Proposed Mitigated Negative Declaration for the
Reclamation District 536 Public Law 84-99 Levee Rehabilitation Project

LEAD AGENCY: The Central Valley Flood Protection Board (Board) of California is the lead agency under the California Environmental Quality Act for the Reclamation District 536 Levee Rehabilitation Project.

AVAILABILITY OF DOCUMENTS: The initial study and environmental assessment, and proposed negative declaration, are available for review at the Department of Water Resources, Division of Flood Management, 2825 Watt Avenue, Suite 100, Sacramento, California 95825 and on the Central Valley Flood Protection Board website, http://www.cvfpb.ca.gov. Questions or comments regarding this proposed mitigated negative declaration and initial study/environmental assessment may be addressed to :

Ms. Deborah Condon, Environmental Program Manager
Department of Water Resources
Division of Flood Management
2825 Watt Avenue, Suite 100,
Sacramento, California 95825
(916) 574-1426
dcondon@water.ca.gov

PROJECT DESCRIPTION
The Board in partnership with the U.S. Army Corps of Engineers (Corps), the federal sponsor, jointly prepared an Environmental Assessment/Initial Study for the proposed levee rehabilitation project under the Corps' Public Law 84-99 Rehabilitation Assistance for damaged levees. Construction will begin in July 2008 and take approximately 3 months.

Repair Alternative for Sites 004 and 005

Sites 004 and 005 will be land site repairs. These repairs will consist of excavating the existing slope 6 feet and backfilled with compacted select fill. This will add 14 feet to the existing levee crown. The existing agricultural ditch will have to be moved 20 feet to accommodate the news levee toe and will be rebuilt to the existing configuration.

Repair Alternative for Sites 006-016

Sites 006-016 will consist of water side repairs. These repairs consist of variations of one basic design. This basic design is as follows. All areas will be cleared and grubbed to a depth of 3 feet below the existing ground surface. After the material has been removed 18 inch minus rock will be placed where needed by pushing into place from the crest. 4 inch minus rock will be broadcast on top to fill in interstitial voids. In addition, orange fencing will be placed in the water 1 foot away from the levee toe to protect in water vegetation located 1 foot or more away from construction. All in water vegetation located on the land side of the orange fencing will be removed by hand and placed on the other side of the fencing. A mix of Tule and Bulrush will be planted to replace the moved in water vegetation. All trees that provide Shaded Riverine habitat (SRA) will be protected in place. A corps biologist will mark all tress to be saved prior to construction.

The Central Valley Flood Protection Board directed the preparation of an initial study/mitigated negative declaration (IS/MND) on this proposed project in accordance with requirements of the California Environmental Quality Act (CEQA). The document describes the proposed project and potential environmental impacts, and concludes that any significant effects that may result from the proposed project can be avoided, minimized or reduced to a less-than-significant level by the adoption and implementation of mitigation measures.

PROJECT LOCATION

The project is located along a 4-mile section on the right bank of Lindsey Slough, from River Mile 20.70 to 24.30 in Reclamation District 536. The site is in the Delta region of Solano County, approximately 21 miles southeast of Sacramento. Project site locations are depicted a map located in the attached Environmental Assessment/Initial Study.

FINDINGS: An initial study was prepared to assess the proposed project's potential effects on the environment and the significance of the impacts. Based on the initial study, the Central Valley Flood Protection Board has determined that the proposed project will not have a significant impact on the environment following the implementation of the mitigation measures. This conclusion is supported by the following findings:

- The project will not result in impacts to agricultural resources, geology, mineral resources, soils, land use and planning, and population and housing.

- The project will result in less than significant impacts to hydrology, aesthetics, public utilities and service systems, greenhouse gas emissions, and recreation.

- Mitigation measures undertaken as part of the proposed project will reduce impacts to a less than significant level for biological resources, including Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley spring-run chinook salmon and winter-run salmon (*Oncorhynchus tshawytscha*), green sturgeon (*Acipenser medirostris)*, Delta smelt (*Hypomesus transpacificus)*, Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), giant garter snake (*Thamnophis gigas)*, and other nesting migratory and special status bird species, including black phoebe and swallows.

- Mitigation measures undertaken as part of the proposed project will reduce impacts to a less than significant for water quality impacts during and after construction.

- Mitigation would be undertaken as part of the proposed project will reduce potentially significant impact to less-than-significant levels for: Temporary, short term, impacts during construction may result from the proposed project. These are: potential effects to air quality impacts from dust and emissions, and minor increases in traffic from construction vehicles. These short term impacts are not considered significant.

MANDATORY FINDINGS OF SIGNIFICANCE

- No substantial evidence exists that the proposed project would have a negative or adverse effect on the environment.

- The project will not substantially degrade the quality of the environment, significantly reduce the habitat for fish and wildlife species, result in fish or wildlife populations below a self-sustaining level, reduce or restrict the range of a special-status species, or eliminate important examples of California history or prehistory.

- The project would not achieve short-term environmental goals to the determent of long-term environmental goals.

- The project would not have environmental effects that would cause substantial direct or indirect adverse effects on humans.

- The project would not have environmental effects that are individually limited but cumulatively considerable.

PROPOSED MITIGATION MEASURES

The following mitigation measures will be implemented by the Central Valley Flood Protection Board and the Corps to avoid or minimize potential environmental impacts. Implementation of these mitigation measures would reduce the potential environmental impacts to a less-than-significant level.

<u>Giant Garter Snake</u>

- Provisions in the Fish and Wildlife Service's *Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake (Thamnophis gigas) Habitat* will be implemented.
-

<u>Burrowing Owl, Black Phoebe, Swallows, and Other Special Status and Migratory Birds.</u>

- A qualified biologist will survey the project area and vicinity prior to initiation of construction to determine presence or absence of these species. If the survey determines that a nesting pair of special status, or migratory, bird species are present, the Corps will coordinate with USFWS and/or the California Department of Fish, and required avoidance and minimization measures will be implemented.

<u>Fish</u>

- In-water construction activities will occur during the USFWS and NMFS approved work window for special status fisheries species. The in-water work window for salmonid species is from July 1 to October 30 and may be extended with the approval of agencies. The Delta smelt work window is between July 1 and November 30. Work windows have not been set for green sturgeon.

- A Corps' environmental resources specialist and a certified arborist will be present during trimming or removal of any herbaceous or woody vegetation to ensure that only the allowed vegetation is removed.

- Avoid disturbance of bulrush, instream woody material, and SRA where feasible. Protective fencing will be used to protect bulrush during construction. If bulrush will be disturbed at a repair site, the contractor will remove the vegetation prior to construction and transplant it to suitable locations in and adjacent to the site after construction at that site is completed.

- All emergent vegetation within the water along the waterside levee toe will be protected in place. Disturbance shall only be permitted if directed by a Corps' environmental resources specialist.

- Install willow pole cuttings along the waterline at all repair sites, and plant bulrush below the waterline at appropriate locations.

- Surface voids in the riprap shall be filled by casting 4" minus-clean infill rock onto the newly repaired sites to create a homogenous, semi-smooth surface.

<u>Water Quality and Hazardous Materials</u>

- The contractor will prepare a Storm Water Pollution Prevention Plan and a Hazardous Materials Management Plan, and will implement best management practices to reduce the risk of material entering the water or adversely impact water quality.

<u>Vegetation</u>

- Tree protection measures, such as using burlap and stakes to protect trunks, will be implemented during construction. Black walnut trees will be protected.

- Surveys to determine the presence or absence of rare, threatened or endangered plant species will be conducted prior to construction during the blooming season for annual plants, or when vegetative portions of the plant can be detected for perennial plants. The CNDDB has records of populations of rose mallow (*Hibiscus lasiocarpus*), Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*), and Mason's lilaeopsis (*Lilaeopsis masonii*) documenting that these species may be located on or near the project sites. If located, the plants will be protected in place where possible, or transplanted onto the levee.

The project will incorporate all applicable mitigation measures provided above and listed in the Environmental Assessment/Initial Study. A finding of no significance (FONSI) from the Corps will be provided.

APPROVAL OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

In accordance with Section 21082.1 of the California Environmental Quality Act, Central Valley Flood Protection Board staff has independently reviewed and analyzed the initial study and proposed mitigated negative declaration for the proposed project and finds that the initial study and proposed mitigated negative declaration reflect the independent judgment of the Central Valley Flood Protection Board staff. The project mitigation measures will be implemented as stated in the mitigated negative declaration.

_____ _____

Benjamin F. Carter date
President
Central Valley Flood Protection Board of the State of California

Approved as to Legal form and Sufficiency

_____ _____

Nancy Finch Date
Senior Staff Counsel

Draft ENVIRONMENTAL ASSESSMENT

Public Law 84-99
Reclamation District 536
Lindsey Slough
Solano County, California

May 2008

U.S. Army Corps of Engineers

Need for the Proposed Action

Between 28 December 2005 and 9 January 2006, the State of California experienced a series of severe storms which damaged the levees within the California's Central Valley. Water rose a second time in April 2006 and high water remained in some parts of the system until June. Many rivers and streams within the Sacramento and San Joaquin River Basins were above flood stage during these events and there were significant erosion and seepage problems with the levees. The State of California Department of Water Resources and/or their maintaining agencies conducted flood fight activities while the U.S. Army Corps of Engineers (Corps) has been working with the State to restore the levee systems to pre-flood conditions. These efforts have been conducted under the authority of Public Law 84-99, Rehabilitation of Damaged Flood Control Works.

Reclamation District 536 is located in the Central Valley Delta region approximately 21 miles southeast of Sacramento. Please see Figure 1. The project area covers a 4-mile section of the Lindsey Slough levee. There are 13 repair sites upstream of the Lindsey-Cache Slough confluence; 2 sites will consist of landside repairs and the remaining 11 sites will consist of waterside repairs. Table 1 shows the length, width and general location of the repair sites in RD 536. The damaged levees need to be repaired to prevent the levees from failing during a future flood event.

Table 1. Description of Repair Sites in RD 536

Site Number	Distance from Cache-Lindsey Confluence (miles)	Length (feet)	Width (feet)	Location of Repair
004	3.2	790	4	Landside
005	3.1	375	5	Landside
006	3.1	187	3	Waterside
007	3.0	335	5	Waterside
008	2.7	550	5	Waterside
009	2.4	447	3	Waterside
010	2.1	892	3	Waterside
011	2.0	1,081	5	Waterside
012	1.6	904	3	Waterside
013	1.3	136	3	Waterside
014	1.1	35	3	Waterside
015	0.96	510	3	Waterside
016	0.9	60	3	Waterside

Alternatives

No Action

Under the National Environmental Policy Act (NEPA), the lead agency is required to present a no action alternative that establishes the baseline environmental conditions. The baseline environmental conditions would be used to determine the type and magnitude of the affect each alternative would have on the environmental and socioeconomic resources in the project area. The no action alternative is used to determine if the project would have a significant adverse effect on environmental resources. Under the no action alternative, the Corps would not repair the damaged levees. The nonfederal sponsor would be responsible for the funding and labor to repair the damaged levees.

If the levees are not completely repaired, the levees would continue to degrade and fail in the future. Without any repairs the flood control system is reduced to a 1-year frequency event.

Repair Alternatives

Repair Alternative for Sites 004 and 005

Sites 004 and 005 will be land site repairs. These repairs will consist of excavating the existing slope 6 feet and backfilled with compacted select fill. This will add 14 feet to the existing levee crown. The existing agricultural ditch will have to be moved 20 feet to accommodate the news levee toe and will be rebuilt to the existing configuration. Please see Figure 2 for more information.

Repair Alternative for Sites 006-016

Sites 006-016 will consist of water side repairs. These repairs consist of variations of one basic design. This basic design is as follows. All areas will be cleared and grubbed to a depth of 3 feet below the existing ground surface. After the material has been removed 18 inch minus rock will be placed where needed by pushing into place from the crest. 4 inch minus rock will be broadcast on top to fill in interstitial voids. In addition, orange fencing will be placed in the water 1 foot away from the levee toe to protect in water vegetation located 1 foot or more away from construction. All in water vegetation located on the land side of the orange fencing will be removed by hand and placed on the other side of the fencing. A mix of Tule and Bulrush will be planted to replace the moved in water vegetation. All trees that provide Shaded Riverine habitat (SRA) will be protected in place. A corps biologist will mark all tress to be saved prior to construction. Please see figures 3 and 4 for more information.

Environmental Resources Affected by the Proposed Action

Vegetation and Wildlife

Common tule grows throughout the project area and provides in-stream vegetation for foraging and predator avoidance habitat for sensitive species. Orange construction fencing would be placed in the water one foot from the toe of the levee to

provide a buffer area for the common tule and other in-stream vegetation. Vegetation on the slope and on the levee-side of the construction fencing would be cleared and grubbed during project construction. Trees will be marked prior to construction and will be protected in place. All vegetation on the waterside of the fencing would be protected in place. Following completion of construction activities, common tule would be planted along the waterline to replace the in-stream vegetation lost during construction. The levee slope would be reseeded with native grasses above the high water mark.

Permanent wetlands exist on the landside of the levee near sites 010 and 011. The wetland habitat is dominated by common tule, cattails and other associated wetlands species. Construction would be occurring from the crown of the levee. No vegetation would be removed from the wetland as a result of construction activities. Additionally, tule, cattails and willows in irrigation ditches adjacent to sites 010, 011, 012 and 013. This vegetation would not be removed or trimmed as a result of construction activities. Dust abatement measures would be implemented at all sites to avoid coating surrounding vegetation and wetlands habitats in dust.

California wild rose, blackberry, peppergrass and other herbaceous vegetation dominates the levee slopes from site 004 through site 013. Willow trees and other woody vegetation grow along the shoreline in the project area. Prior to construction a Corps biologist will tag trees that would not be removed. The Corps would identify trees that provide shaded riverine habitat, trees used by nesting birds or trees that can reasonably be protected in place. Clearing and grubbing activities would result in the removal of all trees not previously identified by Corps biologists. This would result in a loss of vegetation for some of the project sites, however the Corps would plant the common tule at all project sites where vegetation is lost to help restore aquatic habitat.

The levee slope at sites 014, 015 and 016 is dominated by cork oak trees. As a result of maintenance activities at these sites there is no understory vegetation. A few scattered areas of blackberry persist within these sites. Clearing and grubbing would result in the removal of the blackberry shrubs. The Corps would identify trees that would not be removed during construction activities. The common tule in the water at these sites would be protected in the manner described above.

The project area provides habitat that supports small mammals, birds, reptiles and fish. The fish would use the aquatic habitat for predator avoidance, foraging and breeding. Birds would use the trees for nesting and the open areas for foraging. The herbaceous vegetation provides foraging and nesting habitat for reptiles and small mammals. Repairs would result in a loss of trees that provide shaded riverine habitat and nesting habitat. The conservation measures being implemented by the Corps would restore the lost aquatic habitat. Herbaceous vegetation lost by construction activities would be restored following completion of construction activities by reseeding disturbed areas with native grasses.

Socioeconomics

This project exists in a rural area with only a few scattered residences. Project activities would only restore the area to the pre-flood conditions; therefore construction activities would not result in changes to land use or the human environment. Construction would have no effect on the social or economic conditions in the area.

Agriculture

Agriculture operations in the project area include hay fields, wheat and barley on the landside levee berm, and live stock grazing. Sites 012, 013, and 014 are located near large hay fields, which would be planted in the early spring and harvested during the summer and early fall. Irrigation ditches on the landside are used to drain or water the hay fields depending on the time of year. The stability berms have been planted with wheat and barley, which would be bailed in the summer. A farm house next to sites 015 and 016 is surrounded by storage sheds, barns, and various farm equipment. Goat grazing has occurred along the waterside levee slope to control levee vegetation. The patrol road on top of the levee may be used by local land owners to gain access to the goats and cattle in the fields.

Endangered Species

The project area is located on the U.S. Geological Service Liberty Island, Dozier, and Rio Vista quadrangle maps. An endangered species list for these three quadrangle maps was produced on the U.S. Fish and Wildlife Service's Sacramento Field office web sites on March 6, 2007. The threatened and endangered species list can be found in Appendix A of this EA.

Lindsey Slough is a migratory corridor for the Federally listed delta smelt, Central Valley steelhead, Sacramento River winter-run Chinook salmon, green sturgeon and the Central Valley spring-run Chinook salmon. Steelhead, salmon and sturgeon spawning and rearing habitat include small gravel substrates near vegetation cover along the waters edge. Resting and foraging habitat includes in-stream woody debris, shaded riverine aquatic habitat, and vegetation along the waters edge. Delta smelt spawning habitat occurs in aquatic vegetation in backwater areas of the watershed. The U.S. Fish and Wildlife Service considers Lindsey Slough critical spawning habitat of the delta smelt.

The giant garter snake is found in slow moving streams, irrigation ditches, wetlands, ponds with vegetation along the waters edge, and open area with little to no overstory. The giant garter snake forage in the vegetation along the waters edge and sun themselves in the surrounding grasslands and open areas within 200 feet of the wetland or waterway. The giant garter snake would use old rodent dens above the ordinary high water mark during the winter. The Corps is currently consulting with the U.S. Fish and Wildlife Service on the effects to the giant garter snake, delta smelt, California tiger salamander and delta green ground beetle. The Corps is currently consulting with National Marine Fisheries Service regarding project impacts to listed anadromous fish species in the project area.

Effects of Construction on Species.

Construction of the proposed project would temporarily disturb ruderal herbaceous vegetation and riparian habitat during levee repairs. Disturbance of these vegetation communities would have short-term effects on terrestrial vegetation and wildlife in the project area and vicinity but is not expected to result in any long-term effects. Vegetation removal would result in a short-term loss of wildlife habitat in the project area and vicinity. Construction activities and noise would disturb any nearby wildlife and likely cause them to move to other areas. However, most species would return to the area when construction is completed and the habitat has reestablished. The project is not expected to have long-term effects on vegetation or wildlife because disturbed areas will be revegetated with native grasses and forbs and willow pole cuttings will be planted along the waterline at sites where riparian habitat or SRA will be affected.

The temporary loss of ruderal herbaceous and riparian habitats would be less than significant due to the abundance of these habitat types in the vicinity. After construction is completed, the levee slope would be reseeded with native grasses and forbs. The disturbed levee slopes in the project site are expected to have a complete grass and herbaceous cover within 1 year.

Aquatic habitats including SRA habitat and emergent wetland habitat within the channel of the Lindsey Slough will also be impacted by the proposed project. The project has been modified to reduce impacts to emergent wetland habitat and SRA to the extent feasible. However, these habitats will be temporarily disturbed by construction of the proposed project. Disturbance of SRA and emergent wetland would have short-term effects on common and special-status fish and other aquatic species potentially occurring in the project area and vicinity but is not expected to result in any long-term effects. Vegetation removal would result in a short-term loss of habitat for fish and aquatic species in the project area and vicinity. Construction will occur between July 1 and November 30 when special-status fish species are not likely to occur in the project area. Construction activities and noise would disturb any nearby fish and aquatic species and likely cause them to move to other areas. However, most species would return to the area when construction is completed and the habitat has reestablished. The project is not expected to have long-term effects on SRA or emergent wetland habitats because willow pole cuttings and bulrush will be planted along the waterline at all sites where feasible based on final project design (sites meeting the habitat requirements of bulrush). In time, SRA habitat and emergent wetland habitat are expected to increase in the project area as a result of mitigation measures.

Water Resources

Surface water in the project area includes Lindsey Slough, and wetlands and irrigation ditches on the landside of the levee. Construction activities would include dust abatement measures to protect water quality in nearby wetlands and irrigation ditches. Construction would likely result in debris entering Lindsey Slough. Construction would

occur in the summer; therefore any sediment that may enter the water would quickly settle on the substrate and would not affect water quality.

Cultural Resources

On December 20, 2006, to comply with Section 106 of the National Historic Preservation Act (NHPA), and in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation, the Corps executed a Memorandum of Agreement (MOA) for the Order 3, 4 and 5 PL 84-99 projects. The MOA stipulates a series of steps to take in order to take into account the effects of the project on historic properties. It also determines that for the purposes of the undertaking only, the Sacramento and San Joaquin River Basins levee system will be considered eligible for listing in the National Register of Historic Places (NRHP).

In order to obtain a determination of no adverse effect on the levee systems, the MOA allows that when the levee repairs will restore the original prism shape of the levee, the project will not adversely affect historic properties. When the levee or associated features are the only historic properties that will be adversely affected by the proposed project, the Corps will prepare documentation similar to Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) Level IV inventory cards showing the historic property before and after levee repair. Additionally, as stipulated by the MOA, potentially interested Native Americans will be sent letters asking for their comments and information on areas of concern.

A records and literature search for the presence of cultural resources within the area of potential effects (APE) was conducted at the Northwest Information Center of the California Historical Resources Information System, located at California State University, Sonoma on December 13, 2006. The search was negative for known cultural resources within the APE. Field inspections of the APE will be conducted before project construction and any historic properties discovered will be treated in accordance with the MOA. As stipulated by the MOA: (1) if the levee is the only historic property discovered within the APE it will be documented, and (2) if any other unknown cultural resources within the APE that cannot be avoided by project construction are discovered during field inspections, they will be inventoried, evaluated, and their eligibility to the NRHP will be consulted on separately with SHPO. Because the MOA has been executed the project is in full compliance with Section 106 of the NHPA.

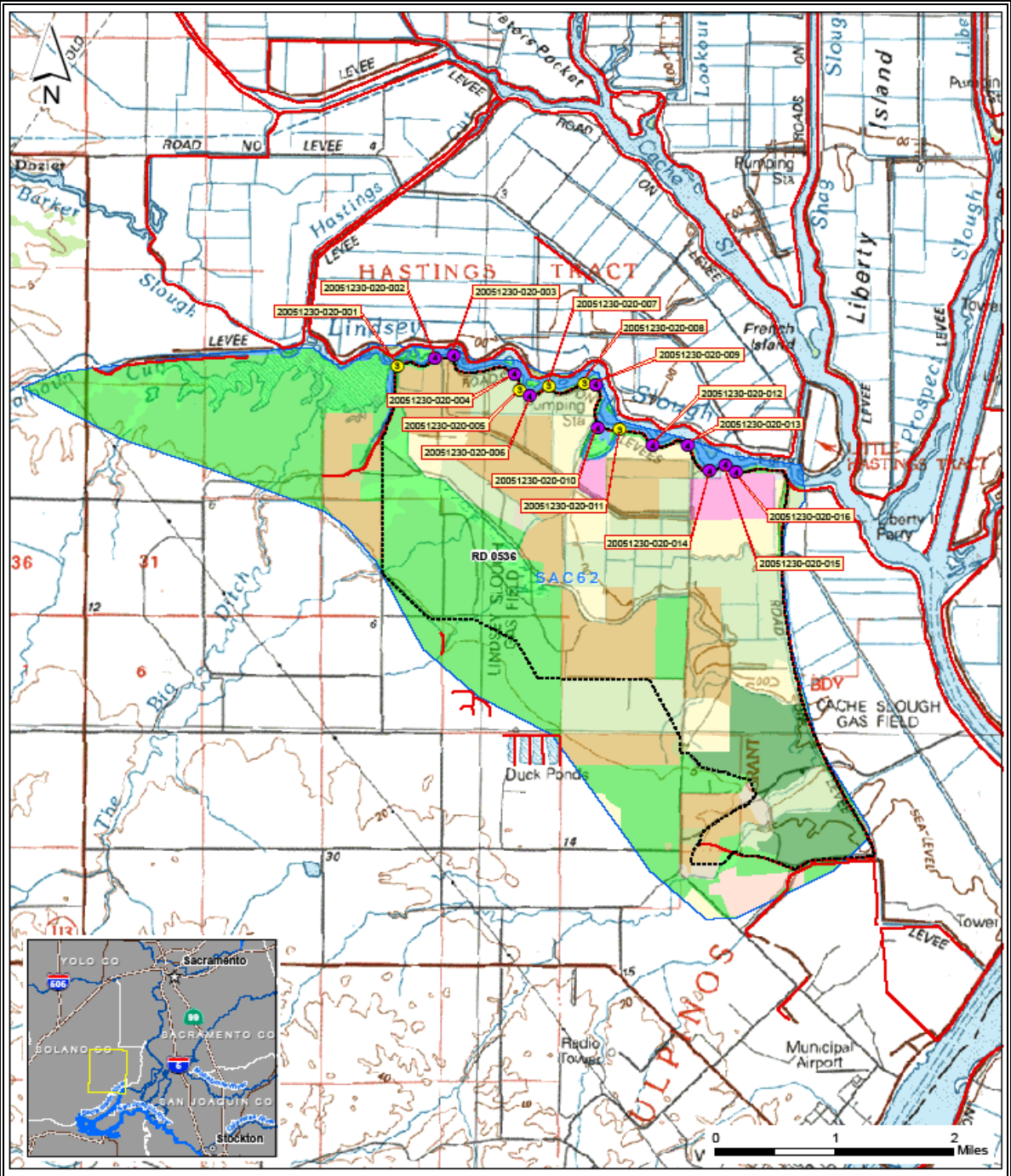
Conclusion

The proposed alternatives for the several sites would have only temporary affects to traffic, fisheries, vegetation and wildlife. The Corps is currently in formal consultation with FWS and NMFS for affects to endangered species and is requesting concurrences of not likely to adversely affect any Federally or California State listed endangered species. Planting of tule and bulrush would provide habitat for endangered fish species and other wildlife in the area. Because no significant impacts are expected, a draft Finding of No Significant Impact is included as part of this document for review.

Agencies and Persons Consulted

U.S. Fish and Wildlife Service. Doug Wienrick. Chief, Habitat Conservation Division. Sacramento Fish and Wildlife Service.

National Marine Fisheries Service. Madelyn Martinez. Fisheries Biologist. Sacramento Area Office.



MAP LEGEND

- Levee
- RD Boundary
- Impact Area

*Levee Damage Sites

Status

- Order 3
- Order 4

Land Use

- Field Crops
- Grain
- Idle
- Pasture
- Truck, Nursery and Berry Crops
- Native Classes - Unsegregated
- Riparian Vegetation
- Native Vegetation
- Water Surface
- Semi Ag and Incidental Ag
- Urban
- Vacant

IMPACT AREA STATS:

Total Impact Area: 14.98 sq mi

Estimated Population: 106
Households: 26

Land Use	Acres
Field Crops	1581.6
Grain	808.2
Idle	68.3
Pasture	1975.5
Truck, Nursery and Berry Cr	221.4
Native Classes - Unsegregat	569.2
Riparian Vegetation	590.1
Native Vegetation	3302.4
Water Surface	278.7
Semi Ag or Incidental Ag	49.7
Urban	20.0
Vacant	119.7

DATA SOURCES:

Population data from 2000 census

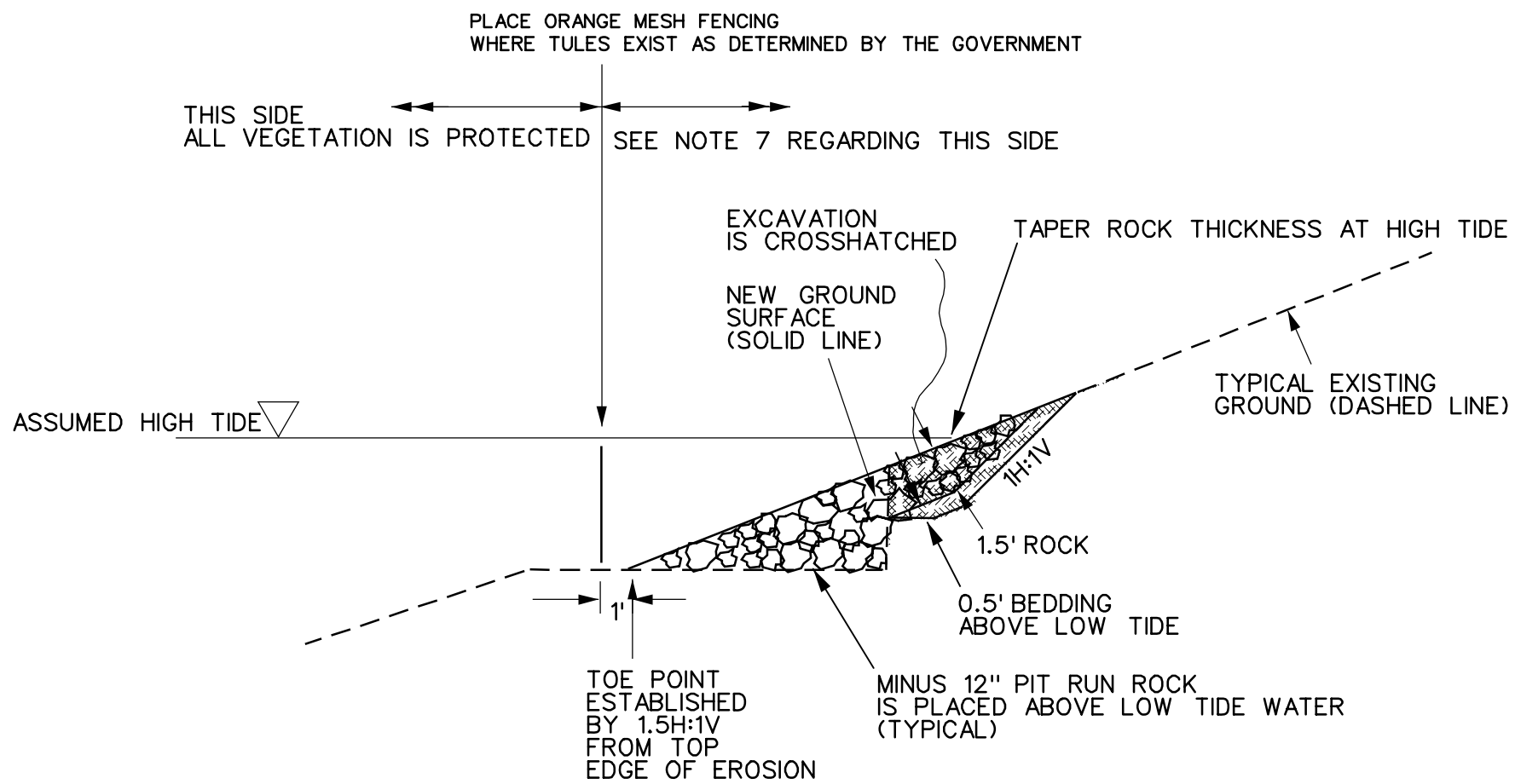
Land use data from DWR Solano County survey 1994

Impact Area determined as Sacramento Damage Area 62 (SPK Comprehensive Study, 1999)

Background image is USGS Topo (100k):

Lodi, 1993
contour interval 20 meters
supplementary contour interval 5 meters

Figure 1: Project Area and Repair Site Location Map



TOE SCOUR
XSEC SITE 16
C403|C404

NOTES:

1. PLACE MATERIAL WHERE NEEDED BY PUSHING INTO PLACE FROM THE CREST. USE EQUIPMENT STATIONED ON CREST AND WORKING ON SLOPE. MATERIAL NOT PLACED IN THE DAMAGED AREAS, INCLUDING BUT NOT LIMITED TO MATERIAL FALLING INTO THE WATER WHERE SUCH IS NOT CALLED FOR BY THESE CROSS SECTIONS, WILL NOT BE MEASURED FOR PAYMENT BY BEING DEDUCTED FROM THE PAY WEIGHT.

2. TREES NOTED FOR PROTECTION SHALL BE PROTECTED-IN-PLACE. (TYPICAL FOR ALL SITES)

3. EXISTING GROUND SHOWN AS DASHED

4. SECTIONS AS SHOWN ARE APPROXIMATE IN LOCATION AND CONFIGURATION AND ARE GENERALLY COMMON BUT NOT PRECISE TO THE SITE INDICATED.

5. CROSS SECTIONS ARE INTENDED TO BE TYPICAL ONLY. VARIATION WILL OCCUR.

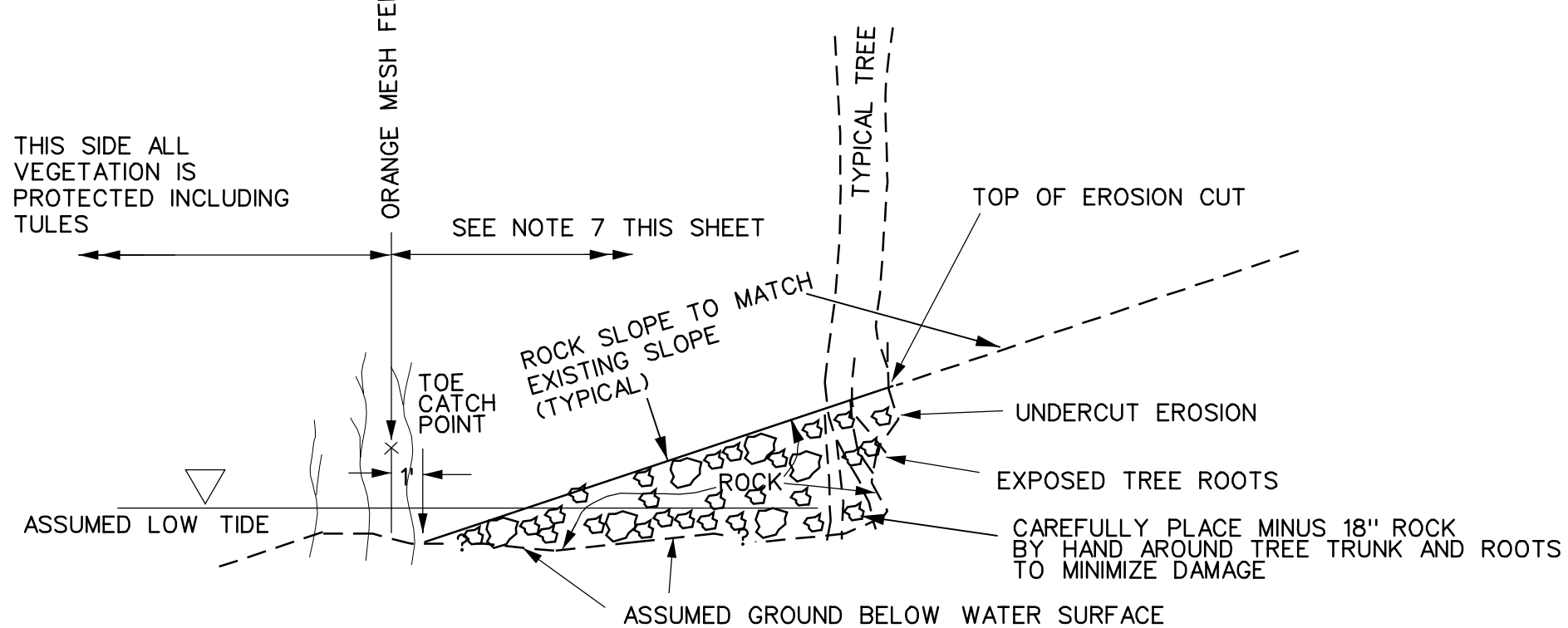
6. ORANGE MESH FENCE SHALL BE REMOVED FOLLOWING CONSTRUCTION.

7. PROTECT VEGETATION TO THE MAXIMUM EXTENT POSSIBLE. PRIOR TO ROCK PLACEMENT, CAREFULLY UPROOT TULES LANDWARD OF FENCE AND DEPOSIT IN THE SHALLOWS ON THE WATERSIDE OF FENCE. ALL TREES SPECIFICALLY MARKED SHALL BE PROTECTED-IN-PLACE.

8. A LICENSED ARBORIST SHALL BE PRESENT AND SUPERVISE TRIMMING AND REMOVAL OF ALL VEGETATION INCLUDING TREES.

9. REMOVED TREES SHALL REMAIN ON THE PROJECT SITE.

10. THE ABOVE APPLIES TO SHEET C405 ALSO.



TOE SCOUR
XSEC SITE 15
C403|C404

US Army Corps of Engineers Sacramento District

Symbol	Description	Date	Approved
XXX		XXX	XXX

Designed by: LB/MP/PV/TC
Dwn by: TC
Ckd by:
Spec No: 1635
Reviewed by:
Submitted by: /S/ PETER VALENTINE CHIEF CIVIL PROJ DESIGN SEC. A
Date:
Rev.
Design file no: 50-25-6272
Drawing Code:
File name:
File date:
Plot scale:
Plot date:

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

SACRAMENTO DISTRICT
IN-HOUSE DESIGN
1325 J STREET
SACRAMENTO, CA 95814-2922

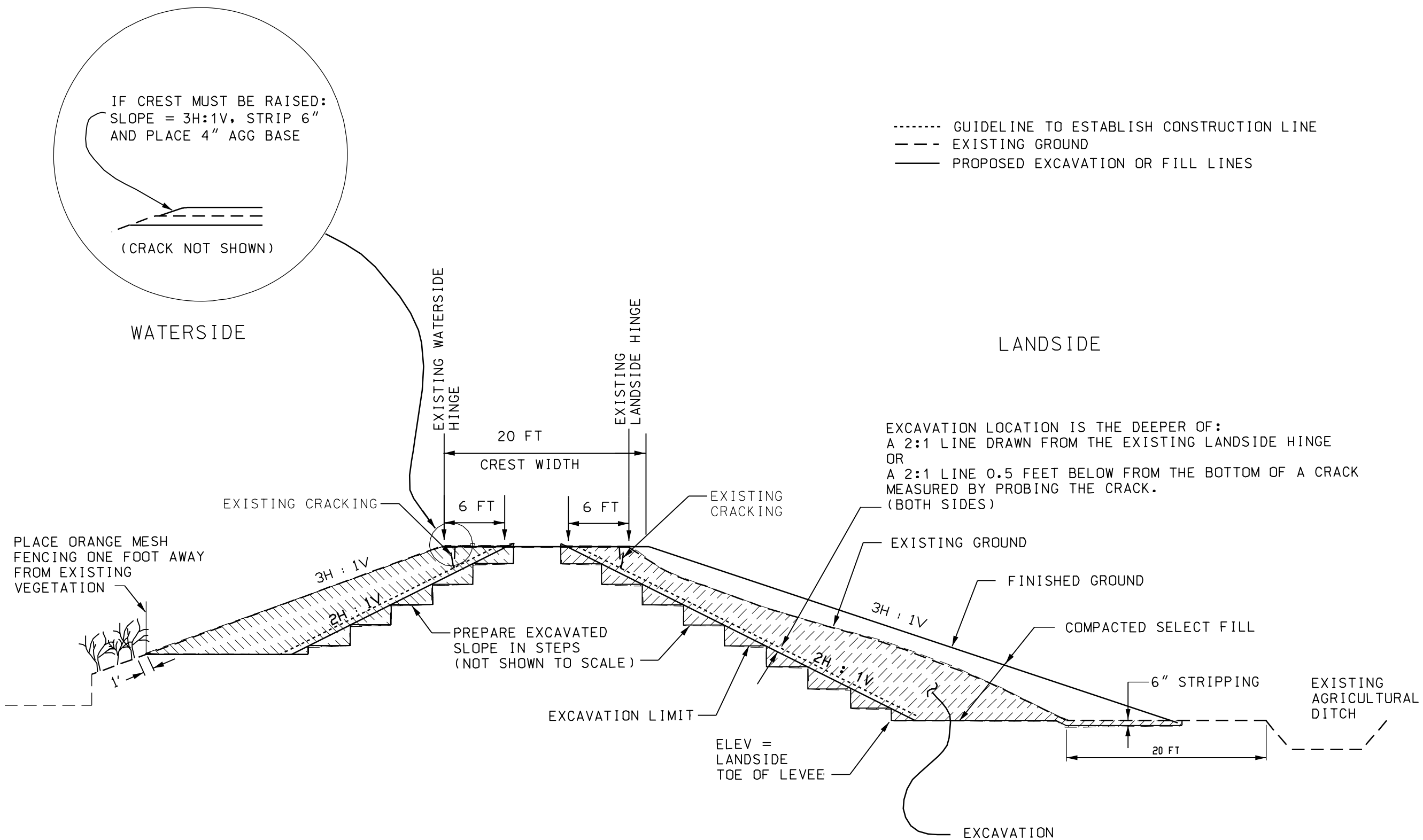
SOLANO COUNTY CALIFORNIA
LINDSEY SLOUGH-SACRAMENTO RIVER
LEVEE REHABILITATION REPAIRS
ORDERS 3-5
RECLAMATION DISTRICT 536
SITES 6 TO 16 REPAIR
CROSS SECTIONS
SITES 15 AND 16

Sheet reference number:
C404
XXX

14-APR-2006 \\tomcat\Projects\RIP 05-06 Flood Event\Winter 2005-2006\SN 20 RD 536\tomcat's_stuff\Sites_6-16_sheet_files_1635\BCKCK-50256272-C404.dgn

UPDATE

Figure 1: Project Area and Repair Site Location Map



SITES 4 AND 5 – TYPICAL SECTION

US Army Corps of Engineers
Sacramento District

Symbol	Description	Date	Approved
XXX	XXX	XXX	XXX

Rev.

Date:

Design file no: 50-25-6275

Drawing Code:

File name:
Plot date:
User name:

Designed by: LBMP/PV/TC

Dwn by: TC

Spec No: 1636

Reviewed by:

Submitted by: JOE PETER VALENTINE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

SACRAMENTO DISTRICT
IN-HOUSE DESIGN
1325 "J" STREET
SACRAMENTO, CA 95814-2922

CALIFORNIA
SOLANO COUNTY
LINDSEY SLOUGH-SACRAMENTO RIVER
LEVEE REHABILITATION REPAIRS
ORDERS 3-5
RECLAMATION DISTRICT 536
SITES 4 AND 5
TYPICAL SECTION

Sheet reference number:
C404A
XXX

UPDATE

DIAMOND/RIP 05-06 FLOOD EVENT/WINTER 2005-2006/SN 20 RD 536/TOM CAT'S_STUFF/ LATEDISCUSSION-CLAMSHELLROCK-50256275-C404.DGN