response to Comments O4-5 and 04-17, the second paragraph in Section 2.3.74, "Natomas East Main Drainage Canal West Levee," on page 2-27 of the Phase 3 DEIS/DEIR is revised as follows:

Construction is anticipated to require three headings working in back-to-back 12-hour shifts per day with 24-hours-per-day operation required to complete the cutoff wall before the flood season. A 6-day work (Monday through Saturday) week is expected (with maintenance on Sunday), with a total of 75 working days to complete cutoff wall installation. Sections of East Levee Road, including the intersection with Sorento Road, would be closed for approximately three months during construction. Alternative neighborhood access would be provided for residents north of the NEMDC Stormwater Pumping Station whose driveways connect to East Levee Road. Except for its intersection with East Levee Road, Sorento Road would remain open during construction. If the cutoff wall is constructed with a CB mix, up to 167,000 cy of excess soil from the excavation of the trench would be used to construct the levee improvement between Elkhorn Boulevard and the NEMDC Stormwater Pumping Station. North of the NEMDC Stormwater Pumping Station to Elkhorn Boulevard, levee widening and maintenance area acquisition would

occur similar to what is described for the PGCC west levee. **Appendix H**, Section 3 provides details of the general construction plan and the construction sequence.

PAGE 2-28

In response to Comment Letter S5 and to provide clarification and additional detail, the third paragraph under Section 2.3.7.6, "Reclamation District 1000 Pumping Plant No. 2," on page 2-28 of the Phase 3 DEIS/DEIR is revised as follows:

> The replacement outfall structure would be constructed close to the location of the original Pumping Plant No. 2 outfall structure. The concrete outfall structure would have a footprint of approximately 21 by 21 feet. A sheet pile cofferdam would be used to isolate and dewater an area of approximately 23 by 23 feet for instream construction. Construction of the cofferdam and dewatering would occur during an in-water work window when sensitive fish species are least likely to be present (e.g., July 1–October 31). Further, sheet pile installation operational controls and a fish rescue plan would be developed and implemented during cofferdam construction and dewatering activities to avoid and/or minimize the potential for disturbance and/or fish stranding. Upon completion of construction, the sheetpile wall would be cutoff at the sediment-water interface. The embedded portion of the sheetpile wall would be left in place for erosion protection. Riprap stone protection would be placed on the water side of the outfall structure extending down the bank ~~to the streambed and~~ approximately 20 feet into the river channel without dewatering. The existing outfall structure, discharge piping, and some abandoned pilings in the river would be removed.

PAGE 2-29

In response to Comment Letter S5 and to provide clarification and additional detail, Section 2.3.7.7, "Prichard and Elkhorn Pumping Plant Modifications," on page 2-29 of the Phase 3 DEIS/DEIR is revised:

> Because the Basin is surrounded by levees, NCMWC water is pumped into the Basin using NCMWC facilities and returned to the river via RD 1000's drainage system and pumping plants. Because the discharge pipes are required to cross the levee above the new "200-year" design flood elevation, the existing pump house and gate structure for the NCMWC Elkhorn Pumping Plant would need to be removed. The existing manifold structure and the gate structure for the NCMWC Prichard Pumping Plant would also need to be removed. The existing pumps at both pumping plants might require modification or replacement to continue existing design performance after the levee improvements and pipe raising.
>
> As discussed in Chapter 5.0, "Cumulative and Growth-Inducing Impacts, and Other Statutory Requirements," the demolition of the Prichard and Elkhorn Pumping Plants and the removal of the intake pipes are part of the American Basin Fish Screen and Habitat Improvement Project (ABFS), which would include a replacement pumping facility on the Sacramento River near the intersection of Garden Highway and Sankey Road. As a result, the construction activities to be included in the Phase 3 Project associated with the pumping plants could vary depending on the timing of the ABFS project in relation to Phase 3 Project activities. Detail regarding ~~the~~ potential timing scenarios, anticipated construction equipment and duration, and hauling requirements for Prichard and Elkhorn Pumping Plant modifications are contained in **Appendix H**, Section 7.

4.3 REVISIONS TO CHAPTER 3.0, "AFFECTED ENVIRONMENT"

PAGE 3-7

In response to Comment O4-9, the second paragraph in Section 3.3.2.1, "Land Uses in the Project Area," on page 3-7 of the Phase 3 DEIS/DEIR is revised as follows:

> Within the Phase 3 Project area, land uses located adjacent to the PGCC west levee and the Sacramento River east levee are primarily agricultural. On the lower NEMDC, the west levee forms the eastern boundary of the communities of North and South Natomas with residences and businesses located immediately adjacent to the west levee, including the Valley View Acres community. Along the Sacramento River east levee, there are approximately 40 residences, a public boat launch facility and 2 private marinas located on the water side of the levee and approximately 7 rural residences located on the land side of the levee in Reaches 5A–9B. The two private marinas and public boat launch facility operated by the Sacramento County Regional Parks Department are located in Reach 9B, close to one another near the I-5 Bridge. Facilities at the marinas consist of parking, shaded picnic areas, boat docks and boat slips, restaurants and bars/taverns, and restrooms. Facilities at the Sacramento County Elkhorn Boat Launch Facility consist of parking, boat ramp, shaded picnic facilities, and restrooms. Within the Elkhorn Borrow Area there are approximately 6 farm residences with associated farm structures and equipment storage yards.

PAGE 3-10

As a clarification and in response to Comment O4-10, Section 3.3.2.2, "Relevant Land Use Plans and Policies," under "City of Sacramento General Plan" on page 3-10 of the Phase 3 DEIS/DEIR is revised as follows:

> At the time of this writing, the *City of Sacramento General Plan 2030 Update* is in the review process (public review period for the draft general plan ended July 31, 2008). The *City of Sacramento General Plan 2006* contains goals and policies related to flood damage reduction and the phased conversion of agricultural properties, as well as the provision of sufficient housing and commercial and economic opportunities (City of Sacramento 1988). The City has a program with SAFCA and USACE in which it works with SAFCA and other responsible agencies to resolve floodplain restrictions. The following policies from the *City of Sacramento General Plan 2006* may be relevant to this project.

PAGE 3-54

In response to Comments O3-1 and O4-11, Table 3.12-1 on page 3-54 of the Phase 3 DEIS/DEIR is revised as follows:

Table 3.12-1
Project Area Roadway Network

Roadways	Description
SR 99/70	SR 99/70 is a primary regional transportation corridor within Sutter County and supports north-south regional travel. SR 99 extends from I-5 in the project area north through Sacramento and Sutter Counties to the Butte County line. The roadway has two to four lanes over its length and provides regional access to the Sacramento metropolitan area in the south and the cities of Gridley and Chico in the north. SR 70 serves as the north-south regional travel corridor providing connection to Butte County to the north and Sacramento County to the south. SR 70 is a two-lane roadway that extends from the Yuba County line in the north, south to a junction with SR 99. At the junction with SR 99, SR 70 continues south as SR 99/70 to the Sacramento County line. The roadway provides regional access to the cities of Sacramento and Marysville.

Table 3.12-1
Project Area Roadway Network

Roadways	Description
I-5	I-5 is a primary regional transportation corridor within Sacramento County, providing connection between the city and county of Sacramento and Yolo County. It provides primary access to the Airport just west of Powerline Road.
I-80	I-80 is a primary regional transportation corridor within the city and county of Sacramento, intersecting I-5 just south of San Juan Road.
Garden Highway	Garden Highway is a north/south two-lane roadway that extends north from the Sacramento city limits along the Sacramento River to Yuba City. Garden Highway serves as an alternative north/south route to SR 99. It provides primary access for residences along the water side of the Sacramento River east levee. Cyclists also use this roadway for commuting to and from work/school.
Howsley Road	Howsley Road is an east/west two-lane roadway that intersects SR 99/70 at the NCC. It crosses the PGCC and connects with Pleasant Grove Road just west of the Sutter/Placer County line.
Natomas Road	Natomas Road is a north/south two-lane roadway on top of the west levee of the PGCC in Sutter County. It extends south from Howsley Road and becomes East Levee Road between Riego Road and West Elverta Road.
Pacific Avenue	Pacific Avenue is a north/south two-lane roadway that extends from Striplin Road to Howsley Road in Sutter County.
Powerline Road	Powerline Road is a north/south two-lane roadway that parallels SR 99/70, providing an alternate north/south route to Garden Highway and SR 99/70 from Sankey Road in Sutter County to Garden Highway in Sacramento County.
Riego Road	Riego Road is an east/west two-lane roadway extending from Garden Highway in Sutter County to Base Line Road in Placer County.
Sankey Road	Sankey Road is an east/west two-lane roadway in Sutter County that extends from Garden Highway east across SR 99/70.
Striplin Road	Striplin Road is an east/west two-lane roadway that extends from Garwood Road to Pacific Avenue in Sutter County.
West Elverta Road	West Elverta Road is an east/west two-lane roadway in Sacramento County at the north/south midpoint of the Natomas Basin that extends from Garden Highway east across SR 99/70.
Elkhorn Boulevard	Elkhorn Boulevard is an east/west two-lane roadway in Sacramento County between Powerline Road and SR 99/70 and extending into the city of Sacramento to the East Levee Road on the NEMDC.
West Elkhorn Boulevard	West Elkhorn Boulevard is an east/west two-lane roadway in Sacramento County that extends from Garden Highway to west of the Airport.
East Levee Road	East Levee Road is a two-lane, north-south road on the NEMDC west levee that extends from Natomas Road, in the vicinity of Riego Road, south to Sotnip Road.
Sorento Road	Within the project area, Sorento Road is a two-lane north-south road between East Levee Road on the north and Del Paso Road on the south.
Del Paso Road	Del Paso Road is an east/west two- to four-lane roadway that extends eastward across the Basin from Powerline Road in Sacramento County across I-5 to the NEMDC in the city of Sacramento, where it continues eastward as Main Avenue. Del Paso Road provides access to the Ueda Parkway Bike Trail, which is used by cyclists for commuting to and from work/school.
San Juan Road	San Juan Road is an east/west two-lane roadway that connects the Garden Highway in Sacramento County to I-5 and the city of Sacramento.
El Centro Road	El Centro Road is a north/south two- to four-lane roadway in Sacramento County and the city of Sacramento that extends south from Del Paso Road to West El Camino Avenue.
West El Camino Avenue	West El Camino Avenue is an east/west four-lane roadway in the city of Sacramento that connects I-5 with El Centro Road. Continuing to the east, it intersects with Northgate Boulevard and continues to the east to cross the NEMDC.
Northgate Boulevard	Northgate Boulevard is a north/south four-lane road in the city of Sacramento connecting SR 160 in the south to Del Paso Road in North Natomas.

Notes: I-5 = Interstate 5; I-80 = Interstate 80; NCC = Natomas Cross Canal; NEMDC = Natomas East Main Drainage Canal; PGCC = Pleasant Grove Creek Canal; SR = State Route

Source: Data compiled by EDAW in 2008 and 2009

PAGE 3-62

In response to Comment O3-2, the second paragraph in Section 3.3.15, "Recreation," on page 3-62 of the Phase 3 DEIS/DEIR is revised as follows:

> The Ueda Parkway is located on the NEMDC west levee, in the Phase 3 Project area extending north from the vicinity of the Arden Garden Connector to Elkhorn Boulevard. The parkway integrates recreational trails within creek corridors in the northern area of Sacramento, including providing connections to the American River Parkway and the Dry Creek Parkway to the east of the NEMDC. The Ueda Parkway allows access to the natural habitat areas of Steelhead (NEMDC), Arcade, Dry, and Robla Creeks. A paved bike path exists on the levee crown of the NEMDC from Garden Highway to Sotnip Road, just north of Main Avenue. Gardenland Park, a 6-acre neighborhood park, is located off of Bowman Avenue immediately adjacent to the NEMDC west levee and Ueda Parkway in South Natomas. An on and off-street bicycle trail is located adjacent to Garden Highway on the American River north levee and Sacramento River east levee, between Northgate Boulevard and Gateway Oaks Drive in South Natomas. Recreational bicycle use occurs along the entire length of Garden Highway, which is also used by bicycle commuters.

4.4 REVISIONS TO CHAPTER 4.0, "ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES"

REVISIONS TO SECTION 4.1, "AGRICULTURAL RESOURCES"

PAGE 4.1-2

In response to Comment O4-12 and to correct an inaccuracy, Table 4.1-1 on page 4.1-2 of the Phase 3 DEIR/EIS is revised as follows:

Table 4.1-1
Conversion of Important Farmland: Comparison of Proposed Action and Raise-in-Place Alternative

Project Component/Location	No-Action Alternative	Proposed Action (Acres)	Levee Raise-in-Place Alternative (Acres)
Permanent Conversion			
Sacramento River east levee	-	86	56
Canal relocations	-	60	60
PGCC west levee	-	60	60
NEMDC west levee		13	13
Woodland plantings (includes Lower Woodlands)	-	35.5	157
RD 1001 Borrow Site	-	120	120
Total	-	~~**361.5**~~**374.5**	~~**453**~~**466**
Temporary Conversion			
Brookfield Borrow Site	-	180	180
Dunmore Borrow Site	-	160	160
Novak Borrow Site	-	76	76
Pacific Terrace Borrow Site	-	113	113
Private Property Reach 5A Borrow Site	-	34	34

Table 4.1-1
Conversion of Important Farmland: Comparison of Proposed Action and Raise-in-Place Alternative

Project Component/Location	No-Action Alternative	Proposed Action (Acres)	Levee Raise-in-Place Alternative (Acres)
Private Property Reach 6B Borrow Site	-	20	20
Private Property Reach 7 Borrow Site	-	67	67
South Sutter, LLC Borrow Site	-	95	95
Sutter Pointe Borrow Site	-	300	300
Elkhorn Borrow Area[1]	-	612	612
Total[2]	**-**	**1,657**	**1,657**

[1] Area of potential conversion because specific parcels have not yet been identified within the Elkhorn Borrow Area.
[2] Potential maximum if all borrow sites, including the larger Elkhorn Borrow Area footprint, are excavated over entire acreage available.
Source: Data compiled by EDAW in 2008 and 2009

PAGES 4.1-3 AND 4.1-4

In response to Comment O4-12, Impact 4.1-a, "Conversion of Important Farmland to Nonagricultural Uses," under "Proposed Action" and "Levee Raise-in-Place Alternative" on pages 4.1-3 and 4.1-4 of the Phase 3 DEIS/DEIR is revised as follows:

Proposed Action

Important Farmland mapping for the Natomas Basin is shown on Plate 19 and Important Farmland classifications are described in detail in Chapter 3.0, "Affected Environment," in Section 3.3.1, "Agricultural Resources."

Nearly all of the areas within the footprint of flood damage reduction facilities (except for the area of the NEMDC south of the stormwater pumping station) are classified as Prime Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. For the Proposed Action, a total of approximately ~~361.5~~ 374.5 acres of Important Farmland would be permanently converted to nonagricultural use within the footprint of flood damage reduction facilities and on adjacent land required for maintenance access and prevention of encroachment into the flood damage reduction system. These lands include approximately 60 acres in the footprint of the relocated Elkhorn Canal and the new Giant Garter Snake (GGS)/Drainage Canal, 60 acres in the footprint of the levee improvements along the PGCC, 13 acres along the NEMDC and 86 acres in the footprint of the Sacramento River levee improvements. A total of 35.5 acres of Important Farmland would be converted for woodland plantings to compensate for loss of woodlands primarily on the land side of the levee. The conversion of these areas to nonagricultural uses would be permanent, and therefore is considered a **significant** impact.

Levee Raise-in-Place Alternative

The raised portion of the Sacramento River east levee under the Levee Raise-in-Place Alternative would have a smaller footprint than the adjacent setback levee in Reaches 5–9B under the Proposed Action, and therefore, would have slightly less impact on Important Farmlands than would the Proposed Action. Approximately 56 acres of Important Farmland would be permanently converted in the footprint of the Sacramento River east levee flood damage reduction facilities footprint under this alternative, compared with 86 acres under the Proposed

Action. This alternative would include the same conversion of Important Farmland as the Proposed Action in the footprint of the relocated Elkhorn Canal and the new GGS/Drainage Canal (approximately 60 acres), ~~and~~ the PGCC (approximately 60 acres), and the NEMDC (approximately 13 acres). Because greater impacts to waterside riparian woodlands would require a higher replacement ratio than for landside woodlands, approximately 157 acres of Important Farmland could be converted for habitat creation. The 24-acre Lower Woodlands site would be part of this conversion; the location of the remaining planting sites has not been determined (see Impact 4.8-a).

REVISIONS TO SECTION 4.2, "LAND USE, SOCIOECONOMICS, AND POPULATION AND HOUSING"

PAGES 4.2-4 AND 4.2-5

In response to Comment O2-27, the second paragraph under "Proposed Action" on pages 4.2-4 and 4.2-5 of the Phase 3 DEIS/DEIR (Impact 4.2-c, "Potential to Physically Divide or Disrupt an Established Community") is revised as follows:

Impact 4.2-c: Potential to Physically Divide or Disrupt an Established Community

Proposed Action

With respect to the physical division or disruption of an established community, the Proposed Action would not divide or disrupt the communities located adjacent to the lower NEMDC because construction would be restricted to the adjacent setback levee area, and would not require full closure or demolition of Garden Highway. No established communities are present along the land side of the Sacramento River east levee or within the Elkhorn Borrow Area. Because the residences and businesses located along the water side of the Sacramento River east levee are widely spaced and are not near to a broader community on the land side of the levee, the project would not divide an established community. However, because Garden Highway provides the only access to residences and businesses on the water side of the levee, intermittent road closures and detours would be a disruption for residents and business operators (refer to Section 4.12, "Transportation and Circulation"). Additionally, construction of a cutoff wall would be required along the Sacramento River east levee adjacent to the I-5 Bridge. This would require closure of approximately 1,000 feet of the Garden Highway in this location (about 500 feet upstream and downstream of the I-5 Bridge) for approximately 8 to 12 weeks during the summer season, preventing landside access to the Sacramento County public boat launch facility. Access would be maintained to two nearby marinas, located to the north of the boat launch ramp; however, these businesses may experience a decrease in customers because of construction activities, and closure of the adjacent boat launch ramp. North Bayou Road would also remain open; however, it would have a detour with a gravel surface at this location during construction. Temporary disruptions to access for residents and businesses and construction related disruptions affecting businesses would be a **significant** impact.

PAGES 4.2-5 AND 4.2-6

To provide clarification and additional detail, Mitigation Measure 4.2-c, "Notify Residents and Businesses of Project Construction and Road Closure Schedule; and Implement Mitigation Measure 4.12-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," and Mitigation Measure 4.12-c, "Notify Emergency Service Providers about Project Construction and Maintain Emergency Access or Coordinate Detours with Providers"," on pages 4.2-5 and 4.2-6 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.2-c: Notify Residents and Businesses of Project Construction and Road Closure Schedule; Comply with the Garden Highway Settlement Agreement; and Implement Mitigation Measure 4.12-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," and Mitigation Measure 4.12-c, "Notify Emergency Service Providers about Project Construction and Maintain Emergency Access or Coordinate Detours with Providers"

Proposed Action

SAFCA and its primary contractors for engineering design and construction shall implement Mitigation Measures 4.12-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," and 4.12-c, "Notify Emergency Service Providers about Project Construction and Maintain Emergency Access or Coordinate Detours with Providers," contained in Section 4.12, "Transportation and Circulation." Additionally, the following measures shall be implemented:

a) SAFCA shall provide residents and business owners located adjacent to the construction areas with information regarding construction activities including contact information and complaint procedures, and a construction ~~timeline and shall post its construction~~ schedule to be posted on the SAFCA Web site. Information shall include road closures and detour information. The schedule shall be updated on a monthly basis.

b) SAFCA shall comply with the provisions of the Garden Highway Settlement Agreement including provisions regarding complaint procedures, power pole plans, encroachment removal plans, and construction schedule.

c) SAFCA shall provide notice as feasible for emergency construction or remedial construction.

Implementation of these mitigation measures would reduce the level of impact, but not to a less-than-significant level. Because no other feasible mitigation measures are available to fully reduce this impact to a less-than-significant level, this impact would remain **significant and unavoidable** under the Proposed Action.

Levee Raise-in-Place Alternative

SAFCA and its primary contractors for engineering design and construction shall implement Mitigation Measures 4.12-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," and 4.12-c, "Notify Emergency Service Providers about Project Construction and Maintain Emergency Access or Coordinate Detours with Providers," contained in Section 4.12, "Transportation and Circulation."

In addition to measures (a), (b), and (c), listed under the Proposed Action, above, the following measures shall be implemented:

~~c)~~d) SAFCA shall provide assistance for residents who are required to relocate during the construction period. SAFCA shall compensate residents for reasonable rent and living expenses incurred due to relocation. Residents will have the right to decent, safe and sanitary housing in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act.

~~d)~~ e) SAFCA shall provide 24-hour security patrols for residences and businesses that must be vacated during the construction period.

~~e)~~ f) SAFCA shall negotiate an agreement, consistent with the terms of existing leases, with any business required to suspend operations during levee/cutoff wall construction in order to reimburse them for loss of revenue during the time that they will be closed, based on actual income for that time of year.

Implementation of these mitigation measures would reduce the level of impact, but not to a less-than-significant level due to the potential for temporary dislocation of residents and business closures as a result of road closures of approximately 8 to 12 weeks. Therefore, this impact would remain **significant and unavoidable** under the Levee Raise-in-Place Alternative because no other feasible mitigation measures are available. ***(Greater)***

REVISIONS TO SECTION 4.4, "HYDROLOGY AND HYDRAULICS"

PAGE 4.4-14 THROUGH 4.4-15

In response to comments regarding groundwater hydrology in the vicinity of the NEMDC, Impact 4.4-c, "Effects on Groundwater," in the Phase 3 DEIS/DEIR is revised as follows and a new mitigation measures is added:

Impact 4.4-c: Effects on Groundwater

Proposed Action and Levee Raise-in-Place Alternative

Construction of the adjacent setback levee in Reaches 5A–9B under the Phase 3 Project includes installation of conventional soil-bentonite cutoff walls from Station 228+70 to Station 262+50 (Reach 5A) and from Station 338+00 to Station 455+00 (Reaches 7–9B), and installation of deep soil mix cutoff walls from Station 293+50 to Station 338+00 (Reaches 6A–7) and from Station 455+00 to Station 468+00 (Reach 9B) of the proposed adjacent levee. The Phase 3 Project would also include installation of cutoff walls in the west levee of the PGCC where required and in the west levee of the NEMDC between Elkhorn Boulevard and Northgate Boulevard. The depth of these cutoff walls from the levee crown would range from 60 to 80 feet.

The presence of cutoff walls could restrict the movement of groundwater in either direction (away from or toward the Sacramento River, the PGCC, or the NEMDC), potentially increasing or decreasing localized near-surface groundwater levels in areas immediately east and west of the cutoff wall. A significant drop in groundwater levels could decrease the yields of nearby wells or increase the pumping costs of those wells. The combined effect of all of SAFCA's proposed construction activities under the NLIP (including the contribution of the Phase 3 Project) on the overall groundwater budget for the Natomas Basin under both existing and future conditions is discussed in Chapter 5.0, "Cumulative and Growth-Inducing Impacts, and Other Statutory Requirements."

The evaluation of potential groundwater impacts prepared by Luhdorff & Scalmanini Consulting Engineers (LSCE) (**Appendix B2**) estimated the water-level changes caused by the cutoff walls along the Sacramento River east levee. These estimates were based on simulations using the SEEP/W groundwater model analysis developed by Kleinfelder in its report, *Evaluation of Cutoff Walls Impact on Groundwater Recharge Sacramento River East Levee* (**Appendix B3**). On the

water side of the levee, the predicted effect of the cutoff wall is negligible (less than an inch) at low stage, and there would be a slight increase in groundwater levels (less than 1 foot) at high stage (see Figure 8-2 in **Appendix B2**). On the land side of the levee, the simulated groundwater levels are slightly lower because of the cutoff wall (typically 0.25 to 0.5 foot). In both cases, impacts, if any, would be small enough to be considered negligible even for the shallowest domestic wells (less than 100 feet deep). As a result, no substantial decrease in groundwater levels or well yields or increase in pumping costs is expected to be caused by the cutoff walls along the Sacramento River east levee; therefore, this impact is considered **less than significant**.

Similar modeling has not been conducted for wells along the PGCC or NEMDC, but cutoff walls would be expected to have similarly small effects near the eastern edge of the Natomas Basin. Because the general direction of groundwater flow in this area is from west to east, static groundwater levels would increase slightly west of the levee and decrease slightly east of the levee. This effect would not reduce the ability of most wells to draw groundwater because the production zone for these wells is below the bottom of the proposed cutoff walls. Very shallow wells located near the cutoff wall on either side of the levee could experience slightly lower pumping water levels because the cutoff wall would act as a low permeability boundary that would reduce the aerial extent and increase the depth of the localized cone of depression. This effect would not be measurable for most wells, but wells less than 80 feet deep located within 500 feet of the NEMDC west levee could experience a small decrease in yield. This impact is considered **less than significant**; however, Mitigation Measure 4.4-c has been added below to ensure that the owners of any affected well are adequately compensated for replacing their shallow well with a deeper one, if necessary.

The evaluation of potential groundwater impacts prepared by LSCE also investigated the effects on groundwater of excavation of the proposed borrow sites (see **Appendix B2**). Excavation and reclamation of the Brookfield borrow site would have an indirect effect on groundwater conditions because of the proposed delivery of surface water to the site. Approximately 325 acres are planted with rice. SAFCA plans to restore any portion of the site that is used for borrow operations to rice cultivation after construction activities are complete. The Brookfield site is currently irrigated entirely with groundwater, but SAFCA has proposed to provide the infrastructure necessary to irrigate up to 80% of the site with surface water after reclamation. This transition would reduce groundwater pumping by about 1,625 afy. Groundwater levels would increase because of the reduced pumping, which is expected to increase subsurface outflow beneath the PGCC by about 76 afy. Groundwater would not decrease as a result of using Brookfield as a borrow site, and groundwater levels there would increase slightly. This impact is considered **less-than-significant** (but beneficial from the aspect of the overall increase to groundwater levels). ***(Similar)***

~~Mitigation Measure: No mitigation is required.~~

Mitigation Measure 4.4-c: Monitor Landside Production Wells along the NEMDC for Effects on Yield, and Remediate Effects if Necessary

Proposed Action and Levee Raise-in-Place Alternative	SAFCA shall implement a program to monitor groundwater elevations within 500 feet of the NEMDC west levee to determine what effects, if any, occur on the yield of shallow domestic wells following installation of cutoff walls in this area of the NLIP. In the event that the yield of any of these wells is measurably reduced, SAFCA shall arrange with the owners of affected wells to retrofit or replace these wells to provide pre-construction yields.

Implementation of this mitigation measure would further reduce this less-than-significant impact. ***(Similar)***

REVISIONS TO SECTION 4.5, "WATER QUALITY"

PAGE 4.5-4

To correct a reference, the first paragraph on page 4.5-4 of the Phase 3 DEIS/DEIR (Mitigation Measure 4.5, "Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions") is revised as follows:

> Several technical studies have been conducted regarding water-quality control feature impacts on groundwater (e.g., City of Fresno Nationwide Urban Runoff Project and *California Storm Water Best Management Practices Handbook* prepared by the Stormwater Quality Task Force) and surface water (e.g., *Cumulative Water Quality Analysis Report for the Lahontan Development 1996–2002* [~~Huffman & Carpenter 2003~~ Lahontan Regional Water Quality Control Board 2007]). These studies have determined that water-quality control features such as revegetation, erosion control measures, and detention and infiltration basins have been successful in avoiding water quality impacts (metals and organic compounds associated with stormwater are typically lost within the first few feet of the soil of the retention basins associated with groundwater). Technical studies associated with the Lahontan Development (residential and golf course development) demonstrated that the use of a variety of BMPs (e.g., source control, detention basins, revegetation, and erosion control) have been able to maintain surface water quality conditions in adjacent receiving waters (Martis Creek).

REVISIONS TO SECTION 4.6, "FISHERIES"

PAGES 4.6-1 THROUGH 4.6-3

In response to Comment Letter S5 and to provide clarification and additional detail, Impact 4.6-a, "Loss of Fish or Aquatic Habitat through Increased Sedimentation and Turbidity or Releases of Contaminants," and Mitigation Measure 4.6-a, "Implement Mitigation Measure 4.5-a, Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions"; and Mitigation Measure 4.5-c, "Implement Best Management Practices and Comply with NPDES Permit Conditions for a Point-Source Discharge"," on pages 4.6-1 through 4.6-3 of the Phase 3 DEIS/DEIR is revised as follows:

> Impact 4.6-a: Loss of Fish or Aquatic Habitat through Increased Sedimentation and Turbidity, ~~or~~ Releases of Contaminants, or Other Construction-Related Disturbance
>
> Proposed Action and Levee Raise-in-Place Alternative
>
> Project construction activities that could result in loss of fish or aquatic habitat through increased sedimentation and turbidity, or releases of contaminants, or other construction-related disturbance would include the following:
>
> - clearing and grubbing/stripping, degrading, and subsequent reconstruction of portions of the upper half of the PGCC west levee and NEMDC west levee;
> - construction of cutoff walls along the entire PGCC west levee and NEMDC west levee;

- extensive soil borrow excavation and placement for all levee improvements;

- construction of the adjacent setback levee along a portion of the Sacramento River east levee, finish grading,~~and~~ relocation and reconstruction of canals, and making modifications to the Prichard and Elkhorn Pump Plants; ~~and~~

- reconstruction of RD 1000 Pumping Plant No. 2, including construction of a cofferdam and dewatering, and demobilization/cleanup; and

- implementation of Mitigation Measure 4.6-b, "Restore, Replace, or Rehabilitate Degraded SRA Habitat Function and Comply with Section 7 of the Endangered Species Act, Section 1602 of the California Fish and Game Code, and Section 2081 of the California Endangered Species Act Permit Conditions."

These activities may temporarily impair water quality if disturbed and eroded soil is discharged and/or suspended into receiving waters. Soil and associated contaminants that enter receiving waters through stormwater runoff and erosion can increase turbidity, stimulate algae growth, increase sedimentation of aquatic habitat, and introduce compounds that are toxic to aquatic organisms. Impaired water quality would affect habitats and the physical health of individual fish and species populations within the Sacramento River, PGCC, and NEMDC. These waterways provide (or are hydrologically connected to waterways that provide) migratory habitat for special-status adult and juvenile chinook salmon and steelhead and spawning habitat for special-status green sturgeon, as well as striped bass and American shad.

Fish population levels and survival have been linked to levels of turbidity and siltation in a watershed. Prolonged exposure to high levels of suspended sediment could create a loss of visual capability in fish, leading to a reduction in feeding and growth rates; a thickening of the gill epithelia, potentially causing the decrease of respiratory function; clogging and abrasion of gill filaments; and increases in stress levels, reducing the tolerance of fish to disease and toxicants (Waters 1995).

Also, high levels of suspended sediments would cause the movement and redistribution of fish populations and could affect habitat. Once sediment is deposited, it could reduce water depths in pools, decreasing the water's carrying capacity for juvenile and adult fish (Waters 1995). Sediment resulting from construction may become embedded in the substrate (fish habitat), although natural flushing action is likely to clean the substrate within a few years after construction ceases. Increased sediment loading could adversely affect prey species downstream of the project area as well. Sediment loading could interfere with photosynthesis of aquatic flora and displace aquatic fauna. Many fish are sight feeders, and turbid waters reduce the ability of these fish to locate and feed on prey. Some fish, particularly juveniles, could become disoriented and leave areas where their main food sources are located, ultimately reducing their growth rates.

Avoidance is the most common result of increases in turbidity and sedimentation. Fish will not occupy areas unsuitable for survival unless they have no other option. Some fish, such as bass, will not spawn in excessively turbid water (Bell 1991). Therefore, project construction could cause fish habitat to become limited if high turbidity resulting from construction-related erosion were to preclude a species from occupying habitat required for successful completion of one or more life stages.

~~In addition, c~~Contaminants such as fuels, oils, and other petroleum products used in construction activities could be introduced into waters directly or through surface runoff. Contaminants may be toxic to fish or may alter oxygen diffusion rates and cause acute and/or chronic toxicity to aquatic organisms, thereby reducing growth and/or survival.

Installation of the sheetpile cofferdam and dewatering at the Pumping Plant No. 2 outfall reconstruction site could result in underwater sound pressure effects and fish stranding if fish are present in the immediate work area during construction activities. All in-water work would be conducted during periods when sensitive fish species are least likely to be present and a fish rescue plan would be implemented to minimize the potential for stranding of individual fish in the relatively small area within the cofferdam (23 feet by 23 feet). Available information indicates that exposure of fish species to underwater sound pressure levels exceeding approximately 180 decibels (dB) may result in sublethal (e.g., damage to ear, hearing impairments, behavioral implications including delays in migration) or lethal (e.g., ruptured swim bladder, internal bleeding) effects (Laughlin 2005). These critical sound levels exceed levels that are anticipated to be associated with project-related construction activities, as pile driving activities with repetitive high peaks have been documented to generate up to about 115 dB at a distance of 10 feet. Therefore, this activity is expected to be well below critical sound pressure levels for fish mortality or injury and avoidance of the construction area would be the anticipated behavioral response.

Under the Proposed Action and the Levee Raise-in-Place Alternative, there are two possible scenarios with respect to modifications at the Prichard and Elkhorn Pumping Plants dependent upon the timing of the American Basin Fish Screen and Habitat Improvement Project (ABFS) in relation to the timing of the Phase 3 Project (see **Appendix H** for additional detail regarding these scenarios). In addition to raising and replacing the discharge pipes to accommodate the levee improvements, the pumping plants could also require modification, including the replacement of pumps, dredging of localized areas below the pump impellers, and stabilizing of the supporting structure. Individual fish, if present in the immediate work area during construction activities, could be injured by equipment used for these activities. Behavioral avoidance of adverse habitat conditions by fish is anticipated to be the most common result of increases in disturbance. Fish and other aquatic organisms displaced from their habitat due to the application of riprap or localized dredging could become vulnerable to predators or other unfavorable habitat conditions. Any potential existing adverse impacts associated with operation of the pumping plants (e.g., entrainment of fish under existing conditions) would not change because the operation (e.g., frequency, magnitude, or duration of pumping plant operation) of the modified plants would not change.

While the implementation of in-water work windows and a fish rescue plan would reduce potential impacts, these activities lack the necessary detail to ensure that impacts would remain below thresholds of significance. For the reasons described above, construction-related disturbance and sedimentation and increased turbidity or other contamination could degrade water quality and adversely affect fish habitats and fish populations. This potential impact is considered **significant**. ***(Similar)***

Mitigation Measure 4.6-a: Implement Mitigation Measure 4.5-a, "Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions,"; and Mitigation Measure 4.5-c, "Implement Best Management Practices and Comply with NPDES Permit Conditions for a Point-Source Discharge"; Implement a Feasible Construction Work Window that Minimizes Impacts to Special-Status Fish Species for Any In-Water Activities; and Implement Operational Controls and a Fish Rescue Plan that Minimizes Impacts to Fish Associated with Cofferdam Construction and Dewatering

Proposed Action and Levee Raise-in-Place Alternativ

SAFCA shall implement the following measures to reduce impacts to a less than significant level. These measures shall be included in construction specifications along with any additional measures identified in necessary permits.

SAFCA shall implement Mitigation Measure 4.5-a, as described in Section 4.5, "Water Quality." This measure requires filing an Notice of Intent (NOI) with the Central Valley RWQCB; implementing standard erosion and siltation measures and best management practices (BMPs); preparing and implementing a storm water pollution prevention plan (SWPPP); and complying with the conditions of the National Pollutant Discharge Elimination System (NPDES) general stormwater permit for construction activity.

~~Additionally,~~ SAFCA shall implement Mitigation Measure 4.5-c, as described in Section 4.5, "Water Quality," which requires filing a report of waste discharge with the Central Valley RWQCB and complying with the NPDES permit conditions prior to operation of RD 1000's Pumping Plant No. 2.

SAFCA shall identify and implement feasible in-water construction work windows in consultation with NMFS, USWFS, and DFG. In-water work windows shall be timed to occur when sensitive fish species/life stages are not present or least susceptible to disturbance (e.g., July 1–October 31). This measure would reduce potential construction-related direct impacts to fish from potential dredging and/or construction of the cofferdam and dewatering, and/or the placement of rock riprap because all in-water work would occur during the period of time that sensitive fish (or life stages) would be least likely to be present in the construction area.

The cofferdam sheetpiles at the outfall structure construction site shall be installed using a vibratory hammer that minimizes underwater sound pressure levels to the greatest extent feasible to minimize effects to sensitive fish species. Hammers shall only be used during daytime hours and shall commence at low energy levels and slowly build to impact force. If it is determined that a higher-intensity percussion hammer would be required for installing the cofferdam, avoidance of potential adverse effects would be achieved by consulting with NMFS, USFWS, and DFG to determine the appropriate actions, which may include surveying the outfall site to determine fish presence prior to installation, and possibly modifying the work window accordingly.

To reduce the potential for fish stranding or minimize the potential for harm during cofferdam dewatering activities, SAFCA or its contractor shall implement a fish rescue plan. Prior to the closure of the cofferdam in the Sacramento River, seining by a qualified fisheries biologist (with a current DFG collection permit) would be conducted within the cofferdam using a small-mesh seine to direct and move fish out of the cofferdam area. Upon completion of seining, the entrance to the cofferdam will be blocked with a net to prevent fish from entering the cofferdam isolation area before the cofferdam is completed. Once the cofferdam is completed and the area within the cofferdam is closed and isolated, additional seining will be conducted within the cofferdam to remove any remaining fish. Once most

of the fish have been removed from the isolated area, portable pumps with intakes equipped with 1.75 mm mesh screen shall be used to dewater to a depth of 1.5-2 feet. A qualified biologist would implement further fish rescue operations using electrofishing and dip nets. All fish that are captured will be placed in clean 5-gallon buckets and/or coolers filled with Sacramento River water, transported downstream of the construction area, and released back into suitable habitat in the Sacramento River with minimal handling. After all fish have been removed using multiple seine passes, electrofishing, and dip nets (as necessary) portable pumps with screens (see above) will be used for final dewatering. NMFS, USFWS, and DFG shall be notified at least 48 hours prior to the fish rescue.

Implementing this mitigation measure would reduce the potential impacts of increased sedimentation and turbidity, release and exposure of contaminants, or other construction-related disturbance on fish to a **less-than-significant** level because the use of BMPs (e.g., source control, detention basins, revegetation, and erosion control), implementing an in-water work window, and operational controls and a fish rescue plan would maintain surface water quality conditions in adjacent receiving waters and minimize disturbance to fish and aquatic habitats. ***(Similar)***

PAGES 4.6-4 AND 4.6-5

In response to Comment Letter S5 and to provide additional clarification and detail, Mitigation Measure 4.6-b, "Restore, Replace, or Rehabilitate Degraded SRA Habitat Function and Comply with Section 7 of the Federal Endangered Species Act, Section 1602 of the California Fish and Game Code, and Section 2081 of the California Endangered Species Act Permit Conditions," on pages 4.6-4 and 4.6-5 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.6-b: Restore, Replace, or Rehabilitate Degraded SRA Habitat Function and Comply with Section 7 of the Federal Endangered Species Act, Section 1602 of the California Fish and Game Code, and Section 2081 of the California Endangered Species Act Permit Conditions

Proposed Action To restore, replace, or rehabilitate SRA habitat along the Sacramento River east levee at the location of the RD 1000 Pumping Plant No. 2 and in the footprint of the drainage outfall structures, SAFCA shall implement the measures described below.

- Sacramento River water side riparian woodland areas that provide SRA habitat functions shall be identified and the primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that construction is implemented in a manner that minimizes disturbance of such areas to the extent feasible. Temporary fencing shall be used during construction to prevent disturbance of trees and shrubs that are located adjacent to construction areas but can be avoided.

- Sacramento River water side riparian forest and scrub shall be restored using native species, including an assemblage of grasses, sedges, shrubs, and trees. At maturity, the riparian vegetation community would provide SRA functions. SAFCA shall develop a detailed woodland planting design and management protocols in coordination with USFWS, NMFS, and DFG. A monitoring plan with performance

criteria shall be developed to determine the progress of the woodland habitats towards providing adequate mitigation. The criteria for measuring performance will be used to determine if the conservation component is trending toward sustainability (reduced human intervention) and to assess the need for adaptive management (e.g., changes in design or maintenance revisions). These criteria must be met for the conservation component to be declared successful, both during a particular monitoring year and at the end of the establishment period. These performance criteria, which will be developed in consultation with USFWS, NMFS, and DFG, shall include, but are not limited to: percent survival of planted trees, percent survival of any transplanted trees, and percent relative canopy cover.

SAFCA shall also enter into agreements with entities responsible for long-term management of created SRA habitats to ensure that performance standards and long-term management goals are met. SAFCA shall provide assurances of adequate funding for habitat creation and management. Such agreements shall be coordinated with USFWS, NMFS, and DFG. SAFCA shall implement all terms and conditions of the agreements.

- SAFCA shall consult with DFG regarding potential disturbance to fish habitat, including SRA, and shall obtain a streambed alteration agreement, pursuant to Section 1602 of the California Fish and Game Code, for construction work associated with levee improvements made on the waterside of a levee. SAFCA shall comply with all permit conditions of the streambed alteration agreement to protect fish habitat or to restore, replace, or rehabilitate any SRA habitat on a no-net-loss basis.

- USACE shall initiate Section 7 consultation with the National Marine Fisheries Service (NMFS) under Section 7 of the Federal Endangered Species Act (ESA), and SAFCA shall consult with DFG under the California Endangered Species Act (CESA) regarding potential impacts of the loss of SRA habitat on Federally listed fish species and state-listed fish species, respectively. SAFCA shall implement any additional measures developed through the ESA Section 7 and CESA consultation processes, including Section 2081 permit conditions to ensure no net loss of habitat function.

Implementing this mitigation measure would reduce the impact to a **less-than-significant** level for the Proposed Action because SAFCA would ensure that any loss of SRA habitat for fish would be restored, replaced, and/or rehabilitated in consultation with USFWS, NMFS, and DFG and appropriate permits would be obtained. Potential impacts associated with implementation of this mitigation measure would be similar to those described above under Impact 4.6-a for other construction activities and would be reduced to a less-than-significant level through the implementation of Mitigation Measure 4.6-a.

PAGES 4.6-5 AND 4.6-6

In response to Comment S5 Letter and to provide additional clarification and detail, Impact 4.6-c, "Interference with the Migration of Migratory Fish Species through the Creation of Attraction Flows at the RD 1000 Pumping Plant No. 2 Outfall and Drainage Outfalls," on pages 4.6-5 and 4.6-6 of the Phase 3 DEIS/DEIR is revised as follows:

Impact 4.6-c: Interference with the Migration of Migratory Fish Species through the Creation of Attraction Flows at the RD 1000 Pumping Plant No. 2 Outfall and Drainage Outfalls

Proposed Action and Levee Raise-in-Place Alternative

The Phase 3 Project includes relocating and replacing RD 1000 Pumping Plant No. 2 and constructing several drainage outfalls.

Pumping Plant No. 2 was removed in response to underseepage observed during severe winter storms in January 2006 and must be relocated farther landward of the levee to resolve levee instability issues. Once the new pumping plant is built, the water would be carried from the pump to the outfall by three 36-inch pipes. The replacement discharge piping would be raised such that it would cross the levee above the "200-year" flood level. The piping would then angle down towards the river and discharge at a roughly horizontal angle. The Pumping Plant No. 2 outfall is anticipated to be roughly 2–3 feet above the "normal" water level and would be constructed of reinforced concrete. Flap gates would be provided for each of the discharge pipes to prevent backflow and entry. Water quality in the Pumping Plant No. 2 discharge water would be required to meet NPDES permit requirements (see Mitigation Measures 4.6-a and 4.5-c); therefore, operation of this facility would not substantially degrade water quality in the Sacramento River.

Several drainage outfalls are proposed to be constructed along the Sacramento River east levee. Each drain is designed to accommodate flows generated from runoff in the areas between the existing levee and proposed adjacent levee during a 10-year storm event. No additional surface runoff would be directed to or conveyed through the drains under future project phases. Drainage pipes are anticipated to vary in size from 12 to 15 inches in diameter. All of the drainage outfalls are anticipated to be located above the ordinary high-water mark of the river. Water quality of the runoff is anticipated to be similar to the runoff that currently occurs on the water side of the existing levee (through drainage of stormwater over the crest of the levee).

Anadromous salmonids, during their spawning migrations in the Sacramento River, use primarily olfactory cues to home to their natal streams once they reach the freshwater environment. There is the potential that the flows from Pumping Plant No. 2 and/or drainage outfalls would have olfactory cues and create velocity gradients that could attract these fish to attempt to swim up the water discharge. During fall and winter, adult chinook and steelhead are in the river migrating upstream to spawning grounds. If these fish become attracted to the flows from the outfall pipes, there is a potential to cause migration delays. With high river levels, the pump and drainage outfalls could create a condition where fish could enter the pipes. However, because salmonids imprint on olfactory cues particular to their stream of origin, the probability of flows from the pump or drainage outfalls interfering with migrations is low. Therefore, implementation of the Phase 3 Project would likely not result in substantial interference with the movement of native resident or migratory fish species. Therefore, this is considered a **less-than-significant** impact. ***(Similar)***

REVISIONS TO SECTION 4.7, "SENSITIVE AQUATIC HABITATS"

PAGES 4.7-2

Based on a design refinement in Reach 5A of the Sacramento River east levee (see Section 2.1, "Changes to the Phase 3 Project," of this FEIR for details), Table 4.7-1 on page 4.7-2 of the Phase 3 DEIS/DEIR is revised as follows:

Table 4.7-1
Estimated Impacts on Jurisdictional Waters of the United States for the Phase 3 Project

Feature	Functional Value[1]	Proposed Action		Levee Raise-in-Place Alternative	
		Temporary Impact (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Permanent Impact (Acres)
Construction of Sacramento River East Levee Improvements					
Irrigation Ditches (Fill)	Low		2.23		2.23
Field Drain (Fill)	Low		0.94		0.94
Airport West Ditch (Fill)	Moderate		9.0		9.0
Open Water (Fill)	Low		0.30		0.30
Seasonal Wetland (Fill)	Moderate		~~0.14~~5.87		0.14
Freshwater Marsh (Fill)	High		0.58		0.58
Sacramento River Waterside[2] Erosion Site G (Fill)	High		-		7.8
Raising and Flattening of Pleasant Grove Creek Canal West Levee					
Irrigated Wetland (Fill)	Moderate	2.06		2.06	
Irrigation Ditch (Fill)	Low		0.88		0.88
PGCC Waterside Erosion Control Rock Blanket (Fill)	High		<1.0		<1.0
Landside Rock Blanket into Existing Drainage Ditches (Fill)	Low		<0.25		<0.25
Natomas East Main Drainage Canal West Levee					
Seasonal Wetland (Fill)	Moderate		0.03		0.03
Vernal Pools (Fill)[3]	High		<1		<1
Construction of New Elkhorn Canal and GGS/Drainage Canal					
Irrigation and Drainage Ditches (Fill)	Low		3.01		3.01
Seasonal Wetland (Fill)	Moderate		0.45		0.45
Freshwater Marsh (Fill)	High		0.17		0.17
Reconstruction of RD 1000's Pumping Plant No. 2					
Irrigation and Drainage Ditches (Fill)	Low		0.61		0.61
Sacramento River Waterside Erosion Control Rip Rap (Fill)	High		<0.25 acre		<0.25 acre

Table 4.7-1
Estimated Impacts on Jurisdictional Waters of the United States for the Phase 3 Project

Feature	Functional Value[1]	Proposed Action		Levee Raise-in-Place Alternative	
		Temporary Impact (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Permanent Impact (Acres)
Drainage Outfalls in Sacramento River (Fill)	High		<0.1 acre		-
Borrow Site and Haul Road Construction					
Drainage Ditches and Canals (Fill/Dewater)	Low	8.26	0.78	8.26	0.78
Seasonal Wetland (Fill/Dewater)	Moderate	0.82		0.82	
Irrigated Wetland (Fill of Brookfield Borrow Site)	Moderate	59.28	0.20	59.28	0.20
Potential Irrigated Wetland (Fill of Sutter Pointe and Dunmore Potential Borrow Sites)	Moderate	(283.59)[4]		(283.59)[4]	
Elkhorn Borrow Area Drainage, Irrigation, and Field Ditches (Fill)	Low		<5.0		<5.0
P-6 Drain Stabilization Protection (Fill)	Low		<0.25		<0.25
Total Potential Impacts on Waters of the United States	Minimum Maximum	**70.42** **(354.01)[4]**	**~~22.17~~28.04** **~~27.17~~33.04[5]**	**70.42** **(354.01)[4]**	**29.87** **34.87[5]**

Notes: PGCC = Pleasant Grove Creek Canal; GGS = Giant Garter Snake; RD = Reclamation District

1 Functional value definitions: High = Natural structure and function of biotic community maintained, with minimal changes evident. Moderate = Moderate changes in structure and function of biotic community—i.e., moderate level of disturbance. Low = Severe changes in structure and/or function of biotic community evident—i.e., high level of disturbance. See Section 3.3.7 in Chapter 3.0, "Affected Environment," for additional information.

2 Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act authorizations are required for work on the waterside of the levee.

3 Assessment based on Panhandle Delineation (SPK-2005-01087).

4 Maximum potential temporary impact at Sutter Pointe and Dunmore sites based on preliminary fieldwork and review of aerials. Wetland delineations have not all been verified by USACE.

5 Includes all Elkhorn Borrow Area Drainage, Irrigation, and Field Ditches.

Sources: Data provided by Wood Rodgers in 2008, Mead & Hunt in 2008, and HDR, Inc. in 2008, and compiled by EDAW in 2008 and 2009

PAGES 4.7-3

Based on a design refinement in Reach 5A of the Sacramento River east levee (see Section 2.1, "Changes to the Phase 3 Project," of this FEIR for details), the third paragraph on page 4.7-3 of the Phase 3 DEIS/DEIR (Impact 4.7-a, "Impacts on Jurisdictional Waters of the United States") is revised as follows:

> The Proposed Action, which includes a number of potential borrow sites, would, if all the borrow sites were affected, result in temporary impacts to 354.01 acres and permanent impacts to ~~27.17~~ 33.04 acres of waters of the United States, including wetlands (**Table 4.7-1**). These impacts

would result from construction along the Sacramento River east levee, PGCC west levee, NEMDC west levee, new Elkhorn Canal and GGS/Drainage Canal, and construction activities at the borrow sites and along haul roads.

PAGES 4.7-5 AND 4.7-6

As a result on on-going coordination with resources agencies and design refinements, Mitigation Measure 4.7-a, "Minimize Effects on Jurisdictional Waters of the United States, Complete Detailed Design of Habitat Creation Components and Secure Management Agreements to Ensure Compensation of Waters Filled, and Comply with Section 404, Section 401, Section 10, and Section 1602, Permit Process," is revised as follows:

Mitigation Measure 4.7-a: Minimize Effects on Jurisdictional Waters of the United States, Complete Detailed Design of Habitat Creation Components and Secure Management Agreements to Ensure Compensation of Waters Filled, and Comply with Section 404, Section 401, Section 10, and Section 1602, Permit Processes

Proposed Action and Levee Raise-in-Place Alternative

SAFCA shall implement the measures described below to reduce impacts related to loss or fill of jurisdictional waters of the United States.

- Waters of the United States, including wetlands, shall be identified and the primary engineering and construction contractors shall ensure, through coordination with a qualified biologist(s), that construction is implemented in a manner that minimizes disturbance of canals, ditches, and seasonal wetlands. Temporary fencing shall be used during construction to prevent disturbance of waters of the United States that are located adjacent to construction areas but can be avoided.

- To mitigate for permanent impacts to sensitive aquatic resources, at least 1 acre of aquatic habitat (irrigation/drainage canal) or wetland shall be created for every acre that is lost to ensure no net loss of sensitive aquatic habitat. The mitigation ratio that is ultimately required will be determined by USACE through the Section 404 permitting process. The Phase 3 Project includes construction of approximately 11 acres of canal habitat within the new GGS/Drainage Canal and approximately 4.5 acres within the replaced Elkhorn Canal. The overall program would include approximately 60 acres of new canal-associated habitat, resulting from construction of the new GGS/Drainage Canal and replacement of the Elkhorn and Riverside Canals.

  In addition, construction of approximately 20 acres of wetlands within a 100-acre managed marsh complex would be created in the Fisherman's Lake Area as part of the Phase 4a Project, which is planned to be constructed concurrently with Phase 3 Project. The Phase 4a DEIS/DEIR is scheduled for public release in summer 2009.

- Develop and implement a Mitigation and Monitoring Plan (MMP) and Long-Term Management Plan (LTMP), before construction commences, in coordination with USACE, USFWS, and DFG. The MMP and LTMP shall provide designs of habitat creation components, and performance standards, and management protocols. SAFCA shall also enter into agreements with entities responsible for long-term management of created canals and marsh habitats to ensure that performance standards and long-term management goals are required by the regulatory agencies

with jurisdiction over these resources will be specifically detailed and outlined in the LTMP and MMP. All performance standards and long-term management goals will be in full compliance with ESA and CESA. Such agreements shall be coordinated with USACE, USFWS, and DFG. SAFCA shall secure all such agreements and implement all conditions of the agreements.

- Obtain the following applicable permits prior to the start of construction activities that would affect the resources covered by these permits: an individual permit pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act from USACE, Section 401 certification from the Central Valley Regional Water Quality Control Board, and a Section 1602 streambed alteration agreement from DFG. All measures adopted through these permitting processes shall be implemented by SAFCA.

Overall, because the action alternatives would include the creation of waters of the United States that are expected to be more extensive than those filled by the project, and because implementing this mitigation measure including coordination with and issuance of the permits by the aforementioned resource/regulatory agencies, would ensure that no net loss of sensitive aquatic habitats occurs and that new jurisdictional waters would be managed in a manner that minimizes maintenance disturbance and provides the essential functions of the habitats that would be lost, both the Proposed Action and the Levee Raise-in-Place Alternative, with implementation of this mitigation measure, would have a **less-than-significant (beneficial)** impact on the overall acreage and quality of waters of the United States in the Natomas Basin. ***(Similar)***

REVISIONS TO SECTION 4.8, "VEGETATION AND WILDLIFE"

PAGES 4.8-4 AND 4.8-5

In response to Comment Letter S5, Mitigation Measure 4.8-a, "Loss of Woodland Habitats," on page 4.8-4 and 4.8-5 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.8-a: Minimize Effects on Woodland Habitat, ~~Complete Detailed Design of Woodland Creation and Management Agreements to Ensure Compensation for Loss of Habitat,~~ Implement all Woodland Habitat Conservation Components and Management Agreements, Compensate for Loss of Habitat, and Comply with the DFG Section 1602 Permit Process

Proposed Action and Levee Raise-in-Place Alternative

To reduce impacts on the loss of woodland habitat, SAFCA shall implement the measures described below:

- Native woodland areas shall be identified and the primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that construction is implemented in a manner that minimizes disturbance of such areas to the extent feasible. Temporary fencing shall be used during construction to prevent disturbance of native trees that are located adjacent to construction areas but can be avoided.

- ~~All native trees removed (and not transplanted) shall be replaced with an appropriate number of native plantings, based on the diameter at breast height (dbh) of the removed tree. The exact number of replacement plantings shall be determined in coordination with DFG but is anticipated to be consistent with the following recent DFG requirements: three replacement trees for each removed tree of 4–9 inches dbh, four replacement trees for each removed tree of 9–18 inches dbh, and one replacement tree for each inch of diameter removed of trees greater than 18 inches dbh. The woodland planting sites shall be seeded with native perennial grasses when trees are planted. The site designs shall include open woodland canopy for grassland savannah with edge habitat surrounding small open meadows and inclusions of seasonal wetlands where natural drainage at specific sites is feasible. SAFCA shall develop a detailed woodland planting design and management protocols in coordination with USFWS, DFG, and SCAS (if on Airport property). SAFCA shall also enter into agreements with entities responsible for long-term management of created woodland habitats to ensure that performance standards and long-term management goals are met and provide assurances of adequate funding for habitat creation and management. Such agreements and funding assurances shall be subject to approval of USFWS and DFG. SAFCA shall implement all terms and conditions of the agreements.~~

- SAFCA shall coordinate with USFWS, DFG, and SCAS (if on Airport property) to ensure that all woodland habitat conservation components of the NLIP are created and managed in accordance with the Phase 3 Project description and as described in Section 2.3.3, "Habitat Conservation Components," of the Phase 3 DEIS/DEIR. SAFCA shall prepare a project-specific MMP and programmatic LTMP to ensure the creation and long-term management of these components (see Section 2.3.3.5, "Long-Term Management of Habitat Components") before construction commences. SAFCA shall enter into agreements with the appropriate local entity responsible for long-term management of these created woodland habitats and shall coordinate with USFWS and DFG to ensure that performance standards and long-term management goals that are required by the regulatory agencies with jurisdiction over these resources will be specifically detailed and outlined in the LTMP and MMP. All performance standards and long-term management goals will be in full compliance with ESA and CESA. SAFCA shall implement all terms and conditions of the agreements.

- A Section 1602 streambed alteration agreement from DFG shall be obtained before any trees within a stream zone under DFG jurisdiction are removed, and all terms and conditions of the agreement shall be implemented by SAFCA.

Implementing this mitigation measure, along with the habitat conservation components of the Phase 2 Project, would minimize adverse effects of the Proposed Action on woodland habitat because ~~when this measure is coupled with~~ the amount of landside woodlands that ~~is~~would be~~ing~~ created and preserved as part of the Phase 2 Project along with the Phase 3 Project~~. The result is a net~~ would result in an increase of ~~52.5~~ 34 acres of landside woodlands in the Basin. The habitat conservation components~~, which~~ would

reduce long-term impacts to woodland habitats to a **less-than-significant** level. However, in the short-term, this impact would remain **significant and unavoidable** because replacement plantings would require a minimum of 10 to 15 years before providing important habitat components such as shade and structure ~~to mature~~.

While the woodland restoration and preservation proposed for the Levee Raise-in-Place Alternative may be adequate to offset the removal of landside woodlands, these replacement woodlands would not be adequate to compensate for the extensive loss of mature waterside vegetation. ~~Additional woodland mitigation could be provided through the purchase of credits from an authorized woodland mitigation bank; however, there are currently no such banks in operation along the Sacramento River.~~ Thus, the loss of woodland habitat for the Levee Raise-in-Place Alternative would remain **significant and unavoidable**. ***(Greater)***

PAGE 4.8-6

Due to a Memorandum of Agreement between the Federal Aviation Administration (FAA), U.S. Air Force, U.S. Army, U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS), and the U.S. Department of Agriculture (USDA) that addresses existing and future environmental conditions contributing to aircraft-wildlife collision, SAFCA determined that the planned 10 acres of marsh associated with the GGS/Drainage Canal could result in a hazard to public safety. As a result, the second paragraph of Impact 4.8-b, "Impacts on Wildlife Corridors," under "Proposed Action" on page 4.8-6 of the Phase 3 DEIR/DEIR is revised as follows:

> Under the Proposed Action, a total of approximately 16 acres of canal habitat would be permanently lost due to the filling and relocation of the Elkhorn Canal (5 acres), the redesign and reconfiguration of the Airport West Ditch (9 acres), placing rip rap on the water side of the PGCC for erosion control (1 acre), and the filling and relocation of private irrigation facilities (1 acre). SAFCA proposes to offset this impact by creating 22 acres of new canal habitat~~, 10 acres of associated marsh,~~ and ~~22~~ 32 acres of associated upland habitat.

REVISIONS TO SECTION 4.9, "SPECIAL-STATUS TERRESTRIAL SPECIES"

PAGE 4.9-3

In response to Comment Letter S5, Mitigation Measure 4.9-a, "Conduct Focused Surveys for Special-Status Plants, Minimize Effects, and Develop Detailed Design of Created Habitat and Management Agreements to Ensure Compensation for Loss of Habitat, and Implement all Management Agreements," on page 4.9-3 of the Phase 3 DEIS/DEIR is revised as follows:

> Mitigation Measure 4.9-a: Conduct Focused Surveys for Special-Status Plants, Minimize Effects, ~~and Develop Detailed Design of Created Habitat and Management Agreements to Ensure Compensation for Loss of Habitat,~~ and Compensate for Loss of Habitat ~~Implement all Management Agreements~~
>
> Proposed Action and Levee Raise-in-Place Alternative
>
> To reduce impacts on special-status plant species, SAFCA shall implement the measures described below.
>
> - Before any ground-disturbing activities begin, a qualified biologist retained by SAFCA shall conduct surveys for special-status plants in appropriate habitat within the project footprint, in accordance with

USFWS and/or DFG guidelines and at the appropriate time of year when the target species would be clearly identifiable. If no special-status plants are found during focused surveys, no further action shall be required.

- If special-status plants are found in the project footprint, areas of occupied habitat shall be identified and the primary engineering and construction contractors shall ensure, through coordination with the biologist, that construction activities are implemented in a manner that minimizes disturbance of these areas (e.g., temporary fencing shall be used during construction to protect all occupied habitat that is located adjacent to construction areas that can be avoided).
- If special-status plants are present in areas that cannot be avoided, SAFCA shall coordinate with USFWS and DFG to determine whether transplanting would be appropriate to further minimize adverse effects. Affected plants may potentially be transplanted to the GGS/Drainage Canal, if feasible. At least 1 acre of irrigation/drainage canal or marsh habitat shall be created for every acre of occupied special-status plant habitat that is lost.
- If special-status plants cannot be avoided, seed shall be collected and propagated at a DFG-approved nursery to provide additional plantings and transplanted during the dormant season if feasible to an approved site. Additionally, a mitigation plan shall be developed and approved by DFG. The plan shall include success criteria and specific requirements for planting, monitoring, and remediation in the event that success criteria cannot be met. Mitigation sites shall be permanently protected and managed in perpetuity.
- ~~SAFCA shall develop detailed design of habitat creation components and management protocols in coordination with and subject to approval of the resource agencies. SAFCA shall also enter into agreements with entities responsible for long-term management of created canals and marsh habitats to ensure that performance standards and long-term management goals are met and provide assurances of adequate funding for habitat creation and management. Such agreements and funding assurances shall be subject to approval of USFWS and DFG. SAFCA shall implement all terms and conditions of the management agreements.~~

Implementing this mitigation measure would reduce the impact on special-status plants to a **less-than-significant** level because SAFCA would conduct protocol-level plant surveys in accordance with applicable regulatory agency (e.g., USFWS, DFG, and CNPS) protocols at the appropriate time of year, ensure no-net-loss of special-status plant species habitat (if plants are present) including collection and propagation of seeds, avoid plant populations (if present) to the maximum extent feasible, and consult with the appropriate regulatory agencies to develop an implementation plan to further minimize impacts. ***(Similar)***

PAGES 4.9-5 AND 4.9-6

In response to Comment Letter S5, Mitigation Measure 4.9-b, "Conduct Focused Surveys for Elderberry Shrubs as Needed, Complete Detailed Design of Woodland/Elderberry Habitat and Management Agreements to Ensure

Adequate Compensation for Loss of Shrubs, Implement all Management Agreements, and Obtain Incidental Take Authorization," on pages 4.9-5 and 4.9-6 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.9-b: Conduct Focused Surveys for Elderberry Shrubs as Needed, ~~Complete Detailed Design of Woodland/Elderberry Habitat and Management Agreements to Ensure Adequate Compensation for Loss of Shrubs and~~ Implement All Woodland Habitat Conservation Components and all Management Agreements, Ensure Adequate Compensation for Loss of Shrubs, and Obtain Incidental Take Authorization

Proposed Action and Levee Raise-in-Place Alternative

To reduce impacts on valley elderberry longhorn beetle, SAFCA shall implement the measures described below.

- A qualified biologist retained by SAFCA shall conduct focused surveys of elderberry shrubs within 100 feet of the project footprint, in accordance with USFWS guidelines. All elderberry shrubs with potential to be affected by project activities shall be mapped, the number of stems greater than 1 inch in diameter on each shrub that requires removal shall be counted, and these stems shall be searched for beetle exit holes.

- The primary engineering and construction contractors shall ensure, through coordination with the biologist, that construction is implemented in a manner that minimizes disturbance of areas that support elderberry shrubs (e.g., temporary fencing shall be used during construction to protect all elderberry shrubs that are located adjacent to construction areas but can be avoided). Shrubs that require removal shall be transplanted to the woodland creation areas, if feasible. If none of the areas of suitable habitat to be created as part of the project would be available before the impact would occur, alternative transplantation locations (e.g., other SAFCA mitigation areas or TNBC preserves) shall be identified and shall be approved by USFWS.

- The number of replacement elderberry plantings shall be determined based on USFWS guidelines, which require replacement ratios ranging from 1:1 to 8:1 for lost stems at least 1 inch in diameter, depending on the size of the affected stems and presence or absence of beetle exit holes. Associated native species shall be planted at ratios ranging from 1:1 to 2:1 for each elderberry planting.

- SAFCA shall coordinate with USFWS, DFG, and SCAS (if on Airport property) to ensure that woodland habitat conservation components of the NLIP are created and managed as described in Section 2.3.3, "Habitat Conservation Components," in the Phase 3 DEIS/DEIR. SAFCA shall prepare a project-specific MMP and programmatic LTMP to ensure the creation and long-term management of these components (see Section 2.3.3.6, "Long-Term Management of Habitat Components") before construction commences. SAFCA shall enter into agreements with the appropriate local entity responsible for long-term management of these created woodland habitats and shall coordinate with USFWS and DFG to ensure that performance standards and long-term management goals that are required by regulatory agencies with jurisdiction over these resources will be specifically detailed and outlined in the LTMP and MMP. All performance standards and long-term management goals will be in full

compliance with ESA and CESA. SAFCA shall implement all terms and conditions of the management agreements.

- ~~SAFCA shall develop a detailed woodland/elderberry planting design and management protocols in coordination with and subject to approval of the resource agencies. SAFCA shall also enter into agreements with entities responsible for long-term management of created woodland habitats to ensure performance standards and long-term management goals are met and provide assurances of adequate funding for habitat creation and management. Such agreements and funding assurances shall be subject to approval of the resource agencies. SAFCA shall implement all terms and conditions of the management agreements.~~

- USACE shall initiate consultation activities with USFWS under Section 7 of the Federal ~~Endangered Species Act (~~ESA~~)~~, and authorization for take of valley elderberry longhorn beetle under the Federal ESA shall be obtained if it is determined, in consultation with USFWS, that shrub removal is likely to result in such take. All measures subsequently developed through the Section 7 consultation process shall be implemented by SAFCA.

Implementing this mitigation measure would reduce the impact on valley elderberry longhorn beetle to a **less-than-significant** level because protocol-level surveys would be conducted, construction activities would avoid elderberry shrubs to the maximum extent feasible, elderberry shrub replacement would occur in consultation with USFWS, habitat conservation components would be implemented, and USACE would consult with USFWS under Section 7. ***(Similar)***

PAGE 4.9-7

Due to a Memorandum of Agreement between the FAA, U.S. Air Force, U.S. Army, EPA, USFWS, and USDA that addresses existing and future environmental conditions contributing to aircraft-wildlife collision, SAFCA has determined that the planned 10 acres of marsh associated with the GGS/Drainage Canal could result in a hazard to public safety. As a result, Table 4.9-2 on page 4.9-7 of the Phase 3 DEIS/DEIR is revised as follows:

Table 4.9-2
Permanent Impacts of the Phase 3 Project Alternatives on Giant Garter Snake Habitat

Location	No-Action Alternative	Proposed Action and Levee Raise-in-Place Alternative (Acres)
Habitat Impacts		
Canal/ditch and Elkhorn Reservoir habitat near Sacramento River east levee	Unknown, but losses of TNBC preserve habitat and other agricultural habitats in the event of flooding could be substantial	5
Canal habitat near PGCC west levee	Unknown, but losses of TNBC preserve habitat and other agricultural habitats in the event of flooding could be substantial	< 1

Table 4.9-2 Permanent Impacts of the Phase 3 Project Alternatives on Giant Garter Snake Habitat		
Location	No-Action Alternative	Proposed Action and Levee Raise-in-Place Alternative (Acres)
PGCC (water side)	No impact	1
Airport West Ditch	No impact	9
Rice near PGCC west levee	Unknown, but losses of rice in the event of flooding could be substantial	45[1]
Total Permanent Impacts	**Unknown, but potentially substantial**	**16 canal/ditch; 45 rice**
Habitat Creation in Project Design		
Canal habitat (Aquatic)	0	22
Canal habitat (Associated Upland)	0	~~22~~32
~~Marsh habitat associated with Canal~~	~~0~~	~~10~~
Total Habitat Creation	**0**	**54**

Notes: TNBC = The Natomas Basin Conservancy; PGCC = Pleasant Grove Creek Canal

[1] The Phase 2 ~~Project~~ EIS identified permanent impacts to 72.98 acres of rice, which includes ~~this~~ 45 acres that would be affected as part of the Phase 3 Project. The USFWS programmatic BO is conditioned on the creation of 72.98 acres of managed marsh as part of the Phase 4 Project to offset the overall NLIP's~~project's~~ permanent impacts to rice.

Source: EDAW surveys in 2008; construction data provided by Wood Rodgers, Mead & Hunt, and HDR, Inc. in 2008 and 2009; and compiled by EDAW in 2008 and 2009

PAGE 4.9-8

Due to a Memorandum of Agreement between the FAA, U.S. Air Force, U.S. Army, EPA, USFWS, and USDA that addresses existing and future environmental conditions contributing to aircraft-wildlife collision, SAFCA has determined that the planned 10 acres of marsh associated with the GGS/Drainage Canal could result in a hazard to public safety. As a result, the fourth paragraph on page 4.9-8 of the Phase 3 DEIS/DEIR under Impact 4.9-c, "Impacts on Giant Garter Snake Related to Project Construction Activities," is revised as follows:

> In addition to the currently identified borrow sites listed in **Table 2-2**, the Elkhorn Borrow Area (**Plate 10**) has been identified as an area where additional borrow sites could be used, if needed. Any borrow site developed in the Elkhorn Borrow Area would potentially temporarily convert potential giant garter snake habitat to non-usable habitat (less than 5 acres of irrigation and drainage ditches). As described in Section 2.3.8, "Borrow Material," in selecting borrow sites, consideration would be given to ensure that activities result in minimal adverse impacts to the environment. Beneficial impacts to giant garter snake would include SAFCA's proposed creation of approximately 54 acres of habitat resulting from construction of the new GGS/Drainage Canal, expansion of the existing West Drainage Canal, and relocation of the irrigation canal. This habitat includes approximately 22 acres of aquatic canal habitat (12 acres for the newly constructed GGS/Drainage Canal, 7 acres for the relocated Elkhorn Canal, and 3 acres for the reconfigured West Drainage Canal)~~, approximately 10 acres of marsh habitat associated with the~~

~~GGS/Drainage Canal and West Drainage Canal,~~ and approximately ~~22~~32 acres of associated uplands for all the canals.

PAGE 4.9-9

In response to Comment Letter S5, Mitigation Measure 4.9-c, "Mitigation Measure 4.9-c: Minimize the Potential for Direct Loss of Giant Garter Snake Individuals, Develop Detailed Design of Managed Marsh and New Canals and Management Agreements to Ensure Adequate Compensation for Loss of Habitat, Implement all Management Agreements, and Obtain Incidental Take Authorization," on page 4.9-9 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.9-c: Minimize the Potential for Direct Loss of Giant Garter Snake Individuals, Implement All Upland and Aquatic Habitat Conservation Components ~~Develop Detailed Design of Managed Marsh and New Canals~~ and Management Agreements to Ensure Adequate Compensation for Loss of Habitat, ~~Implement all Management Agreements,~~ and Obtain Incidental Take Authorization

Proposed Action and Levee Raise-in-Place Alternative

To reduce impacts on the giant garter snake, SAFCA shall implement the measures described below.

- The primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that construction is implemented in a manner that minimizes disturbance of giant garter snake habitat (e.g., temporary fencing shall be used during construction to protect all aquatic and adjacent upland habitat that is located adjacent to construction areas that can be avoided).

- Additional measures consistent with the goals and objectives of the NBHCP shall be implemented to minimize the potential for direct injury or mortality of individual giant garter snakes during project construction. Such measures shall be finalized in consultation with USFWS and DFG, and are likely to include conducting worker awareness training, timing initial ground disturbance to correspond with the snake's active season (as feasible in combination with project needs and minimizing disturbance of nesting Swainson's hawks), dewatering aquatic habitat before fill, conducting preconstruction surveys, erecting fencing around habitat features that can be avoided to ensure that these remain undisturbed by construction vehicles and personnel, conducting biological monitoring during construction, and removing any temporary fill or construction debris and restoring temporarily disturbed areas to their pre-project conditions according to the USFWS's *Guidelines for the Restoration and/or Replacement of Giant Garter Snake Habitat* (USFWS 1997).

- SAFCA shall coordinate with USFWS, DFG, and SCAS (if on Airport property) to ensure that aquatic and upland habitat conservation components of the NLIP are created and managed as described in Section 2.3.3, "Habitat Conservation Components," in the Phase 3 DEIS/DEIR. SAFCA shall prepare a project-specific MMP and programmatic LTMP to ensure the creation and long-term management of these components (see Section 2.3.3.6, "Long-Term Management of Habitat Components") before construction commences. SAFCA shall enter into agreements with the appropriate local entity responsible for long-term management of

these created giant garter snake habitats and shall coordinate with USFWS and DFG to ensure that performance standards and long-term management goals are required by the regulatory agencies with jurisdiction over these resources will be specifically detailed and outlined in the LTMP and MMP. All performance standards and long-term management goals will be in full compliance with ESA and CESA. SAFCA shall implement all terms and conditions of the management agreements.

- ~~SAFCA shall develop detailed design of habitat creation components and management protocols in coordination with and subject to approval of USFWS and DFG. SAFCA shall also enter into agreements with entities responsible for long-term management of created canals and marsh habitats to ensure that performance standards and long-term management goals are met and provide assurances of adequate funding for habitat creation and management. Such agreements and funding assurances shall be subject to approval of USACE, USFWS, and DFG. SAFCA shall implement all terms and conditions of the management agreements.~~

- Authorization for take of giant garter snake under the Federal ESA and CESA shall be obtained. All measures subsequently adopted through the permitting process shall be implemented.

Implementing this mitigation measure would reduce this impact related to giant garter snake to a **less-than-significant** level because construction would be implemented in a manner that reduces loss of habitat and direct mortality, measures that are part of the NBHCP related to giant garter snake would be implemented, ~~a management plan would be created and~~ habitat conservation components of the NLIP would be ~~i~~mplemented in consultation with USFWS and DFG, and take permits would be obtained. ***(Similar)***

PAGES 4.9-13

In response to Comment S5-9 and to provide clarification regarding the proposed habitat conservation components for Swainson's hawk foraging habitat on agricultural lands, Impact 4.9-f, "Impacts on Swainson's Hawk and Other Special-Status Birds," of the Phase 3 DEIS/DEIR is revised as follows:

Impact 4.9-f: Impacts on Swainson's Hawk and Other Special-Status Birds

Proposed Action

Potential adverse effects on the Swainson's hawk would include loss of suitable foraging and nesting habitat and disturbance of nesting pairs during project construction. Other special-status birds, including white-tailed kite, ~~and~~ Cooper's hawk, and northern harrier, could also be similarly affected. The effects on foraging and nesting habitat would result from construction of levees, berms, and maintenance, operation, and utility corridors along the Sacramento River, PGCC, and NEMDC; the construction of the new GGS/Drainage and realigned Elkhorn Canals; reconstruction of RD 1000's Pumping Plant No. 2; and the creation of woodland corridors.

~~**Impacts to Foraging Habitat:** As summarized in **Table 4.9-3**, above, foraging habitat affected by the Proposed Action would be primarily croplands (115 of 184 acres) and grasslands (69 of 184 acres). This impact would be offset by the creation of 297 acres of foraging habitat, of which 60 acres would be croplands and 237 acres would be grasslands. As shown in **Table 4.9-4**, this~~

~~would result in a net increase of 113 acres of foraging habitat. However, due to conversion of land cover types in the project footprint, the composition of this habitat would permanently shift from 62% croplands (and 28% grasslands) to 20% croplands (and 80% grasslands), leading to a decrease in the quality of foraging habitat for Swainson's hawk. Approximately 55 acres (48%) of the total croplands being permanently affected are considered high-quality foraging habitat. The loss of high-quality foraging habitat could force Swainson's hawks to forage farther from the nest or increase competition for prey with other hawks in the area. To offset impacts to this high-quality foraging habitat, SAFCA would preserve approximately 60 acres of land in high-quality foraging habitat within reclaimed borrow sites. This would reduce the permanent impact to foraging habitat by ensuring preservation of field crops with the highest foraging value. The permanent loss of croplands represents 1.4% of the total estimated agricultural lands in the Basin and, therefore, is not considered a substantial reduction of foraging habitat.~~

~~Land cover conversion of the borrow sites would be temporary. Approximately 603 acres of foraging habitat would be temporarily affected by the Phase 3 Project borrow activities and then returned to their prior conditions within approximately 2 years. This would include 240 acres of fallow crop, 97 acres of alfalfa, 143 acres of other crops, and 115 acres of grasslands. Some of these borrow sites have been identified for field crop preservation to offset the impacts to foraging habitat. The selection of sites for field crop preservation lands, whether or not they are used as borrow sites, would be based on cropland parcels that would be suitable for farming alfalfa, hay, or other similar crops (e.g., well-drained, permeable soils) and that are located within reasonable proximity of potential Swainson's hawk nesting habitat. Where borrow sites are identified for field crop preservation, the limit of excavation would be, at minimum, 2 feet above the high water table. Further, these sites would be recontoured to have positive drainage so that the sites can be gravity-drained to collector drains off-site to ensure that the root zones would not be saturated. Finally, the foot of topsoil removed and stockpiled prior to borrow removal would be respread over the borrow sites after soil excavation, thereby increasing the depth of soil above the water table.~~

~~In addition to the currently identified borrow sites listed in **Table 2-2**, the Elkhorn Borrow Area (**Plate 10**) has been identified as an area where additional borrow sites could be used, if needed. Any borrow site developed in the Elkhorn Borrow Area would potentially convert foraging habitat for special-status birds to non-foraging habitat temporarily (583 acres of cropland and 11 acres of grassland). As described in Section 2.3.8, "Borrow Material," in selecting borrow sites, consideration would be given to ensure that activities result in minimal adverse impacts to the environment, including habitat for Swainson's hawk and other special-status birds.~~

~~However, if habitat creation/preservation is not effectively implemented to provide foraging habitat for Swainson's hawk or other special-status bird species, an overall adverse effect could occur. This impact is considered **potentially significant**.~~

Impacts to Foraging Habitat: As summarized in **Table 4.9-3** above, foraging habitat permanently affected by the Proposed Action would be primarily croplands (115 of 184 acres) and grasslands (69 of 184 acres). This impact would be offset by the creation of 297 acres of foraging habitat, of which 60 acres would be croplands and 237 acres would be grasslands. As shown in **Table 4.9-4**, this would result in a net increase of 113 acres of foraging habitat. However, due to conversion of land cover types in the project footprint, the composition of this habitat would permanently shift from 62% croplands (and 38% grasslands) to 20% croplands (and 80% grasslands), leading to a decrease in the quality of foraging habitat for Swainson's hawk.

Borrow site activities would result in temporary impacts to Swainson's hawk foraging habitat. Approximately 595 acres of foraging habitat could be temporarily affected by the Phase 3 Project borrow activities, depending on borrow needs, and then returned to their prior conditions within approximately 2 years. This would include 240 acres of fallow crop, 97 acres of alfalfa, 143 acres of other upland crops, and 115 acres of grasslands. Some of these borrow sites have been identified for agricultural preservation to offset the project's impacts to foraging habitat. The selection of sites for agricultural preservation lands, whether or not they are used as borrow sites, would be based on agricultural parcels that would be suitable for farming alfalfa, hay, or other similar crops (e.g., well-drained, permeable soils) and that are located within reasonable proximity of potential Swainson's hawk nesting habitat. Where borrow sites are identified for agricultural preservation, the limit of excavation would be, at minimum, 2 feet above the high water table. Further, these sites would be recontoured to have positive drainage so that the sites can be gravity-drained to collector drains off-site to ensure that the root zones would not be saturated. Finally, the foot of topsoil removed and stockpiled prior to borrow removal would be respread over the borrow sites after soil excavation, thereby increasing the depth of soil above the water table.

In addition to the currently identified borrow sites listed in **Table 2-2**, the Elkhorn Borrow Area (**Plate 10**) has been identified as an area where additional borrow sites could be used, if needed. Any borrow site developed in the Elkhorn Borrow Area would potentially result in temporary conversion of foraging habitat for special-status birds to non-foraging habitat (583 acres of cropland and 11 acres of grassland). As described in Section 2.3.8, "Borrow Material," in selecting borrow sites, consideration would be given to ensure that activities result in minimal adverse impacts to the environment, including habitat for Swainson's hawk and other special-status birds.

The greatest impact to overall foraging habitat value would be the permanent loss of approximately 55 acres of alfalfa and grass hay, which are considered the highest value foraging habitat types for Swainson's hawks in the Central Valley. The loss of alfalfa, grass hay,-and other foraging habitats could result in Swainson's hawks having to forage farther from the nest or increase competition for prey with other hawks in the area. Several studies have documented the importance of hay crops, especially alfalfa for Swainson's hawks (Estep 1989, Estep 2008, and Woodbridge 1998). The characteristics that contribute to their high value include:

- low vegetation structure, which increases prey accessibility;
- relatively large prey populations due to abundant cover and food;
- farming operations, such as weekly irrigation, which increases cover and food for prey; and
- regular mowing, which lowers vegetation structure, disturbs prey and increases accessibility.

To offset impacts to this high-quality foraging habitat, SAFCA would acquire and preserve approximately 60 acres of land (preferably lands used to obtain borrow material as described in Chapter 2.0, "Alternatives") that would be managed specifically to optimize its value as foraging habitat for Swainson's hawk. This would be accomplished by creating habitat types (e.g., agricultural or other vegetation types) that can be managed to provide high-quality foraging habitat for Swainson's hawk throughout the nesting season. Other factors that would contribute to the value of the Swainson's hawk foraging habitat being preserved includes its proximity to other preserved habitat (i.e., larger contiguous parcels of suitable foraging habitat generally provide greater foraging value than smaller parcels) and managing foraging habitat for Swainson's hawk over the long term or in perpetuity. If successful, SAFCA's commitment to preserve high quality foraging habitat in combination with the creation of perennial grasslands would fully mitigate the loss of alfalfa, grass hay, and other foraging habitat types that would result from implementation of the NLIP. However, if habitat creation/preservation is not effectively implemented to provide

foraging habitat for Swainson's hawk or other special-status bird species, an overall adverse effect could occur. This impact is considered **potentially significant**.

PAGES 4.9-16 AND 4.9-17

In response to Comment Letter S5, Mitigation Measure 4.9-f, "Minimize Potential Impacts on Swainson's Hawk and Other Special-Status Birds Foraging and Nesting Habitat, Monitor Active Nests during Construction, Develop and Implement a Management Plan in Consultation with DFG, Obtain Incidental Take Authorization, and Implement Mitigation Measure 4.8-a, "Minimize Effects on Woodland Habitat, Complete Detailed Design of Woodland Creation and Management Agreements to Ensure Compensation for Loss of Quantity and Quality of Habitat, Implement all Agreements, and Comply with the DFG Section 1602 Permit Process"," on pages 4.9-16 and 4.9-17 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.9-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 Conservation Components and ~~Develop and Implement a Management Plan in Consultation with DFG, Obtain Incidental Take Authorization, and Implement Mitigation Measure 4.8-a, "Minimize Effects on Woodland Habitat, Complete Detailed Design of Woodland Creation and~~ Management Agreements to Ensure Compensation for Loss of Quantity and Quality of Foraging Habitat, Obtain Incidental Take Authorization, Implement Mitigation Measure 4.8a, "Minimize Effects on Woodland Habitat, ~~Complete Detailed Design of Woodland Creation and Management Agreements to Ensure Compensation for Loss of Habitat,~~ Implement all Woodland Habitat Conservation Components and Management Agreements, Compensate for Loss of Habitat, and Comply with the DFG Section 1602 Permit Process,"

Proposed Action and Levee Raise-in-Place Alternative

SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented to avoid, minimize, and compensate for potential project effects on Swainson's hawks and other special-status birds:

- The primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that construction is implemented in a manner that minimizes disturbance of potential nesting habitat for special-status birds through the following activities:
  - The biologist shall conduct preconstruction surveys to identify active special-status bird nests near construction areas.
  - Surveys for nesting birds shall be conducted before project activities are initiated during the nesting season (March 1~~–July 31~~ September 15). Surveys shall be conducted in accordance with standardized protocols and NBHCP requirements. Removal of potential nesting habitat shall be conducted during the non-nesting season, to the extent feasible and practicable, to minimize the potential for loss of active nests.
  - If an active nest is found, the biologist shall determine an appropriate buffer that minimizes potential for disturbance of the nest, in coordination with DFG. No project activities shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active or the birds are not dependent on it. Monitoring shall be conducted during construction and by a qualified biologist to ensure

that project activity does not result in detectable adverse effects on the nesting pair or their young. The size of the buffer may vary, depending on the nest location, nest stage, construction activity, and monitoring results. If implementation of the buffer becomes infeasible or construction activities result in an unanticipated nest disturbance, DFG shall be consulted to determine the appropriate course of action.

- The primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that staging areas and access routes are designed to minimize disturbance of known Swainson's hawk nesting territories through the following activities:

  - The biologist shall conduct preconstruction surveys to identify active nests within ~~0.25~~ .5 mile of construction areas, in accordance with DFG guidelines. Surveys shall be conducted in accordance with NBHCP requirements and *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000).

  - If an active nest is found, an appropriate buffer that minimizes the potential for nest disturbance shall be determined by the biologist, in coordination with DFG. No project activities shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active or the birds are not dependent on it. Monitoring shall be conducted during construction and by a qualified biologist to determine whether project activity results in detectable adverse effects on the nesting pair or their young. The size of the buffer may vary, depending on the nest location, nest stage, construction activity, and monitoring results. If implementation of the buffer becomes infeasible or construction activities result in an unanticipated nest disturbance, DFG shall be consulted to determine the appropriate course of action.

- ~~SAFCA shall develop and implement a plan to address management of grassland habitats that are created as part of the proposed project to ensure that the performance standard of no net loss of sensitive habitat is met. The management plan shall, at a minimum, establish specific success criteria for habitat creation, specify remedial measures to be undertaken if success criteria are not met (e.g., supplementary plantings and additional monitoring), and describe short- and long-term maintenance and management of the features (described in Chapter 2.0, "Alternatives," Section 2.3.3, "Conservation Components").~~

- ~~Long-term protection of the created features and funding for their management shall be provided through appropriate mechanisms to be determined by SAFCA, DFG, and other entities cooperating in implementation of the proposed project.~~

- SAFCA shall coordinate with USFWS, DFG, and SCAS (if on Airport property) to ensure that woodland, upland and agricultural habitat conservation components of the NLIP are created and managed as

described in Section 2.3.3, "Habitat Conservation Components," in the Phase 3 DEIS/DEIR. SAFCA shall prepare a project specific MMP and programmatic LTMP to ensure the creation and long-term management of these components (see Section 2.3.3.6, "Long Term Management of Habitat Components") before construction commences. SAFCA shall enter into agreements with the appropriate local entity responsible for long-term management of these created Swainson's hawk habitats and shall coordinate with USFWS and DFG to ensure that performance standards and long-term management goals that are required by the regulatory agencies with jurisdiction over these resources will be specifically detailed and outline in the LTMP and MMP. All performance standards and long-term management goals will be in full compliance with ESA and CESA. SAFCA shall implement all terms and conditions of the management agreements.

- ~~The management plan for the grassland habitat creation components of the project shall be reviewed and approved by USFWS and DFG before project implementation.~~ Authorization for take of Swainson's hawk under CESA shall be obtained. All measures subsequently adopted through the permitting process shall be implemented.

Implementation of this mitigation measure as well as Mitigation Measure 4.8-a, would minimize adverse effects of the Proposed Action on Swainson's hawk. This measure, ~~C~~coupled with the amount of land side woodlands that are being created and preserved~~,~~ as part of the Phase 2 Project, ~~this measure~~ would result in a net increase in potential nesting habitat (landside woodlands). In addition, approximately 60 acres of high quality foraging habitat would be preserved in the Basin. The creation and preservation of nesting and foraging habitat in the Basin would reduce long-term and overall impacts to Swainson's hawk to a **less-than-significant** level. However, in the short-term, this impact would remain **significant and unavoidable** because replacement plantings would likely require a minimum of 10 to 15 years before providing important habitat components such as structure and shade. ~~because of the time required for replacement woodlands to reach maturity, short-term temporal impacts to nesting habitat would remain **significant and unavoidable**.~~

Implementation of this mitigation measure as well as Mitigation Measure 4.8-a, would minimize long-term, adverse effects of the Levee Raise-in-Place Alternative on Swainson's hawk, but would not reduce them to a less-than-significant level. While the woodland restoration and preservation proposed for the Levee Raise-in-Place Alternative may be adequate to offset the removal of landside woodlands, these replacement woodlands would not be adequate to compensate for the extensive loss of mature waterside vegetation, therefore, ~~However, because it is uncertain whether the new woodlands would be adequate to compensate for the extensive loss of waterside riparian habitat and the potential extensive loss of Swainson's hawk nest sites on the water side of the Sacramento River east levee and because in the short-term replacement plantings would require 10 to 15 years to mature,~~ this impact would remain **significant and unavoidable**. ***(Greater)***

REVISIONS TO SECTION 4.12, "TRANSPORTATION AND CIRCULATION"

PAGE 4.12-3

To provide clarification and additional detail regarding hauling routes, the third full paragraph on page 4.12-3 of the Phase 3 DEIS/DEIR (Impact 4.12-a, "Temporary Increase in Traffic on Local Roadways") is revised as follows:

> Haul trips for borrow material are anticipated to average 950–1,100 trips per day for the Sacramento River east levee improvements (Reaches 5A–9B) and 100–200 trips per day for the PGCC west levee improvements. Hauling on Elkhorn Boulevard could exceed the ITE threshold during the a.m. or p.m. peak hour for use of the Pacific Terrace borrow site. Construction on the NEMDC west levee would use off-road haul routes from the East Side and Twin Rivers borrow sources; Sorento Road would not be used for hauling of earthen material for NEMDC construction. However, the anticipated three-month closure of sections of East Levee Road during construction of the cutoff wall could increase traffic on Sorento Road during peak hours.

PAGES 4.12-4 AND 4.12-5

In response to Comments L2-1 and L5-4, Mitigation Measure 4.12-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," on pages 4.12-4 and 4.12-5 of the Phase 3 DEIS/DEIR is revised as follows:

> Mitigation Measure 4.12-a: Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips
>
> Proposed Action Before the start of construction in each construction season, SAFCA and its primary contractors for engineering and construction shall develop a coordinated construction traffic safety and control plan to minimize the simultaneous use of roadways by different construction contractors for material hauling and equipment delivery to the extent feasible and to avoid and minimize potential traffic hazards on local roadways during construction. Upon selection of borrow sites within the Elkhorn Borrow Area, the traffic safety and control plan shall reflect affected roadways. Items (a) through (e) of this mitigation measure, as listed below shall be integrated as terms of the construction contracts.
>
> (a) The plan shall outline phasing of activities and the use of multiple routes to and from off-site locations to minimize the daily amount of traffic on individual roadways. SAFCA shall ensure that the construction contractors enforce the plans throughout the construction periods.
>
> (b) The construction contractors shall develop traffic safety and control plans for the local roadways that would be affected by construction traffic. Before the initiation of construction-related activity involving high volumes of traffic, the plan shall be submitted for review by Caltrans and the agencies of the local jurisdictions (Sutter County, Sacramento County, and/or City of Sacramento) having responsibility for roadway safety at and between project sites. The plan shall call for the following elements:

- posting warnings about the potential presence of slow-moving vehicles;
- using traffic control personnel when appropriate; and
- placing and maintaining barriers and installing traffic control devices necessary for safety, as specified in Caltrans's *Manual of Traffic Controls for Construction and Maintenance Works Zones* and in accordance with city/county requirements (Caltrans 1996).

The contractor shall train construction personnel in appropriate safety measures as described in the plan and shall implement the plan. The plan shall include the prescribed locations for staging equipment and parking trucks and vehicles. Provisions shall be made for overnight parking of haul trucks to avoid causing traffic or circulation congestion.

(c) All operations shall limit and expeditiously remove, as necessary, the accumulation of project-generated mud or dirt from adjacent public streets at least once every 24 hours if substantial volumes of soil have been carried onto adjacent paved public roadways during project construction.

(d) Construction of project features along the Sacramento River east levee shall be accommodated through the creation of temporary haul roads along the landside of the adjacent levee and berm footprint. Garden Highway shall not be used for earthen materials hauling activities.

(e) A Transportation Management Plan shall be prepared and submitted to Caltrans District 3 to cover any points of access from the state highway system for haul trucks and other construction equipment.

(f) Before the start of the first construction season, SAFCA shall coordinate with Sacramento and Sutter Counties and the City of Sacramento to address maintenance and repair of affected roadways resulting from increased truck traffic.

(g) Before project construction begins, SAFCA shall provide notification of project construction to all appropriate emergency service providers in Sutter County, Sacramento County, and/or the City of Sacramento and shall coordinate with providers throughout the construction period to ensure that emergency access through construction areas is maintained.

(h) Before the start of construction, SAFCA and its primary contractors shall coordinate with Sacramento and Sutter Counties regarding any closures of Garden Highway.

Implementation of this mitigation measure would reduce the level of impact, but not to a less-than-significant level. However, given the high amount of hauling required for the Proposed Project and the Levee Raise-in-Place Alternative, and the limited number of roadways in the project vicinity that would be suitable for hauling between borrow sites and project construction sites, it is possible that the volume of traffic during some periods may still exceed ITE thresholds despite the implementation of this measure. Because

no other feasible mitigation measures are available to fully reduce this impact to a less-than-significant level, this impact would remain **significant and unavoidable**.

PAGE 4.12-6

To provide clarification and additional detail regarding potential impacts on Sorento and East Levee Roads, the first paragraph on page 4.12-6 of the Phase 3 DEIS/DEIR (Impact 4.12-b, "Temporary Increase in Traffic Hazards on Local Roadways," under "Proposed Action") is revised as follows:

> Pavement sections on the rural Sacramento and Sutter County roadways in the project area were designed to carry low-volume traffic. The high-volume truck traffic during construction would accelerate wear and tear on West Elverta Road between the Dunmore borrow site and the Sacramento River east levee and on West Elkhorn Boulevard between the Pacific Terrace borrow site and the Sacramento River east levee. Similarly, haul routes that would be used to access selected borrow sites within the Elkhorn Borrow Area could potentially affect West Elkhorn Boulevard, School House Road, and/or Walnut Road. The approximately three-month closure of sections of East Levee Road during construction on the NEMDC west levee could increase the volume of traffic on alternative roads, such as Sorento Road. Besides shortening the life of pavement sections, high-volume truck traffic and additional traffic from residents using alternative travel routes could cause road damage, such as cracks and potholes, which could create road hazards for other motorists.

PAGE 4.12-7

In response to Comment O4-17, the fourth paragraph on page 4.12-7 of the Phase 3 DEIS/DEIR (Impact 4.12-c, "Temporary Disruption of Emergency Service Response Times and Access," under "Proposed Action") is revised as follows:

> The Proposed Action would result in increased traffic on local roadways associated with construction trips. In addition, temporary road closures associated with levee improvements could cause or contribute to temporary increases in traffic levels as traffic is detoured or slowed on some local roadways and SR 99/70. Increased traffic congestion could interfere with the use of main roadways for emergency evacuation routes. Garden Highway is the primary access for homes and businesses located on the water side of the levee. Temporary construction closures, including an approximately 8–12-week closure of Garden Highway at the I-5 Bridge and the approximately three-month closure of sections of East Levee Road along the NEMDC west levee, would interfere with emergency access to these residences and businesses (see also Section 4.2, "Land Use, Socioeconomics, and Population and Housing"). Because the Proposed Action could result in delays in emergency service response times, this impact is considered **potentially significant**.

REVISIONS TO SECTION 4.13, "AIR QUALITY"

PAGE 4.13-9

In response to Comment L1-1, the first bulleted item under "Construction in Sacramento County" on page 4.13-9 of the Phase 3 DEIS/DEIR (Mitigation Measure 4.13-a, "Implement Applicable District-Recommended Control Measures to Minimize Temporary Emissions of ROG, NO_X, and PM_{10} during Construction") is revised as follows:

Mitigation Measure 4.13-a: Implement Applicable District-Recommended Control Measures to Minimize Temporary Emissions of ROG, NO_X, and PM_{10} during Construction

- SAFCA shall submit a construction emissions dust control plan(s) to SMAQMD that reduces fugitive dust emissions by at least 85% (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% with typical mitigation) ~~and shall receive approval of the plan(s) (or revised calculations) before groundbreaking~~. All grading operations shall be suspended when fugitive dust levels exceed levels specified by SMAQMD rules. SAFCA and its primary construction contractors shall ensure that dust is not causing a nuisance beyond the property line of the construction site.

PAGE 4.13-11 AND 4.13-12

In response to Comments L1-3 and L1-4, the eighth and ninth bulleted items under "All Project Construction" for Mitigation Measure 4.13-a, "Implement Applicable District-Recommended Control Measures to Minimize Temporary Emissions of ROG, NO_X, and PM_{10} during Construction" on pages 4.13-11 and 4.13-12 of the Phase 3 DEIS/DEIR is revised as follows and one additional bulleted item is added:

- Idling time for all heavy-duty equipment shall be limited to ~~10~~5 minutes.

- ~~Diesel-fueled construction equipment that will operate on the project site for more than 40 hours shall be equipped with diesel particulate filters (DPFs) that meet ARB "Level 3" verification standards.~~ Install ARB-certified Level 3 diesel particulate filters (DPF) on a minimum of 15% of the total number of off-road (non-street legal) diesel-powered construction equipment pieces with an engine size equal to or greater than 50 horsepower (hp) throughout the duration of the project. For fleets with 6 or fewer total applicable equipment pieces, a DPF shall be installed on a minimum of one engine. All DPFs shall be kept in working order and maintained in operable condition according to manufacturer's specifications. ~~A list of currently verified DPF technologies~~At the time of this writing, a list of ARB-certified Level 3 diesel particulate filters (DPF) can be found at http://www.arb.ca.gov/diesel/verdev/level3/level3.htm.

- Install Level 3 ARB-certified DPF that are functional and kept in working order to meet manufacturer's specifications throughout the duration of the project on at least 15% of the total pieces of off-road (non-street legal) construction equipment on the project site over 50 horsepower (hp) (a minimum of one diesel particulate filter for fleets with 6 or less total pieces).

REVISIONS TO SECTION 4.15, "RECREATION"

PAGES 4.15-2 AND 4.15-3

In response to Comments O3-3 and O3-4, Mitigation Measure 4.15-a, "Prepare and Implement a Bicycle Detour Plan for the Ueda Trail, Provide Construction Period Information on Recreational Facility Closures and Detours, Provide Detours for Bicycle Facilities, and Coordinate with Recreation Agencies to Allow Them to Repair Damage to Recreational Facilities," on pages 4.15-2 and 4.15-3 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.15-a: Prepare and Implement a Bicycle Detour Plan for all bicycle trails and on-street bicycle routes, including the Ueda Parkway Trail and Garden Highway, Provide Construction Period Information on Recreational Facility Closures and Detours, Provide Detours for Bicycle Facilities, and Coordinate with Recreation Agencies to Allow Them to Repair Damage to Recreational Facilities

Proposed Action and Levee Raise-in-Place Alternative

SAFCA shall implement the following measures to reduce temporary, short-term construction impacts on recreational opportunities in the project area:

- Before the start of construction, prepare a bicycle detour plan for all bicycle paths and on-street bicycle routes, including the Ueda Parkway Bicycle Trail and Garden Highway, in consultation with the County and/or City of Sacramento Bicycle and Pedestrian Coordinator as applicable. The detour plan shall include posted signs clearly indicating closure points, detour routes, roadway markings to designate temporary bike lanes, and informational signs to notify motorists to share the roads with bicyclists. Signs shall be posted at major entry points for bicycle trails and routes to notify users of closure points and detours. The detour plan shall be in place before the start of construction and shall be maintained and implemented throughout the construction period.

- Provide construction period information on recreational facility closures and detours.

- Upon completion of the levee improvements, coordinate with the City and/or County (where applicable) for the City and/or County (where applicable) to restore access and repair any construction related damage to recreational facilities, including the Ueda Parkway bicycle trail.

Implementing this mitigation measure would reduce the temporary impact from construction-related disruption to bicycle trails and the boat launch facility under the Proposed Action and the Levee Raise-in-Place Alternative to a **less-than-significant** level because construction-related damage would be repaired, access restored, and detour routes, roadway markings to designate temporary bike lanes, and informational signs would be provided. ***(Similar)***

REVISIONS TO SECTION 4.17, "UTILITIES AND SERVICE SYSTEMS"

PAGE 4.17-4

In response to Comment L5-6, Mitigation Measure 4.17-b, "Verify Utility Locations, Coordinate with Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage," on page 4.17-4 of the Phase 3 DEIS/DEIR is revised as follows:

Mitigation Measure 4.17-b: Verify Utility Locations, Coordinate with Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage

Proposed Action and Levee Raise-in-Place Alternative

Before construction begins, SAFCA and its primary contractors shall coordinate with USACE, the CVFPB, and applicable utility providers to implement orderly relocation of utilities that need to be removed or relocated. Power pole relocations shall be coordinated with SMUD and SACDOT to avoid conflicts with the SACDOT-proposed bike/pedestrian path. Existing main electrical power transmission lines and poles on the water side of the existing Garden Highway levee that do not need to be relocated or replaced to accommodate the project may be left in place. No new main electrical power transmission lines and poles shall be installed on the water side of Garden Highway. Consistent with sound engineering practices that prioritize the following, individual service lines shall: (1) use existing configurations and

facilities, and (2) any new poles shall be placed on the land side of Garden Highway, subject to the approval of USACE, the CVFPB, and any other regulatory public agencies and utility companies.

Notification of any potential interruptions in service shall be provided to the appropriate agencies and affected landowners.

Before the start of construction, utility locations shall be verified through field surveys and the use of the Underground Service Alert services. Any buried utility lines shall be clearly marked in the area of construction on the construction specifications in advance of any earthmoving activities.

Before the start of construction, a response plan shall be prepared to address potential accidental damage to a utility line. The plan shall identify chain of command rules for notification of authorities and appropriate actions and responsibilities to ensure the safety of the public and workers. Worker education training in response to such situations shall be conducted by the contractor. The response plan shall be implemented by SAFCA and its contractors during construction activities.

Utility relocations shall be staged to minimize interruptions in service.

Additionally, upon borrow site selection within the Elkhorn Borrow Area, further verification of utility locations, coordination with utility providers, preparation and implementation of a response plan, and any required construction worker training with respect to accidental utility damage shall be completed before any earth-moving activities take place.

Implementing this mitigation measure would reduce the impact from disruption of utility services to a **less-than-significant** level because SAFCA would coordinate with utility service providers and consumers to minimize interruptions to the maximum extent feasible and a response plan to address service interruptions would be prepared and implemented. ***(Similar)***

4.5 REVISIONS TO CHAPTER 5.0, "CUMULATIVE AND GROWTH-INDUCING IMPACTS, AND OTHER STATUTORY REQUIREMENTS"

To reflect revisions in the report by Luhdorff & Scalmanini Consulting Engineers (**Appendix A** of the FEIR), the analysis of cumulative groundwater impacts is revised as follows:

- **Groundwater:** The evaluation of potential groundwater impacts prepared by Luhdorff & Scalmanini Consulting Engineers (LSCE) investigated the impacts of the Proposed Action, in combination with existing and projected land and water use changes in the Natomas Basin and on the Basin's groundwater budget (see **Appendix B2** for the full report). The impacts of the Proposed Action include reduction in irrigated lands covered by the footprint of the proposed levee improvements, increase in recharge from the proposed canal improvements, and changes in land use and irrigation practices following excavation of soil and reclamation of the potential borrow sites. Without the Proposed Action, the simulation results show a reduction in groundwater storage of 4,971 acre-feet per year (afy) in the Natomas Basin. With the Proposed Action, the decrease in groundwater storage would be slightly smaller (~~4,248~~ 3,376 afy). Subsurface outflow from the Natomas Basin to the east would decrease slightly (from 21,738 afy to ~~21,118~~ 20,731 afy) as a result of the Proposed Action. Overall, the Proposed Action would have a small positive impact on groundwater supplies in the Natomas

Basin and a small negative impact on groundwater east of the Natomas Basin based on existing conditions.

The results of the 2030 simulation without the Proposed Action show a positive change in groundwater storage in the Natomas Basin of 1,572 afy. With the Proposed Action, the results indicate that, on average, SAFCA's construction activities would have a positive effect on groundwater levels in the Natomas Basin, resulting in an additional increase in storage of 348 afy (to 1,920 afy). The proposed cutoff walls would cause a small increase in groundwater outflow (from 1,200 to ~~1,238~~ 1,216 afy). Overall, the cumulative impact of the Proposed Action on future groundwater conditions is predicted to be negligible. The cumulative contribution of the Levee Raise-in-Place Alternative to cumulative impacts on groundwater would be similar to that of the Proposed Action. Therefore, neither the Proposed Action nor the Levee Raise-in-Place Alternative would result in a cumulatively considerable contribution to a significant cumulative impact.

4.6 REVISIONS TO CHAPTER 8.0, "REFERENCES"

Based on clarifications made to Section 2.3.3.3, "Rice and Field Crop Preservation," and Impact 4.9-f, "Impacts on Swainson's Hawk and Other Special-Status Bird," (see above under "Revisions to Chapter 2.0, "Alternatives," and Revisions to Section 4.9, "Special-Status Terrestrial Species"), the following references are added:

Estep, J.A. 1984. Diurnal Raptor Eyrie Monitoring Program. California Department of Fish and Game, Nongame Wildlife Investigations. Project Report W-65-R-1, Job No. II-2.0. Sacramento, CA

Estep, J.A. 2008 (March). *The Distribution, Abundance, and Habitat Associations of the Swainson's Hawk (Buteo swainsoni) in Yolo County*. Prepared for Yolo Natural Heritage Program, Woodland, CA. Prepared by Estep Environmental Consulting. Sacramento, CA.

Woodbridge, B. 1998. Swainson's Hawk (*Buteo swainsoni).* In *The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian-Associated Birds in California. California Partners in Flight.* Available: http://www.prbo.org/calpif/htmldocs/species/riparian/swainsons_hawk.htm.

To correct a reference within Mitigation Measure 4.5, "Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions," (see above under "Revisions to Section 4.5, "Water Quality"), the following reference is added:

Lahontan Regional Water Quality Control Board. 2007 (December 14). *Truckee River Basin Stormwater Management Program, Program Year 2007-2012*. Prepared by Placer County Department of Public Works, Auburn, CA. Available: <http://www.placer.ca.gov/Departments/Works/~/media/dpw/npdes/documents/TruckeeRiverBasinSWMP.ashx>. Accessed April 2009.

Based on text additions made to Impact 4.6-a, "Loss of Fish or Aquatic Habitat through Increased Sedimentation and Turbidity or Releases of Contaminants," (see above under "Revisions to Section 4.6, "Fisheries"), the following reference is added:

Laughlin, J. 2005. *Effects of Pile Driving on Fish and Wildlife.* Presentation to National Academy of Sciences–Transportation Research Board.

4.7 REVISIONS TO APPENDIX H, "CONSTRUCTION DETAILS"

PAGE H-1 THROUGH H-3

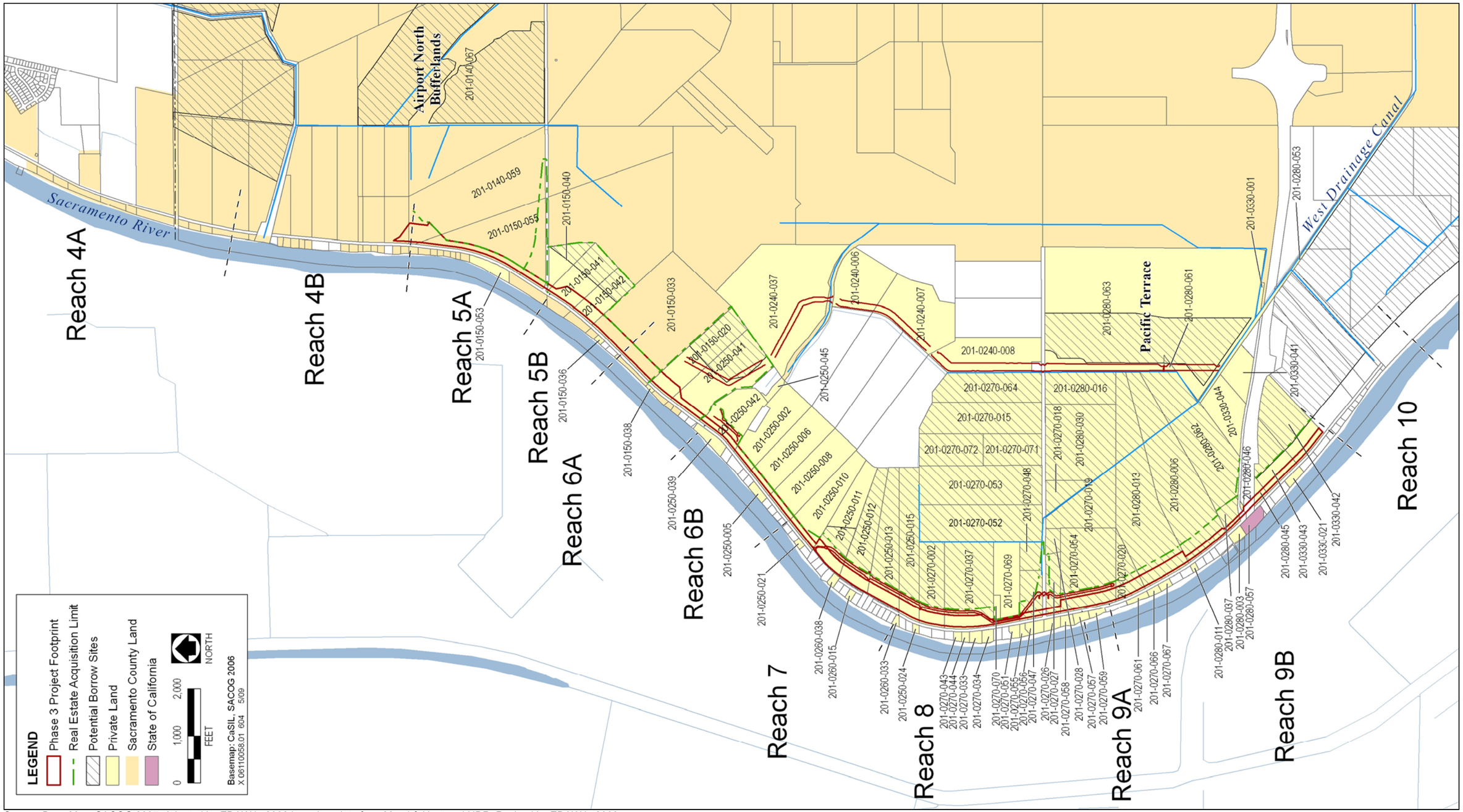
To provide clarification regarding which parcels are affected by proposed levee improvements along the Sacramento River east levee, APN 201-0270-0048 has been added to Table H-1:

Table H-1 Land Ownership by Parcel Number in the Phase 3 Project Footprint	
Drainage Outlets along the Sacramento River (Reaches 5A–9B)	
County of Sacramento	201-0150-036, 201-0150-038, 201-0150-053
Natomas Central Mutual Water Company	201-0250-039
Private Landowner	201-0250-005
Private Landowner	201-0250-021
Private Landowner	201-0250-024
Private Landowner	201-0260-015
Private Landowner	201-0270-026
Private Landowner	201-0270-033
Private Landowner	201-0270-061
Private Landowner	201-0280-003
Private Landowner	201-0280-011
GGS/Drainage Canal	
Citiland, Inc.	201-0240-006, 201-0240-007
Clinical Associates of Erie, Inc.	201-0330-035
Natomas Central Mutual Water Company	201-250-045
Pacific Terrace, LLC	201-0280-061, 201-0280-063
Reclamation District 1000	201-0280-053, 201-0330-001
Private Landowner	201-0150-020
Private Landowner	201-0240-008
Private Landowner	201-0240-037
Private Landowner	201-0250-041
Private Landowner	201-0330-041
Private Landowner	201-0330-044
Natomas East Main Drainage Canal	
Twin Rivers Unified School District	201-0320-018, 201-0320-019
Alice and Marie Krumenacher	201-0320-025
Private Landowner	201-0540-073
Private Landowner	214-0010-011
Private Landowner	226-0010-002
Private Landowner	226-0010-003
Private Landowner	226-0010-004
Private Landowner	226-0020-003
Private Landowner	226-0020-004
Private Landowner	226-0020-005
Pleasant Grove Creek Canal	
Brookfield	35-080-021
Private Landowner	35-080-022
Private Landowner	35-120-007
Private Landowner	35-150-005
Private Landowner	35-160-006
Private Landowner	35-160-038
Private Landowner	36-120-003
Sacramento River East Levee Reaches 4B–8 and/or Elkhorn Canal Relocation	
County of Sacramento	201-0140-059, 201-0150-033, 201-0150-055, 201-0280-046

Table H-1 Land Ownership by Parcel Number in the Phase 3 Project Footprint	
Natomas Center Mutual Water Company	201-0250-042
South Sutter, LLC	201-0250-015, 201-0270-037, 201-0270-037
Teal Bend, LP	201-0250-002, 201-0250-006, 201-0250-008, 201-0250-010
Private Landowner	201-0150-020
Private Landowner	201-0150-041
Private Landowner	201-0150-042
Private Landowner	201-0270-054
Private Landowner	201-0270-069
Private Landowner	201-0270-070
Private Landowner	201-0250-011
Private Landowner	201-0250-012
Private Landowner	201-0250-013
Private Landowner	201-0250-041
Private Landowner	201-0270-020
Private Landowner	201-0270-027
Private Landowner	201-0270-047
Private Landowner	201-0270-0048
Private Landowner	201-0150-040
Private Landowner	201-0280-006
Private Landowner	201-0280-013
Private Landowner	201-0280-062
Private Landowner	201-0330-045
Private Landowner	201-0330-043
Private Landowner	201-0330-042
Potential Borrow Sites	
Airport north bufferlands	201-0140-067, 201-0010-015, 201-0130-032, 201-0020-018
Brookfield	35-080-021
Dunmore	201-0120-031
Lower Woodland Corridor	201-0250-011, 201-0250-012, 201-0250-013, 201-0250-015, 201-0270-002, 201-0270-037, 201-0270-054, 201-0270-020, 201-0280-013
Krumenacher	201-0320-025, 201-0320-024
Pacific Terrace	201-0280-063
Private Landowner	201-0250-011, 201-0250-012, 201-0250-013
Private Landowner	201-0150-040, 201-0150-041, 201-0150-042
Private Landowner	201-0150-020, 201-0250-041
RD 1001	33-0280-025
South Sutter, LLC	201-0250-015, 201-0270-002, 201-0270-037
Sutter Pointe	35-0230-019, 35-0230-021, 35-0230-031, 35-0240-017, 35-0240-033
Twin Rivers Unified School District	201-0320-018, 201-0320-019
Notes: GGS = Giant Garter Snake; RD = Reclamation District Source: Data compiled by EDAW in 2008 from information provided by SAFCA	

PAGE H-7

To clarify which parcels would be subject to real estate acquisition under the proposed project, Exhibit H-1b has been revised to show a maximum real estate acquisition limit.



Source: Base Map: SACOG 2007, Adapted by EDAW in 2008 based on data from Mead & Hunt and HDR, Revised by EDAW in 2009

Land Ownership in the Phase 3 Project Footprint **Plate H-1b**

PAGE H-20

To provide clarification regarding East Levee and Sorento Roads, the first paragraph of Section 4, "Natomas East Main Drainage Canal West Levee" on page H-20 of Appendix H, "Construction Details" to the Phase 3 DEIS/DEIR is revised as follows:

> A cutoff wall would be constructed along the levee to a depth of up to 80 feet from the levee crown along the NEMDC west levee between Elkhorn Boulevard and Northgate Boulevard. To provide a working platform, at a minimum, the gravel operating road surfacing would be removed and stockpiled for later reuse. East Levee Road and Ueda Bikeway asphalt pavement would be removed for construction of the cutoff wall. Depending on the equipment used to construct the wall, the levee may be degraded between 5–10 feet to provide additional working width. From the NEMDC Stormwater Pumping Station to Northgate Boulevard, approximately 21,000 linear feet of cutoff wall would be constructed up to a depth of 80 feet. East Levee Road, including the intersection with Sorento Road, would be closed for approximately three months during construction of the cutoff wall. Alternative neighborhood access would be provided for residents north of the NEMDC Pumping Station whose driveways connect to East Levee Road. Following completion of the cutoff wall, the levee crown would be reconstructed and the operating road surface restored to gravel roadway or asphalt pavement depending on the existing road surface. This operation is anticipated to require three headings working two back-to-back 12-hour shifts per day; 24-hours-per-day operation would be required to complete the cutoff wall before the flood season. A 6-day work week (Monday through Saturday) with maintenance on Sunday is expected, with a total of 75 working days to complete cutoff wall installation. If the cutoff wall is constructed with a CB mix, up to 167,000 cy of excess soil from the excavation of the trench would be used to construct the levee improvement between Elkhorn Boulevard and the NEMDC Stormwater Pump Station.

PAGE H-20

In response to Comment Letter S5, the first bulleted item under Section 6.1, "Alignment," on page H-29 of Appendix H, "Construction Details," to the Phase 3 DEIS/DEIR is revised as follows:

> **Cross Section with Bench-Types A and B.** This typical cross section has a 10-foot bottom width and 3H:1V side slopes with managed water levels of 4.5 feet +/- 0.5 feet. In this reach, a bench (Type A = 15 feet wide; Type B = 50 feet wide) would be included on one side of the low-flow channel. The bench area would be planted with perennial grasses. ~~would have a maintained water depth of 3-12 inches. Tules would be planted on the sloped banks and bench and would typically be inundated with water during summer for enhancement of giant garter snake habitat.~~ Overbank areas would have the potential for flooding during 10-year or greater storm events. A 20-foot-wide operation and maintenance corridor would be constructed on each side of the canal.

PAGES H-29 THROUGH H-31

To provide clarification and additional detail regarding the Airport West Ditch, the following paragraph is added to the end of Section 7, "Airport West Ditch Reconfiguration," of Appendix H, "Construction Details," to the Phase 3 DEIR/DEIR:

> Modification of the Airport West Ditch would entail flattening the bank slopes along approximately 8,200 feet of the ditch, from the existing northern extent to the bend located near Meister Way. The banks would be flattened to 5H:1V, extending the width of the ditch from 35 to 105 feet-wide (top-of-bank to top-of-bank), and a 15 foot-wide operations and maintenance roadway would be constructed. The Airport West Ditch would remain 7 feet-deep, allowing for

continued drainage from Airport drainage pipes. Additionally, the proposed reconfiguration includes rerouting drainage from Jacob's Slough and the Reservoir Road Ditch to discharge into the new GGS/Drainage Canal instead of the Airport West Ditch. As a result, the only source of water entering the Airport West Ditch would come from the Airport drainage system.

PAGE H-32

To provide clarification and additional detail, the third paragraph on page H-32 under Section 8.1, "Layout," of Appendix H, "Construction Details," to the Phase 3 DEIR/DEIR is revised as follows:

The replacement outfall structure would be constructed close to the location of the original Pumping Plant No. 2 outfall structure. The concrete outfall structure would have a footprint of approximately 21 by 21 feet. A sheet pile cofferdam would be utilized to isolate and dewater an area of approximately 23 by 23 feet for the instream construction area of outfall. Construction of the cofferdam and dewatering would occur during an in-water work window when sensitive fish species are least likely to be present (e.g., July 1–October 31). Further, a fish rescue plan would be developed and implemented during cofferdam construction and dewatering activities to avoid and/or minimize the potential disturbance and/or potential fish stranding.

PAGE H-35

To provide clarification and additional detail, Section 9, "Prichard and Elkhorn Pumping Plant Modifications," on page H-35 of Appendix H, "Construction Details," to the Phase 3 DEIR/DEIR is revised as follows:

Because the Basin is surrounded by levees, all excess drainage within the Basin must be pumped out. In general, water is pumped into the Basin using NCMWC facilities and drainage within the Basin is pumped to the river via RD 1000's drainage system and pumping plants. Because the discharge pipes are required to cross the levee above the new "200-year" design flood elevation, the existing gate structure for the NCMWC Elkhorn Pumping Plant would need to be removed. The existing gate structure for the NCMWC Prichard Pumping Plant would also need to be removed. The existing pumps at both pumping plants would require modification or replacement to allow similar performance after the levee improvements and pipe raising. The superstructure at Prichard Pumping Plant would require retrofitting or other rehabilitation to accommodate the new pipes. Some localized dredging of sedimentation using hand pumps and divers within the Sacramento River may be required for installation of the new pumps. Any in-water work, including dredging in localized areas would be conducted during an in-water work window when sensitive fish species are least likely to be present (e.g., July 1–October 31). For removal of the manifold structure, the pump house, the gate structures, use of a backhoe, pneumatic hammers, and a front-end loader and haul truck would likely be required. The material would be wasted and removed from the site or salvaged and returned to NCMWC. For modifications to the pumps, the pumps would be pulled from the pump platform and replaced with new pumps.

As discussed in Chapter 5.0, "Cumulative and Growth-Inducing Impacts, and Other Statutory Requirements," the demolition of the Prichard and Elkhorn Pumping Plants and the removal of the intake pipes are part of the American Basin Fish Screen and Habitat Improvement Project (ABFS), which would include a replacement pumping facility on the Sacramento River, near the existing plant locations. The timing and extent of construction at these sites under the NLIP depend on the following two scenarios:

- If construction of the ABFS is completed first, the demolition of the plants would be completed and the pipes through the levee would be removed.

- If the ABFS is not completed first, the cutoff wall would be installed along the Sacramento River east levee and the pipes would be raised and the pumps and motors modified so that that these plants could continue to operate. After the ABFS is constructed and operational, the pipes and pumps would be removed.