Meeting of the Central Valley Flood Protection Board
May 25, 2012

Staff Report – Encroachment Permit

Reclamation District 2093/Trust for Public Land
Authorize the degrading of non-project private levees within the Yolo Bypass, Yolo County

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1.0 – ITEM

Consider conditional approval of Permit No. 18723. (Attachment B without Exhibit(s) A)

2.0 – APPLICANT

Reclamation District 2093/Trust for Public Land

3.0 – LOCATION

This project is located on Liberty Island within the Yolo Bypass (Bypass) approximately 16 miles south by southeast and being downstream of the Interstate 80/Yolo Bypass Causeway in Yolo County. (See Attachment(s) A).

4.0 – DESCRIPTION

The applicant proposes to degrade approximately 4,200 linear feet of private east-west levees adjacent to Shag Slough and being within the lower Bypass. Additionally, the applicant proposes to excavate minor breaches and small channels in the degraded levees, widen and deepen the existing breach in the east-west levee, excavate a bench and plant tule plugs along a portion of the northern project boundary and seed existing upland areas with native and naturalized species. (See attachment C).

5.0 – PROJECT ANALYSIS

This project will remove minor obstructions from within the Bypass and enhance its functionality as a flood conveyance system and by planting tules and seeding portions

of the project area with native and naturalized non-woody vegetation will help restore the area to a more natural state.

5.1 – Hydraulic Analysis

A hydraulic analysis is incorporated into this staff report as Attachment D.

5.2 – Geotechnical Analysis

The scope of work for this project does not require a geotechnical analysis.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has not been received for this application. Staff anticipates receipt of a letter indicating that the USACE District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review said letter to ensure conformity with the permit language and incorporate it into the permit as Exhibit A.

- Reclamation District 2093 is co-applicant and has endorsed this project without conditions.

7.0 – CEQA ANALYSIS

The Board, as a responsible agency under CEQA, has reviewed Initial Study/Mitigated Negative Declaration (IS/MND) (February 2011, SCH# 2010122078) and Mitigation Monitoring and Reporting Program for the Northern Liberty Island Fish Conservation Bank Project prepared by the lead agency, the Reclamation District 2093. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at http://www.cvfpb.ca.gov/meetings/2012/05-25-2012.cfm under a link for this agenda item. These documents are also available for review in hard copy at the Board and the Trust for Public Land office.

Reclamation District 2093 determined that the project would not have a significant effect on the environment on February 10, 2011 and subsequently filed a Notice of Determination with the Yolo County Clerk. Board staff finds that although the proposed

project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's IS/MND and address impacts to air quality, biological resources, hazards and hazardous materials, and traffic and transportation. The description of the mitigation measures are further described in the adopted IS/MND.

8.0 – SECTION 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

   The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

   The accepted industry standards for the facilities authorized under this permit as regulated by Title 23 have been applied to the review of this application.

3. Effects of the decision on the entire State Plan of Flood Control:

   None.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

   There are no foreseeable detrimental effects upon the adopted plan of flood control relative to the permitting of this project due to reasonable projected future events.

9.0 – STAFF RECOMMENDATION

Staff recommends that the Board adopt the CEQA findings, direct staff to file a Notice of Determination with the State Clearinghouse and conditionally approve the permit.

10.0 – LIST OF ATTACHMENTS

A. Location Maps and Photos
B. Draft Permit No. 18723 w/exhibit(s) A
C. Design Drawings
D. Hydraulic Analysis
E. Management Plan

Design Review:	Sterling Sorenson
Environmental Review:	James Herota / Andrea Mauro
Document Review:	Mitra Emami P.E., Len Marino P.E.

18723 B without Exhibit A

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18723 BD

This Permit is issued to:

Reclamation District 2093/Trust for Public Land
1107 9th Street
Suite 1050
Sacramento, California 95814

To degrade approximately 4,200 linear feet of the east-west private levee along Shag Slough within the Yolo Bypass, excavate minor breaches and small channels, widen and deepen the existing breach on the east-west levee, excavate a bench and plant tule plugs along a portion of the northern project boundary, and seed existing levee upland areas with native and naturalized species. The project is located on Liberty Island within the Yolo Bypass in Yolo County. (Section 29, 30, 31, 32, T6N, R3E, MDB&M, Reclamation District 2093, Yolo Bypass, Yolo County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

DWR 3784 (Rev. 9/85)

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18723 BD

THIRTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior written approval of the Central Valley Flood Protection Board.

FOURTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the herein permitted modification(s) of the project works and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SIXTEEN: The Central Valley Flood Protection Board and the California Department of Water Resources shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

SEVENTEEN: The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior written approval of the Central Valley Flood Protection Board.

NINETEEN: All cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1st to April 15th.

TWENTY: Trees shall not be planted within the Yolo Bypass. All volunteer trees, willows and woody vegetation shall be removed from the project area prior to one year of growth.

TWENTY-ONE: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board and/or the California Department of Water Resources or their respective agents. If the permittee does not remove such vegetation or trees upon request, the Central Valley Flood Protection Board reserves the right to remove such at the permittee's expense.

TWENTY-TWO: All debris generated by this project shall be porperly disposed of outside the flood control project works.

TWENTY-THREE: In the event that erosion, injurious to the adopted plan of flood control, occurs at or adjacent to the herein permitted Yolo Bypass modification(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

TWENTY-FOUR: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by any authorized representative of the Central Valley Flood Protection Board, the California Department of Water Resources and/or any other agency responsible for maintenance.

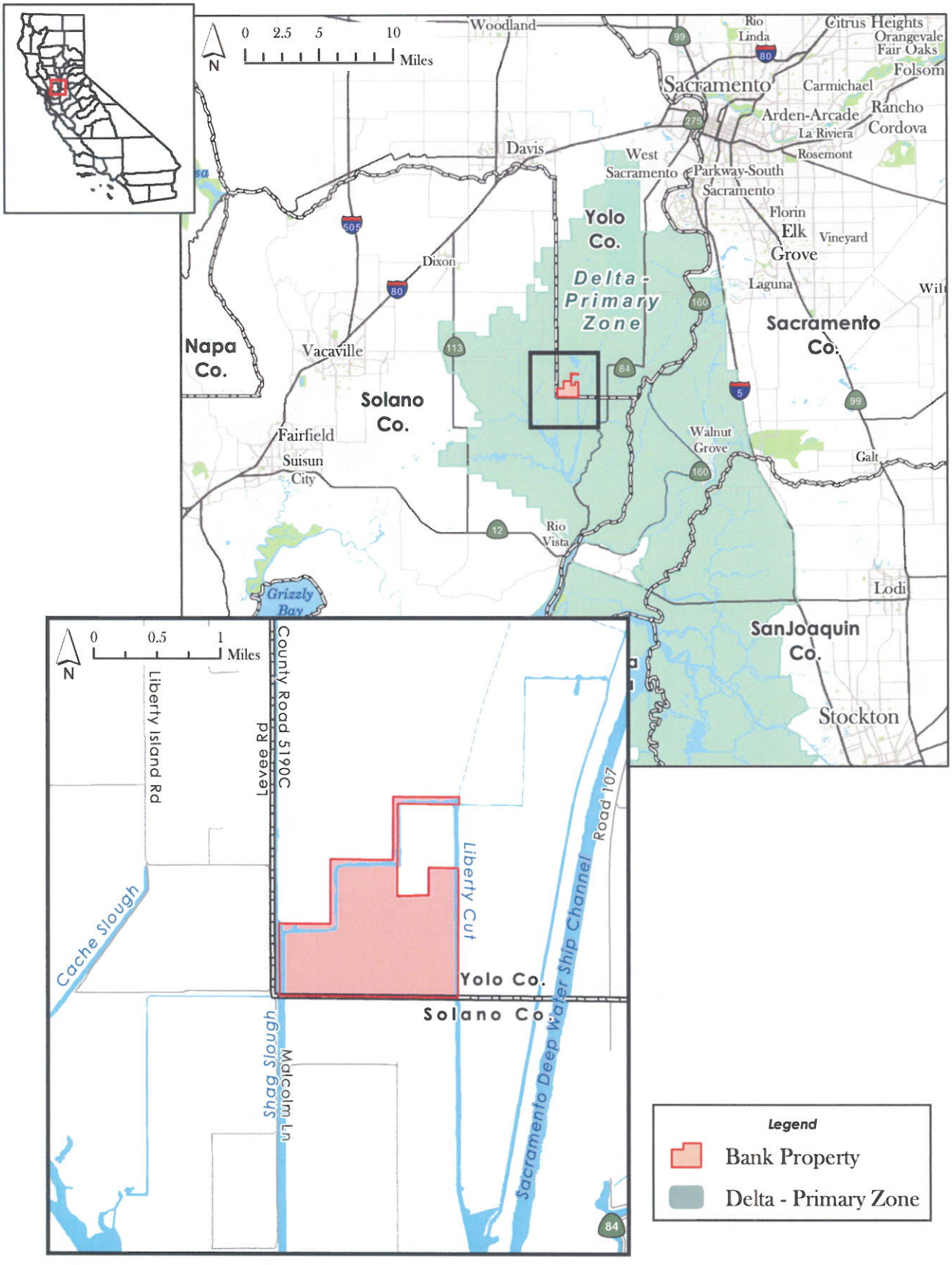
TWENTY-FIVE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-SIX: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-SEVEN: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

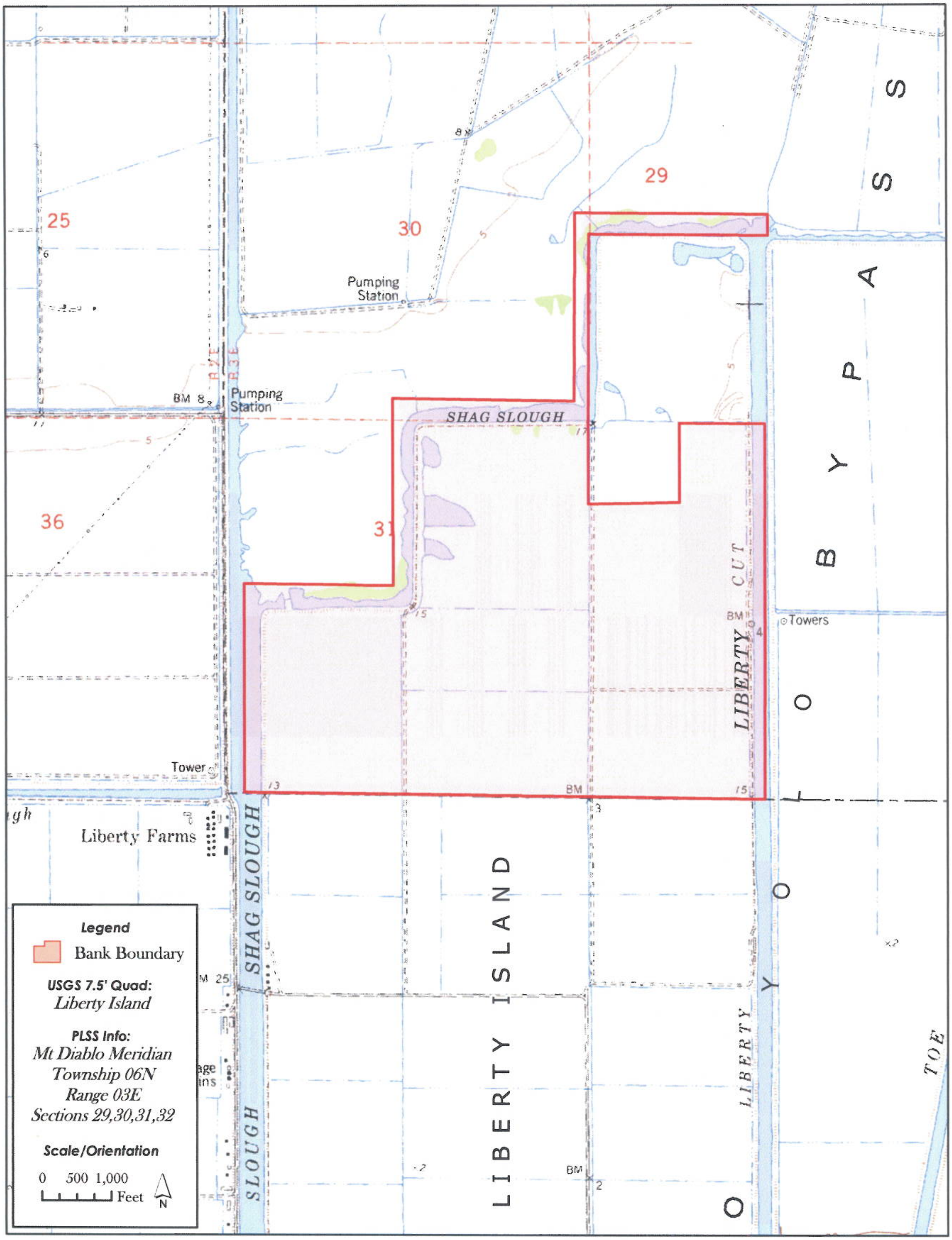
TWENTY-EIGHT: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated XXXXX XX, XXXX, which is attached to this permit as Exhibit A and is incorporated by reference.

18723 Location Map A-1



WILDLANDS

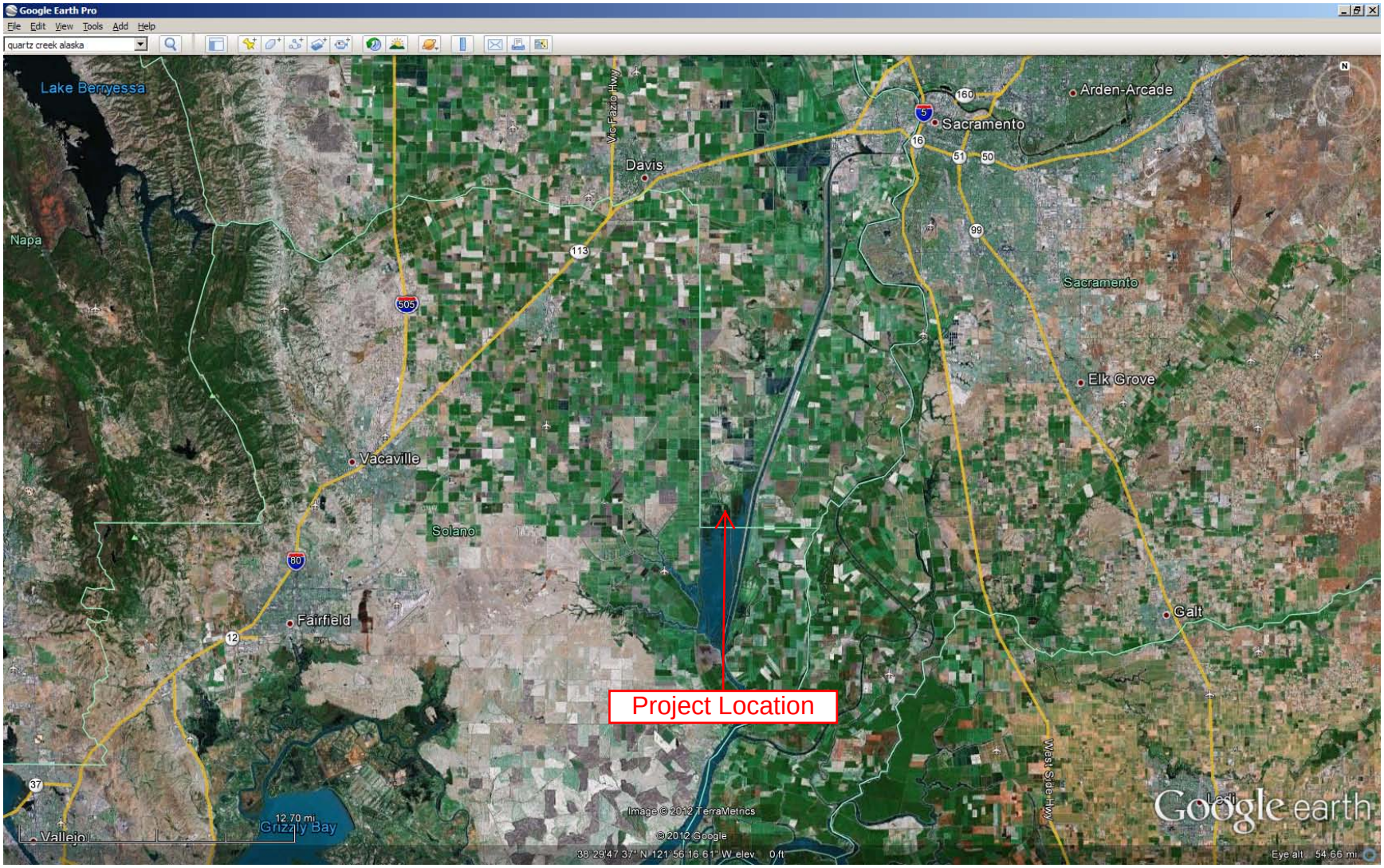
North Delta Fish Conservation Bank
Pre-Construction Notification



WILDLANDS

North Delta Fish Conservation Bank
Pre-Construction Notification

18723 Location Photo A-3



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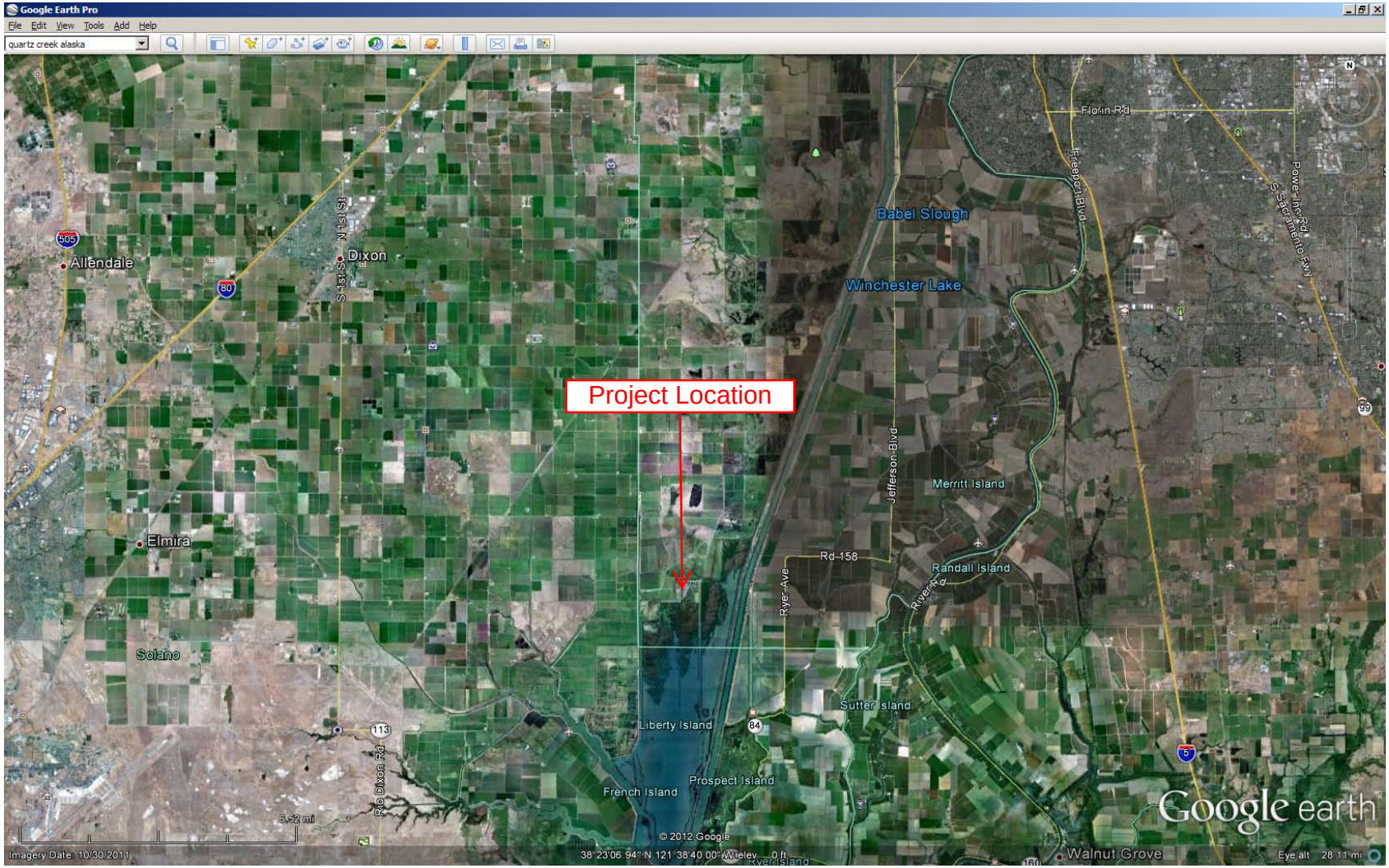

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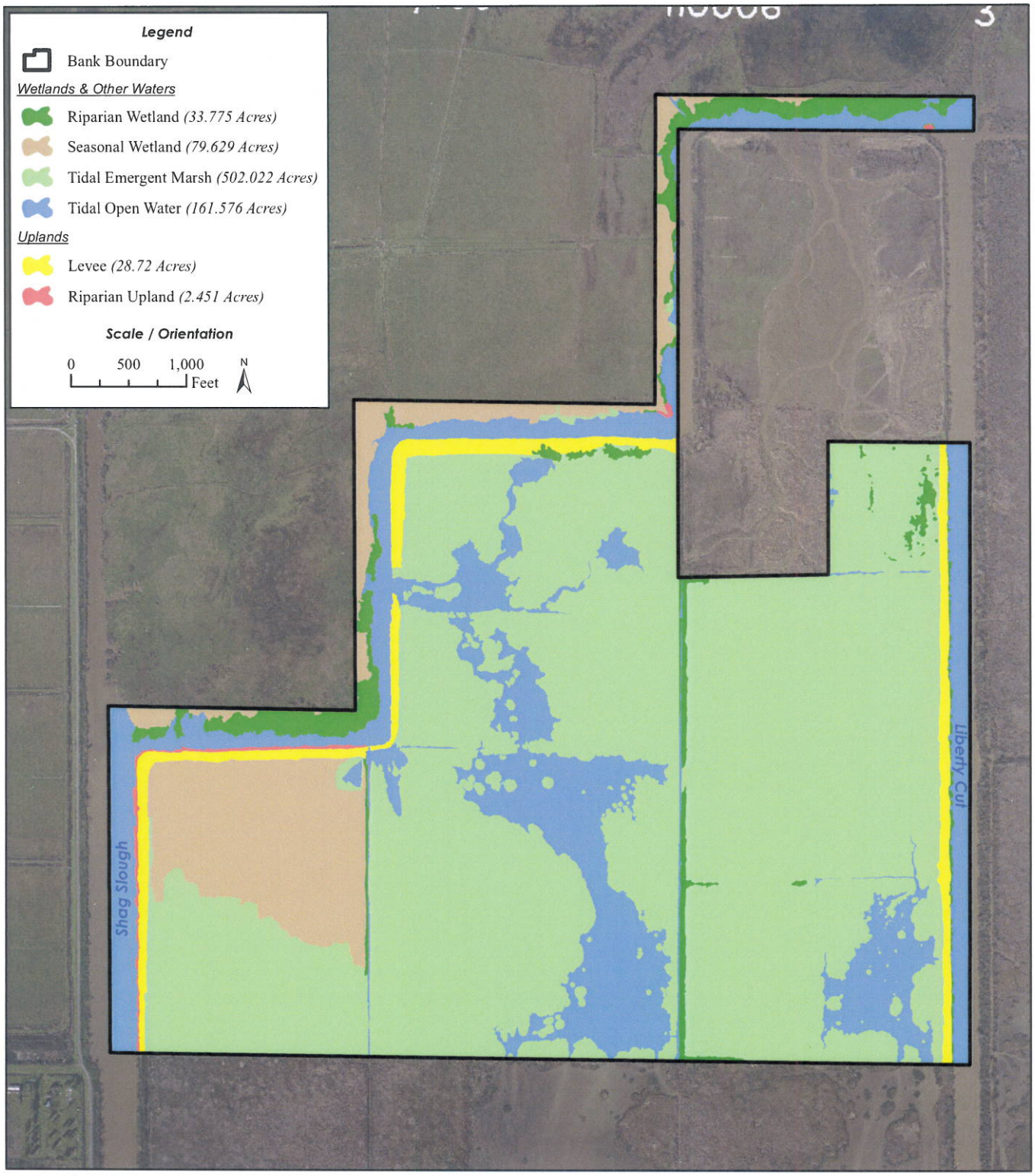


Representative Photos
North Delta Conservation Bank

Representative area where tidal bench will be created north of slough

Representative area where tidal bench will be created north of slough

18723 Site Photo A-7

Representative Photos
North Delta Conservation Bank

Representative photo of levee and rock to be removed/degraded

Representative photo of levee and rock to be removed/degraded

Representative Photos
North Delta Conservation Bank

Representative photo of existing flooded habitat on the interior of the island

Representative photo of existing flooded habitat on the interior of the island

LEGEND

Bank Boundary

Existing

Tidal Emergent Marsh Complex - Enhanced

Riparian Scrub Shrub / Shaded Riverine Aquatic Cover (SRA) - Preserved

Riparian Scrub Shrub and Seasonal Wetland Floodplain - Preserved

Levee Upland - Preserved

Tidal Channels - Enhanced

Ditches

Water Control Structure to be Removed

Proposed

Tidal Emergent Marsh Complex - Created (Excavation and/or Rock Removal / Tule Planting)

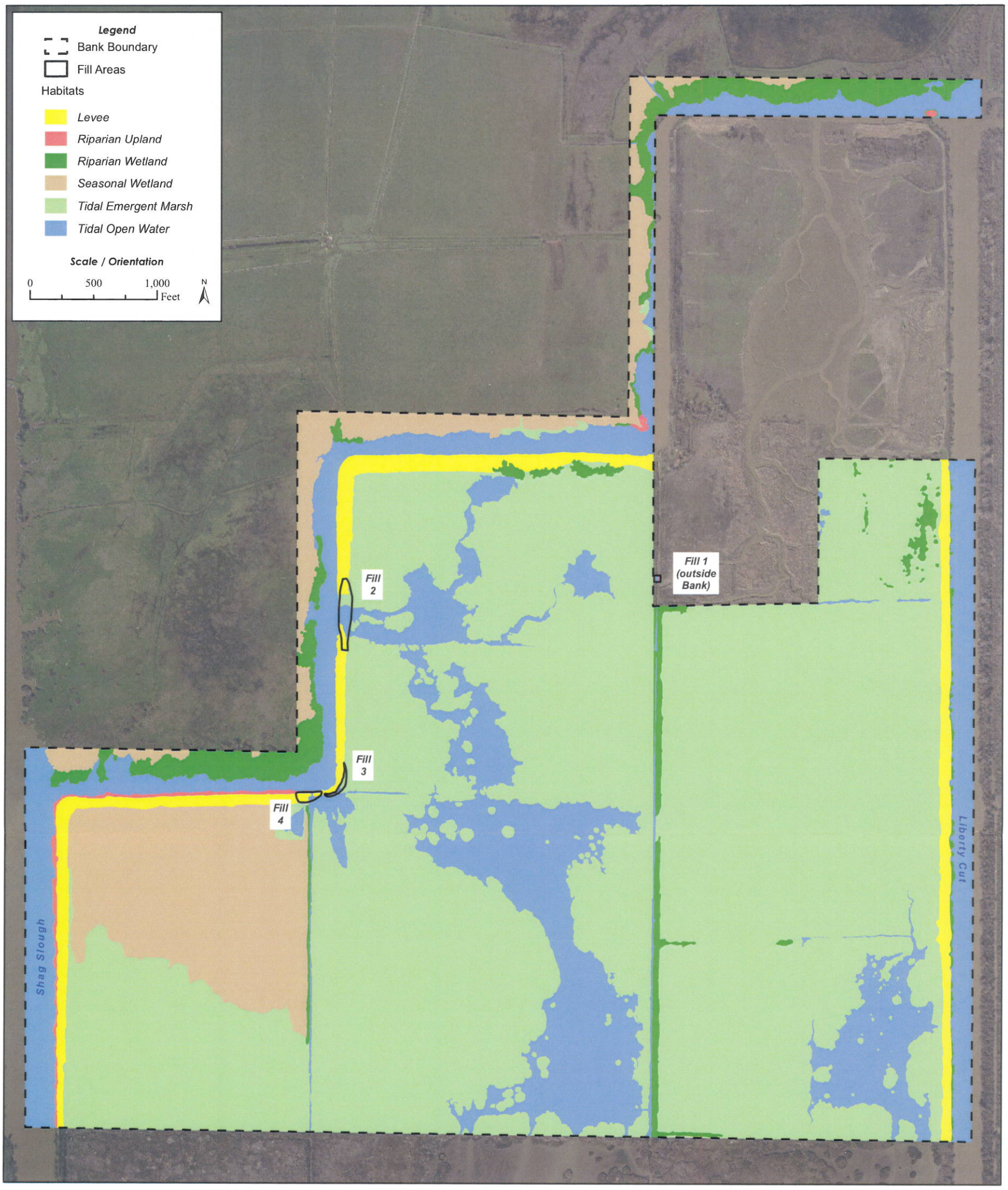
Tule Planting / Shaded Riverine Aquatic Cover (SRA)

Channels

Levee Breach

Enhanced Tidal and Bypass Flow

0 500' 1000' NORTH



Fill Areas

ID	Habitat	Type	Acres	Fill Volume (y^3)
1*	Riparian Uplands	Permanent	0.1	500
1*	Tidal Open Water	Permanent	0.1	500
		total (outside Bank):	***0.2***	***1000***
2	Levee	Temporary	0.3	5500
2	Tidal Emergent Marsh	Temporary	0.2	3500
2	Tidal Open Water	Temporary	0.4	7000
		total:	***0.9***	***16000***
3	Tidal Emergent Marsh	Temporary	0.1	1000
3	Tidal Open Water	Temporary	0.1	1000
		total:	***0.2***	***2000***
4	Levee	Temporary	0.2	2500
4	Riparian Upland	Temporary	0.1	1250
4	Tidal Open Water	Temporary	0.1	1250
		total:	***0.4***	***5000***

**Note: Fill Area 1 is outside Bank.*

MBK ENGINEERS

Water Resources • Flood Control • Water Rights

MEMORANDUM

DATE: August 22, 2011

TO: Wildlands c/o Cindy Tambini

FROM: Don Trieu, P.E.

SUBJECT: North Delta Fish Conservation Bank- Hydraulic Impact Analysis

Wildlands Inc, proposes to a construct a fisheries enhancement project, North Delta Fish Conservation Bank, on Liberty Island located within the Yolo Bypass in Yolo County. The project consists of creating habitat beneficial to Delta native fish within 803 acres on the northern end of Liberty Island (Figure 1). MBK Engineers performed a hydraulic analysis of the proposed project in support of the CVFPB Encroachment Permit Application. This memorandum document the hydraulic analysis performed.

Project Description

The project consist of enhancing approximately 803 acres within Liberty Island to create and enhance wetlands beneficial for fish. Currently, the majority of Liberty Island and the project parcel is flooded due to various levee failures which occurred during the January 1997 flood. The island has not been reclaimed since. Portions of the parcel are above the sub-tidal elevations thus it is proposed to degrade existing private levees to improve water circulation and exchange.

The proposed project consists of the following (Figure 2):

- degrading approximately 4,200 lineal feet of east-west private levee along Shag Slough;
- excavate minor breaches and small channels;
- widening and deepening the existing breach on the east-west levee;
- excavating a bench and plant tule plugs along a portion of the northern project boundary;
- seed existing levee upland areas with native and naturalized species.

Methodology

The methodology used to determine the hydraulic impacts associated with the proposed project was to develop a without project condition hydraulic model and compare the results with the project condition hydraulic model. The without project conditions assumes the existing channel condition (2011) within the Yolo Bypass which includes the improvements as part of the Liberty Island Conservation Bank. The without project condition model was then modified to reflect the proposed project. Output from the model simulations were compared to determine if there are any impacts to water surface elevation and velocity.

A 2-dimensional RMA-2 model of the Yolo Bypass was used to simulate the with and without project conditions. The RMA-2 model of the Yolo Bypass was originally developed by the Corps of Engineers for the State Reclamation Board and was modified and re-calibrated by MBK Engineers for this and other analysis. The model calibration is documented in a Technical Report titled *"Hydraulic and Hydrologic Analysis of the Liberty Island Levee Degradation Project"*, March 2008, MBK Engineers

The project condition was simulated in the model by modifying RMA-2 node elevations and assigning manning's n value elevations where changes in vegetation are being proposed. Following are the changes made to the model to reflect the proposed project conditions:

- The east-west private levees (4,200 lineal feet) on Shag Slough were degraded in the hydraulic model to the levee toe elevation, approximately 5.5 feet NGVD-29.
- For the excavated bench area north of the project area, a roughness value of 0.03 was assigned to the model elements to simulate tule plug plantings and marshland.
- Where the existing north-south private levees remain intact along Shag Slough and Liberty Cut, those levees will be seeded with native species and existing shaded riverine habitat trees will remain in place; a manning's roughness value of 0.12 was assigned in those areas.
- For the tidal marsh within the project boundary on Liberty Island, the manning's roughness value was not modified for the project condition simulation. It is anticipated that the species composition will not change significantly from the without project condition as the elevations within the parcel will remain the same. A manning's n value of 0.045 is simulated in the without and with project condition simulation.

The hydrologic condition used for these simulations is the Sacramento River Flood Control Project (SRFCP) 1957 design flow. A flow of 490,000 cfs was simulated for this reach of the Yolo Bypass.

Results

Figures 3 and 4 show the water surface and velocity difference plots. The water surface difference and velocity plots were generated by subtracting the variables from the without project condition from the project condition simulation. A positive value indicates the project caused an increase in the variable. And conversely, a negative number indicates the project caused a decrease in the variable.

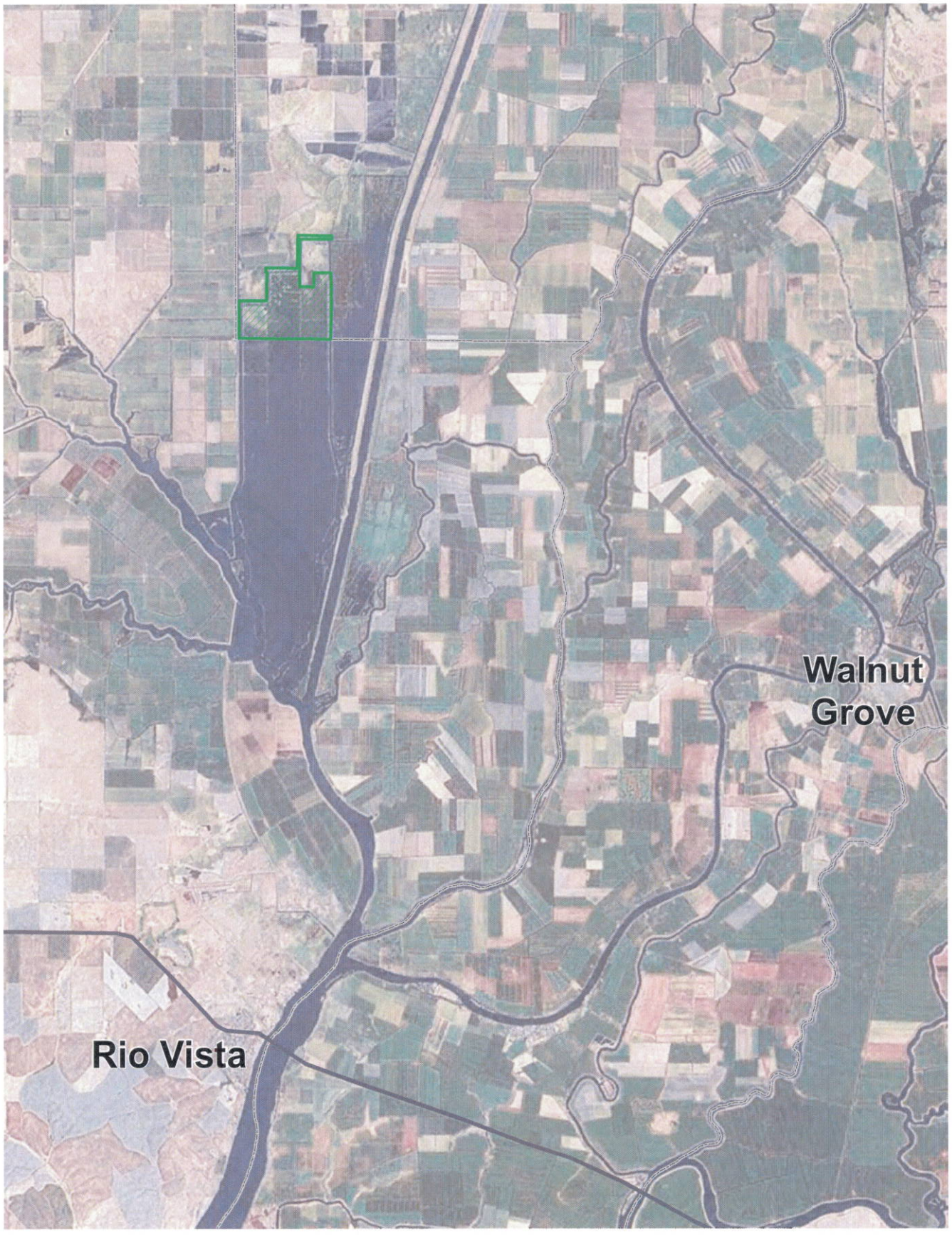
Figures 3 and 4 show that the proposed project would have a localized hydraulic impact. The majority of the hydraulic impacts are localized to the project boundaries and there are no impacts along the State-Federal Project levees of the Yolo Bypass. The localized water surface impacts are on the order of 0.15 foot increase where the levee is degraded and a decrease in water surface elevation of 0.1 upstream of the levee degrade. Velocities in Shag Slough and Liberty Cut are localized to areas where the existing north south levee remains intact. The velocity would decrease by as much as 1.5 fps. Velocities would increase just downstream of the levee degrade and are on the order of 1 to 2 fps. All of velocity impacts are localized to the project boundaries and there are no changes along the State-Federal project levees.

Conclusion

Based on review of the hydraulic simulation runs, the simulation results show there is no significant change in the water surface elevation and velocities along the State-Federal Project levee of the Yolo Bypass. The hydraulic impacts associated with the proposed project are localized to the project parcel. The proposed project does not have a significant impact to the performance of the Sacramento River Flood Control Project.

Don Trieu, P.E.

DT/dt



MBK ENGINEERS

LEGEND

Bank Boundary

Existing

Tidal Emergent Marsh Complex - Enhanced

Riparian Scrub Shrub / Shaded Riverine Aquatic Cover (SRA) - Preserved

Riparian Scrub Shrub and Seasonal Wetland Floodplain - Preserved

Levee Upland - Preserved

Tidal Channels - Enhanced

Ditches

Water Control Structure to be Removed

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Tidal Emergent Marsh Complex - Created (Excavation and/or Rock Removal / Tule Planting)

Tule Planting / Shaded Riverine Aquatic Cover (SRA)

Channels

Levee Breach

Enhanced Tidal and Bypass Flow

0 500' 1000' NORTH

WILDLANDS

North Delta Fish Conservation Bank

FIGURE 2

N

RM 28

Yolo Bypass

RM 27

RM 26

RM 25

Liberty Cut

Toe Drain

RM 24

Shag Slough

RM 23

Legend

- Property Boundary
- Project Levee
- Levee

Water Surface Elevation Difference (ft)

- 0.2 - 0.25
- 0.15 - 0.2
- 0.1 - 0.15
- 0.05 - 0.1
- 0 - 0.05
- -0.05 - 0
- -0.1 - -0.05
- -0.15 - -0.1

MBK ENGINEERS
1771 Tribute Road, Suite A
Sacramento, California 95815-4401
(916) 456-4400

North Delta Fish Conservation Bank
Water Surface Elevation Difference

0 1,000 2,000
Scale in Feet

Figure 3

Monday, August 22, 2011 10:05 PM
R:\5303-1 Liberty Island\RMA2 Model\Liberty Phase II\Cumulative Impact Analysis - Water Surface Elevation Difference.mxd

N

RM 28

Yolo Bypass

RM 27

RM 26

RM 25

Liberty Cut

Toe Drain

RM 24

Shag Slough

RM 23

Legend

- Property Boundary
- Project Levee
- Levee

Velocity Difference (ft)

- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0 - 0.5
- -0.5 - 0
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5

MBK ENGINEERS
1771 Tribute Road, Suite A
Sacramento, California 95815-4401
(916) 456-4400

North Delta Fish Conservation Bank
Velocity Difference

0 1,000 2,000
Scale in Feet

Figure 4

Monday, August 22, 2011 10:05 PM
R:\5303-1 Liberty Island\RMA2 Model\Liberty Phase II\Cumulative Impact Analysis - Velocity Difference.mxd

NORTH DELTA FISH CONSERVATION BANK

YOLO COUNTY, CALIFORNIA

LONG-TERM MANAGEMENT PLAN

Interagency Review Team:

National Marine Fisheries Service
U.S. Fish and Wildlife Service
California Department of Fish and Game

Prepared by:

Wildlands
3855 Atherton Road
Rocklin, CA 95765
Contact: Cindy Tambini
Email: ctambini@wildlandsinc.com
Tel: (916) 435-3555
Fax: (916) 435-3556

August 2011

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LIST OF FIGURES

LIST OF ATTACHMENTS

List of Acronyms

APN	Assessor Parcel Number
Bank	Northern Liberty Island Fish Conservation Bank
BDCP	Bay Delta Conservation Plan
CBA	Conservation Bank Agreement
CCR	California Code of Regulations
CDFG	California Department of Fish and Game; see also DFG
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CRHR	California Register of Historical Resources
DFG	California Department of Fish and Game; see also CDFG
FAV	floating aquatic vegetation
Land Manager	Liberty Island Holdings II, LLC (see also Wildlands)
LICBP	Liberty Island Conservation Bank/Preserve
msl	mean sea level
NHP	Yolo County Natural Heritage Plan
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
PAR	Property Analysis Record
RD 2093	Reclamation District 2093
SAV	submersed aquatic vegetation
SRA	shaded riverine aquatic
SSHCP	South Sacramento Habitat Conservation Plan
TPL	Trust for Public Land
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
WHF	Wildlife Heritage Foundation
Wildlands	Liberty Island Holdings II, LLC and Land Manager

Section I Introduction

A. Purpose of Establishment

The 811.08-acre North Delta Fish Conservation Bank (Bank) is being established under a Conservation Bank Agreement (CBA) that includes this Long-Term Management Plan (Plan). Actions taken to protect, enhance, and restore habitats throughout the Bank require long-term management to ensure benefits of the actions are maintained in perpetuity.

B. Purpose of this Long-Term Management Plan

The purpose of this Plan is to ensure the Bank's habitats are protected and managed, monitored, and maintained in perpetuity. This management plan establishes objectives, priorities and tasks to monitor, manage, maintain and report on the covered species and their habitat in the Bank. This management plan is a binding and enforceable instrument, implemented by the conservation easement covering the Bank property.

It should be noted that while it is the intent of this Plan to comply with federal, state and local permits, if any discrepancies between this Plan and permits arise, the permits override the Plan stipulations unless written approval is received from the agency exerting the appropriate jurisdiction.

C. Land Manager and Responsibilities

The Land Manager for the Bank is Liberty Island Holdings II, LLC. The Land Manager, and subsequent Land Managers upon transfer, shall implement this Plan, managing and monitoring the Bank property in perpetuity to preserve its habitat and conservation values in accordance with the Bank's CBA, the conservation easement, and this Plan. Long-term management tasks shall be funded through the Endowment Fund. The Land Manager shall be responsible for providing an annual report to the Interagency Review Team (IRT) for the Bank, consisting of California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) detailing the time period covered, an itemized account of the management tasks and total amount expended. Any subsequent grading, or alteration of the site's hydrology and/or topography by the Land Manager or its representatives must be approved by the IRT and the necessary permits, agreements and consultations, such as a Section 404 permit and streambed alteration agreement, must be obtained, if required, in addition to consultation under the federal and state Endangered Species Acts.

The Land Manager's responsibilities shall include, but not be limited to, overseeing or completing the following:

- Upholding the Land Manager's responsibilities and obligations as outlined in the Conservation Easement and this Plan.
- Implementing all habitat management activities.
- Performing general inspections of the Bank as required by this Plan.
- Performing or coordinating biological surveys by a qualified biologist.

- Analyzing monitoring data and recommending and coordinating any remedial action with the IRT.
- Coordinating with individuals or groups wishing to use the Bank for educational purposes.
- Maintaining a file for the Bank. The file will contain a record of management and maintenance related activities, correspondence and determinations regarding the Bank, and shall be made available to Conservation Easement Monitor within ten business days of request thereof.
- Reviewing potential future land use activities adjacent to the Bank.
- Assessing and seeking correction for impacts to the Bank from harmful uses or activities, and arranging for any corrective action necessary to ensure the performance of the habitat within the Bank, as required by this Plan.
- Submitting annual reports to the IRT detailing:
    - Bank management activities planned for the following year;
    - Known discrepancies from the terms of the Conservation Easement and this Plan;
    - General plant health in the Bank;
    - Excessive weed competition in the Bank;
    - Hydrological conditions in the Bank;
    - Wildlife use in the Bank;
    - Vandalism and trash problems in the Bank; and
    - Summary of the Endowment Fund.
- All other Land Manager responsibilities not otherwise described in this Plan.

D. Conservation Easement Monitor and Responsibilities

The Conservation Easement Monitor is the Bank Monitor. For the purposes of this Plan, the term "Bank Monitor" is synonymous with the "holder of the Conservation Easement". As such, the terms of the Conservation Easement govern any transfer of obligations or rights as the Bank Monitor.

The Bank Conservation Easement will be held by the Wildlife Heritage Foundation (WHF). Upon recordation of the Conservation Easement, the responsibilities and duties of the Conservation Easement Monitor shall include:

- Upholding responsibilities and obligations as outlined in the Conservation Easement and this Plan.
- Monitoring Bank management to enforce the terms of the Conservation Easement.

E. Land Owner

Bank ownership is divided between two entities; Reclamation District 2093 and the Trust for Public Lands (TPL) (Figure 3). Liberty Island Holdings II, LLC owns the Mitigation Use Rights to the portion of

the Bank owned by TPL, and has a land lease agreement with Reclamation District 2093. This land lease gives Liberty Island Holdings II, LLC. the right to develop a conservation bank.

F. Qualified Personnel / Monitoring Biologist

The Land Manager shall retain professional biologists, botanists or other types of specialists (the "Qualified Personnel", including the "Monitoring Biologist") to conduct specialized tasks. The Monitoring Biologist shall be familiar with California flora and fauna, shall have knowledge regarding wetlands, endangered species and fisheries ecology.

Duties of the Qualified Personnel may include but are not limited to:

- Monitoring and maintaining covered species habitat function.
- Monitoring and maintaining erosion control.
- Evaluating the presence of newly introduced non-native (exotic) plant species and recommending management, if needed.
- Conducting biological surveys, collecting data on the Bank, and preparing reports required by this Plan.
- Evaluating site conditions and recommending remedial action to the Land Manager.
- Assisting in reviewing or planning restoration activities, use of the Bank for education or other tasks such as grant proposals.
- Overseeing all construction activities.

G. Changes in Personnel

If the onsite personnel of either the Land Manager or Conservation Easement Monitor are changed, or the land owner changes, the outgoing and incoming personnel will tour the Bank together, and the outgoing personnel will advise the incoming personnel of trends, problem areas, and any administrative difficulties. The IRT and CDFG headquarters will be notified of changes to the onsite personnel of the Land Manager or Conservation Easement Monitor or Qualified Personnel, and any changes to the Land Owner, and will be offered an opportunity to meet the new personnel and tour the Bank together. Any changes to the Land Owner and the Conservation Easement Holder need to be approved in writing by the IRT, pursuant to the terms of the Conservation Bank Agreement.

Section II Property Description

A. Setting and Location

The Bank is located along the southern border of Yolo County approximately 10 miles north of Rio Vista (**Figures 1** and **2**). The Bank includes two landowners, Reclamation District 2093 (**RD 2093**) (Assessor Parcel Numbers [**APN**] 033-270-007, 033-280-014, and 033-280-015) and the Trust for Public Land (**TPL**) (APNs 033-280-01, 033-280-05, and 033-280-16) (collectively referred to as **Land Owners**), as depicted in **Figure 3**. Both the Land Owners have agreed to cooperatively enhance and permanently protect the conservation values of the Bank property. The Bank is adjacent to and contiguous with the Liberty Island Conservation Bank and Preserve (**LICBP**) on the northeast. If approved, the Bank will contribute towards the restoration and permanent protection of nearly 1,200 acres of fisheries habitat in the Primary Zone of the Legal Delta sponsored by Wildlands, which includes the Bank, the LICBP, and the proposed Little Hastings Island Conservation Bank (**Figure 4**).

The 811.08-acre Bank is located at the northern end of Liberty Island, and includes a portion of the island along the stair-step agricultural levees, tidal slough channels (Shag Slough and Liberty Cut), and a small portion of the land immediately north of the northernmost slough (herein referred to as Shag Slough). The Bank location corresponds to Sections 29, 30, 31, and 32, Township 6 North, Range 3 East of the Liberty Island U.S. Geological Survey (**USGS**) 7.5-minute quadrangle (Figure 2). Liberty Island is centrally located at the lower end of the Yolo Bypass just west of the Port of Sacramento Deepwater Shipping Channel in the tidal primary zone of the Legal Delta.

B. History and Land Use

Historically, the floodplain of the Sacramento River occupied vast expanses of the lower Sacramento Valley. The enormous agricultural potential of the Sacramento Valley and Delta region began to be realized in the late 1800s. The fertile land attracted farmers and investors, but the annual floodwaters had to be controlled for the farmland to realize its full potential. A number of reclamation efforts in the Delta were conducted between 1860 and 1930. Based on the cultural resources research work conducted for the Bank (*Exhibit J in the CBA*), Liberty Island was reclaimed between 1910 and 1930.

Farming operations on Liberty Island included potatoes, asparagus, beans, zucchini, onions, peas, and tomatoes. At its development peak, the island had paved roads, power and telephone lines, homes, farm buildings, and a school. Between 1918 and 1973, Liberty Island flooded 27 times and each time reclamation activities continued, until 1997 when the levees breached and the island was never reclaimed. The TPL portion of the Bank property was purchased using CALFED funding and was proposed to be part of a national wildlife refuge. Funding for the wildlife refuge was never approved, and the establishment of the Bank helps fund the permanent conservation, management, and enhancement of the property.

With the exception of the northern portion, the majority of Liberty Island has reverted back to natural tidal habitats following levee failures in 1997. The northern 1200-acre portion of the island remains in a transition between fallow agriculture and tidal marsh. While most of the levees remain intact and functional in the north, a portion of the levee system in the south has degraded and washed away. Patches of riparian habitat grow on the water and land sides of the levees, but the levee tops primarily support ruderal, nonnative upland habitat. Over half of the interior of the 5,000-acre Liberty Island is now

intertidal and has reverted to seasonal and perennial marsh. Some of the higher areas on the island are in various stages of reverting to supratidal seasonal wetlands.

The entire Bank is zoned as Agricultural with the Delta Protection Overlay in the Yolo County General Plan. The Delta Protection Overlay mandates that land use be consistent with the Delta Protection Commission's Land Use and Resource Management Plan. The entire island is under a flood easement with the CVFPB. Surrounding properties within Yolo County have the same General Plan zoning designation. Properties to the south and west of the Bank are located within Solano County, and are designated Agriculture with a Resource Conservation Overlay. The Resource Conservation Overlay designation recognizes important natural resources.

The Bank is bordered on the northeast by the LICBP. Together, the Bank and the LICBP make up the northernmost approximately 1000 acres of Liberty Island, including the majority of the remaining land that has not reverted to open tidal water. The Bank is surrounded on three sides by tidal sloughs. These sloughs function as buffers and protect conservation values at the Bank. The south edge of the Bank is connected to the remainder of Liberty Island, some of which has reverted back to tidal marsh, and the majority of which has reverted to tidal open water. The land north of the Bank is currently being used as pasturelands. The land to the east is former agricultural land that has begun reverting back to wetland. Some of the adjacent land is being evaluated for restoration potential. There are no adjacent land uses that conflict with the conservation values at the Bank

C. Cultural Resources

A Cultural Resources Inventory and Evaluation of the Bank was conducted in January 2009 and January 2010 by Analytical Environmental Services (*Exhibit J in the CBA*). The objectives of the cultural study were to identify and evaluate the significance of cultural resources located within the property pursuant to the criteria of the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). All cultural resources work was performed in compliance with Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, as well as the California Environmental Quality act (CEQA).

A pedestrian field survey of the project site resulted in the identification of one historic period resource:

- Site P-588 is a documented historic period resource, consisting of a levee system surrounding the Bank on the western, northern, and eastern boundaries.

The earthen levees were initially constructed during the early reclamation effort, which created Liberty Island. The levees were continuously maintained for 80 years while the island was used for agriculture. The method of construction of the levees was not unique or otherwise remarkable. The levees are indistinguishable from the myriad of such features found throughout Yolo County.

Site P-588 was found to lack merit consideration as potential historic properties (AES 2009a, AES 2009b, and AES 2010).

Application of the relevant criteria and consideration of integrity resulted in the recommendation by the cultural resources specialists that the levee is ineligible for listing on the NRHP or the CRHR. No further work is recommended or warranted to satisfy the requirements of Section 106 of the NHPA or CEQA.

D. Topography

Liberty Island is typical of land within the Yolo Bypass, which is characterized by a low gradient, wide floodplain confined by federal project levees to the east and west that range from above tidal to subtidal elevations. Remnant historic levees dominate the topography on the northern, eastern, and western perimeters of the Bank, reaching elevations up to 18 feet. Levees located in the interior of the island are severely degraded with many breaches. Elevations on the Bank site range from below mean sea level (msl) in marsh areas to approximately 18 feet above msl on the levees. Topography generally slopes from northwest to southeast. However, there is a drainage divide that functions essentially as a watershed break in the lower third of the Bank (**Figure 7**). Water depths reach 8 to 10 feet in the southern end of the Bank.

E. Hydrology

The hydrology on Liberty Island is dominated by tidal freshwater flows of the southern Yolo Bypass, agricultural drainage with Bypass canals, and winter-spring flood flows of the Yolo Bypass.

Due to the levees surrounding the Bank, water only flows over the entire site once every three years, on average. As the water recedes, some standing water remains on the site and water pools behind the existing levees. There are three levee breaches along the northern portions of the Bank that allow water to enter the site during high tides. Additionally, the existing external and internal levees in the southern portion of the site have failed, allowing large amounts of tidal water to enter the Bank from the south, resulting in the development of tidal open water habitat. The water on the Bank generally drains from north to south.

F. Soils

The Soil Survey of Yolo County, California (SCS 1972) maps two soil mapping units on the Bank (**Figure 5**):

Sycamore complex, flooded
Sacramento Soils

Sycamore complex, flooded consists of about 60 percent Sycamore silty clay loam and about 25 percent Sycamore silt loam. The remaining 15 percent is made up of Maria silt loam, Merritt silty clay loam, deep, and Sacramento soils, flooded. These soils are underlain by silty clay at a depth of 40 to 60 inches. These soils are subject to flooding 1 year out of 3 because of flowage easements. Elevation is between 0 and 60 feet and the frost free period is 275 to 300 days. Typically the soil is used for sugar beets, grain sorghum, and rice. Other uses include dryfarmed safflower, wildlife habitat, and recreation.

Sycamore silty clay loam is formed on alluvial fans. Slopes are less than 1 percent. Typically the soil ranges in color from gray to grayish brown and in texture from silty clay loam to heavy clay loam or light clay to a depth of 14 inches. At a depth of 14 to 44 inches the soil is olive gray, light yellowish brown, dark gray, or brownish yellow, textures range from silty clay loam to heavy clay loam. At a depth of 44 to 60 inches the soil is light yellowish brown to pale olive, texture ranges from strata of sandy loam to silty clay. Drainage has not been improved and water table ranges from 36 to 60 inches. The soil is used mainly for sugar beets, tomatoes and alfalfa. Other uses include prunes, dryfarmed barley, dryfarmed safflower, wildlife habitat, and recreation.

Sycamore silt loam is similar to Sycamore silty clay loam, except that it has a silt loam texture throughout the profile. Included in mapping are small areas of Maria silt loam, Merritt silty clay loam, Tyndall very fine sandy loam, and Yolo silt loam. Permeability of this Sycamore soil is moderate. The available water holding capacity is 10.0 to 12.0 inches in areas that have been drained. The effective rooting depth is 36 to 60 inches and is restricted by the water table. This soil is used principally for irrigated sugar beets, corn, alfalfa, asparagus, and prunes. Other uses include dryfarmed barley, wildlife habitat, and recreation.

Sacramento soils, flooded consist of poorly to very poorly drained soils with slow to very slow runoff and slow permeability. Altered drainage occurs in reclamation districts and areas protected by levees, resulting in improved drainage. The water table fluctuates between a depth of 34 inches to below 60 inches. Sacramento soils are subject to frequent overflow where not protected by levees or located within flood control systems. Located in nearly level basins with slopes of 0 to 1 percent at elevations of 0 to 60 feet above msl, Sacramento soils formed in fine textured alluvium of mixed origin. The depth to restrictive feature is more than 80 inches, and a typical soil profile consists of silty clay loam from 0 to 16 inches, and clay from 16 to 60 inches. The climate is dry subhumid, mesothermal with hot dry summers and cool moist winters. Mean annual precipitation is 15 to 19 inches. Average January temperature is 45 degrees F., average July temperature is 75 degrees F., and mean annual temperature is 60 degrees F. Average frost-free season is over 275 days.

G. Existing Easements

Existing easements on the Bank are discussed in *Exhibit E of the CBA*. None of the easements located within the Bank boundaries conflict with the proposed Bank. The majority of easements are related to passage of flood waters and reclamation activities conducted by the Liberty Island Reclamation District (Reclamation District 2093) and Williamson Act contracts in support of the historic agricultural activities on the island. Reclamation District 2093 has reviewed the Bank proposal and has determined it to be consistent with the Reclamation Plans for the island; Yolo County has reviewed the Bank proposal and determined it to be consistent with their implementation of the Williamson Act and the Agricultural Preserve Zoning on the property. Additional easements for roads and power lines that are no longer utilized it has been determined that these type of easements will not have an adverse impact of the conservation values of the Bank.

H. Adjacent Land Uses

The Bank is located at the northern end of Liberty Island, and is contiguous with LICBP to the northeast. The remainder of the Bank's northern and eastern boundaries and the western boundary are bordered by tidal sloughs including Liberty Cut to the east and Shag Slough to the north and west. These sloughs and the LICBP act as buffers for the conservations values of the site. The property north of Shag Slough is owned by Westland's Water District and is currently being investigated for habitat restoration. Upon completion of the Wetland's restoration project, it will constitute a permanently protected buffer on the north.

The southern boundary of the Bank is contiguous to other portions of Liberty Island that have reverted back to tidal marsh and tidal open water. There are no adjacent land uses that conflict with the conservation values at the site.

I. Consistency with Local Planning Efforts

Bay Delta Conservation Plan

Liberty Island is within the planning area of the Bay Delta Conservation Plan (BDCP). At the time this management plan was written, the BDCP was still in draft form. Liberty Island is identified as being within the tidal marsh restoration area of the BDCP. The monitoring and management activities provided in this Plan are consistent with those activities in the draft BDCP with the exception that fish monitoring on the Bank will be limited to identifying presence of covered species.

Yolo County Natural Heritage Plan

Liberty Island is within the planning area covered by the draft the Yolo County Natural Heritage Plan (NHP). At the time this management plan was prepared the NHP was still in draft form with only certain chapters available for review. To date, fish species have not been included in the list of species covered by the NHP and management activities are not included in the chapters available for review.

South Sacramento Habitat Conservation Plan

Although Liberty Island is not located within the South Sacramento Habitat Conservation Plan (SSHCP) planning area a small portion of the Service Area is within the SSHCP planning area. However, the SSHCP does not cover fish species.

Section III Habitat and Species Descriptions

A. Habitats

After breaching and permanently flooding in 1997-98, Liberty Island has reverted to tidal and upland habitats. While most of the levees remain intact and functional in the north, a large portion of the levee system in the south has degraded and washed away. Patches of riparian habitat grow on the water and land sides of the levees, but the levee tops primarily support ruderal, nonnative upland habitat. Over half of the interior of the 5,000-acre Liberty Island is now intertidal and has reverted to seasonal and perennial marsh. Some of the higher areas on the island are in various stages of reverting to supratidal seasonal wetlands.

The dominant habitat types within the Bank are tidal marsh complex, seasonal wetland, riparian scrub shrub, and tidal channel/open water. The majority of the interior of the Bank is tidal emergent marsh that has developed as a result of levee breaches that occurred in early 1997. This habitat is tidally influenced via hydrological connectivity to the adjacent Shag Slough and the predominantly tidal open water remainder of the southern end of Liberty Island. Habitats that occur within the Bank include: tidal marsh complex, seasonal wetland, riparian scrub shrub, tidal channel (open water), and levee upland (**Figure 6**). Each habitat type is described below.

Tidal Marsh Complex

Tidal marsh complex is located throughout the Bank and has developed as a result of levee breaches that occurred in early 1997. This habitat is tidally influenced via hydrological connectivity to the adjacent Shag Slough and the predominantly tidal open water areas of the southern end of Liberty Island. Tidal marsh complex includes a mosaic of emergent marsh and open water habitat. Vegetated areas within the complex are dominated by common tule (*Scirpus acutus*), American tule (*Scirpus americanus*), saltmarsh tule (*Scirpus robustus*), and broad-leaf cattail (*Typha latifolia*).

Tidal Emergent Marsh

Patches of tidal emergent marsh are located along the shoreline of Shag Slough across from the stair-step levees. Tidal emergent marsh is generally dominated by large emergent vegetation including those listed above for Tidal Marsh Complex.

Seasonal Wetland

Seasonal wetland habitat is located in a corner of the Bank adjacent to marsh habitat and along the northern bank of the portion of Shag Slough bisecting the Bank. This habitat is only seasonally flooded and consists of a mix of upland and wetland associated species. The seasonal wetlands are dominated by Bermuda grass (*Cynodon dactylon*), Fitch's tarplant (*Hemizonia fitchii*), Italian ryegrass (*Lolium multiflorum*), bird's-foot trefoil (*Lotus corniculatus*), rabbits foot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and saltmarsh bulrush.

Riparian Scrub Shrub

The riparian scrub shrub habitat occurs around the perimeter of the Bank between the restricted height levees and the tidal channels/open water (Shag Slough and Liberty Cut). This habitat is dominated by black willow sandbar willow (*Salix exigua*), (*Salix gooddingii*), box elder (*Acer negundo* ssp. *californicum*), white alder (*Alnus glutinosa*), Santa Barbara sedge (*Carex barbarae*), Oregon ash (*Fraxinus latifolia*), creeping wildrye (*Leymus triticoides*), wild rose (*Rosa californica*), Himalayan blackberry (*Rubus discolor*), American tule, saltmarsh tule, and broad-leaf cattail.

Tidal Channel (Open Water)

The tidal channel/open water habitat at the Bank includes Shag Slough and Liberty Cut. Other open water habitat occurs within the tidal marsh complex in permanently inundated areas, but is considered part of the tidal marsh complex. Tidal channel/open water is tidally influenced and is mostly unvegetated.

Levee Upland

The levee upland habitat occurs around the east, west, and north edges of the Bank. This habitat has moderately convex topography and was historically used as a barrier to tidal flow and winter flood events. This habitat is dominated by nonnative annual grasses and forbs.

B. Jurisdictional Wetlands and Other Waters

A summary of the Bank's jurisdictional habitats including wetlands is provided as **Table 1.**

Table 1. Jurisdictional Habitat Summary

Wetlands	
Tidal Emergent Marsh	502.257 acres
Seasonal Wetland	79.629 acres
Riparian Wetland	32.934 acres
Wetland Total	**614.82 acres**
Other Waters of the U.S.	
Open Water	**162.202 acres**
Total Jurisdictional Habitat	**777.022 acres**

Three separate delineations were conducted over the Bank property: two on property owned by TPL (TPL 440-acre Property, November 2009 and West Property 274-acre Property, March 2010) and one on property owned by RD 2093.(Reclamation District 2093 120-acre Property, November 2009) The TPL 440-acre Property and the Reclamation District 2093 Property delineations were verified in January 2010 (USACE File No. SPK-2008-00115). The West Property 274-acre Property was verified in September 2010 (and June 2010 (USACE File No. SPK 2010-00755). For details on jurisdictional habitats and maps, see *Exhibit I of the CBA*.

C. Special Status Species

A search of the U.S. Fish and Wildlife Service (USFWS) database of federally endangered and threatened species occurring in or potentially affected by projects within the Liberty Island U.S. Geological Survey 7.5-minute quadrangle map, the California Natural Diversity Database (CNDDB) records within a 5-mile radius around the Bank, NMFS species information, and the CDFG 20mm fish survey results identified occurrences or critical habitat of the following wildlife species of conservation interest:

- **green sturgeon** (*Acipenser medirostris*)
- **Western pond turtle** (*Actinemys marmorata*)
- **western burrowing owl** (*Athene cunucularia*)
- **Swainson's hawk** (*Buteo swainsoni*)
- **valley elderberry longhorn beetle** (*Desmocerus californicus dimorphus*)
- **Delta smelt** (*Hypomesus transpacificus*)
- **central valley steelhead** (*Oncorhynchus mykiss*)
- **chinook salmon** (*Oncorhyncus tshawytscha*)
- **Sacramento splittail** (*Pogonichthys macrolepidotus*)
- **longfin smelt** (*Spirinchus thaleichthys*)
- **giant garter snake** (*Thamnophis gigas*)

Delta smelt, longfin smelt, Chinook salmon, green sturgeon, steelhead, and splittail are sensitive fish species covered by the Sacramento-San Joaquin Delta Native Fishes Recovery Plan (USFWS 1996). The Bank is within designated critical habitat for Chinook salmon, steelhead, and delta smelt. Studies by Sommer et al. (2001), Nobriga et al. (2005), and Mager et al. (2006) have shown that delta smelt, longfin smelt, splittail, sturgeon, Chinook salmon, and steelhead all occur within the southern Yolo Bypass within or near Liberty Island. The CDFG 20mm surveys identified larval and adult delta smelt within the sloughs surrounding Liberty Island as recently as March of 2010. The CDFG 20mm surveys identified splittail within the sloughs surrounding Liberty Island as late as 2005 and 2006. They have not been caught during CDFG 20mm surveys in the delta since. The CDFG 20mm surveys identified longfin smelt within the sloughs surrounding Liberty Island in 2009. The results of various fish surveys and an aquatic habitat assessment of Liberty Island is provided in an appendix of the Biological Resources Report (*Exhibit H of the CBA)*. Other biological resources are also discussed in Exhibit H.

Delta smelt, longfin smelt, Chinook salmon, Central Valley steelhead, giant garter snake, and other native fishes expected to occur on or adjacent to the Bank.

D. Summary of Development Plan

The restoration and enhancement plan for the Bank will result in a hydrologically connected complex of tidal marsh habitat including open water, emergent marsh, tule SRA, riparian SRA, seasonal wetland floodplain, and upland habitats to benefit Delta native fishes. The design has also been coordinated to provide improvements to the flood system and Project levee stability. Overall, improved connectivity with the Yolo Bypass flood events is anticipated to support higher densities of native fishes and limit access of non-native fishes. Improved connectivity is also expected to enhance primary production and food transport to open water habitats for smelt and other pelagic fishes over time (HT Harvey 2010).

The concept plan consists of the following restoration and enhancement actions (Figure 8):

1. Lowering two east-west levees along the northern edge of the Bank to allow complete flooding of the site at an increased frequency;

2. Creating three sub-tidal breaches and channels and widening a previously existing breach to improve circulation and tidal connectivity;

3. Removing a water control structure along the northern edge of the Bank;

4. Installation of a plug in one of the north-south ditches to better direct flows to and from the Liberty Island Conservation Bank created channels;

5. Controlling invasive aquatic weeds that harbor predatory fishes; and

6. Lowering an approximate 20-acre floodplain along the northern boundary of the Bank to create a tidal emergent marsh.

7. Protection and enhancement of existing of existing tule marsh and riparian scrub shrub habitat along the shoreline.

At completion, the proposed project would result in the following:

- restoration/creation of 11.6 acres of tidal emergent marsh associated with rock removal (levee lowering),
- restoration/creation of 20.75 acres of tidal emergent marsh associated with lowering of floodplain habitat.
- enhancement of 657.2 acres of tidal marsh complex,
- preservation of 25.3acres of riparian scrub shrub shoreline habitat,
- enhancement of 68.4 acres of tidal channel/open water,
- preservation of 19.2 acres of levee upland,
- restoration/creation of 10,297 linear feet of tule SRA (levee lowering and rock removal, floodplain lowering),
- preservation of 18,598 linear feet of riparian scrub shrub SRA, and

In order to restore natural tidal influence to the Bank, 4,464 linear feet (11.6 acres) of two east-west levees along Shag Slough will be lowered. In addition approximately 20.75 acres of the existing floodplain north of Shag slough will be lowered. These areas will be brought down below the mean higher high water mark (i.e., sea level) to allow tidal influence to the site and the development of tidal emergent marsh habitat. Emergent marsh that is created by the removal of levee spoils and rock is expected to colonize naturally with intertidal tule marsh vegetation. Some strategic planting of tule will occur along the new shoreline of the lowered levee. These activities will restore/create 32.35 acres of tidal emergent marsh habitat and 10,297linear feet of tule SRA habitat. The removal of rock along levees within the Delta, and the Yolo Bypass was specifically identified as a priority in the Bay Delta Conservation Plan (**BDCP**). Studies indicate native fishes including salmon heavily use the un-rocked vegetation shoreline habitats in the Delta. By removing the levees that were fortified with large rocks, the project will re-establish important un-rocked shoreline habitat.

The enhancement of tidal marsh complex, including tidal open water, will be supported by two sub-tidal breaches along the east-west levees, widening an existing breach along the east-west levees, removing a water control structure, excavating tidal channels, and plugging an existing ditch. These actions will re-connect an existing seasonal wetland area in the western portion of the Bank to more frequent flooding and increase the area of shallow water floodplain habitat for native fishes. Tidal channels have been

extended from the breaches to facilitate hydrologic connectivity with open water habitats located in the interior of the site...

- Breaches and channels will be excavated to a depth that is subtidal and supports open water habitat. These breaches will improve tidal circulation and enhance habitat connectivity.

- Levee lowering will also improve tidal circulation and habitat connectivity, and improve flood flow frequency.

- A Ditch plug will be installed to inhibit flow through an existing north-south ditch for improved scour and water flow through the tidal marsh complex.

SRA habitat along Shag Slough levee, including the stair-step levees, will be enhanced by strategic planting of tule where it has been removed and impacted as a result of scouring floods and erosion from channelized, unnaturally high water velocities.

Controlling invasive aquatic weeds, in particular the water primrose, is anticipated to benefit native fishes by excluding habitat for predatory non-native fishes. Improved circulation as well as active treatment will reduce water primrose biomass. Other submerged aquatic vegetation (SAV)/floating aquatic vegetation (FAV) identified as impacting the conservation values of the Bank, may also be controlled as needed.

In order to provide the maximum benefit to smelt, the Bank design focuses on facilitating the natural development of tidal channels with cool currents, and hard substrate. Reconnecting northern Liberty Island to flood and tidal flows would benefit smelt by providing increased transport potential for moving larval smelt downstream to brackish waters after hatching. An increase of marsh and shallow water habitats on the island may also contribute to higher productivity of the adjacent tidal channels, which would benefit smelt production.

Section IV Management and Monitoring

The overall goal of long-term management is to foster the long term viability of the Bank. Routine monitoring and maintenance tasks are intended to assure the viability of the Bank site in perpetuity.

A. Biological Resources

The approach to the long-term management of the Bank's biological resources is to conduct annual site examinations and monitor selected characteristics to determine stability and ongoing trends. Annual monitoring will assess the Bank's site condition, degree of erosion, invasion of exotic species, water quality, and/or other aspects that may warrant management actions. While it is not anticipated that major management actions will be needed, an objective of this Plan is to conduct monitoring to identify any issues that arise, and using adaptive management to determine what actions might be appropriate. Those chosen to accomplish monitoring responsibilities will have the knowledge, training, and experience to accomplish monitoring responsibilities.

Adaptive management means an approach to natural resource management which incorporates changes to management practices, including corrective actions as determined to be appropriate by the IRT in discussion with the Land Manager. Adaptive management includes those activities necessary to address the affects of climate change, fire, flood, or other natural events, force majeure, etc. Before considering any adaptive management changes to the Plan, the IRT will consider whether such actions will help ensure the continued viability of Bank's biological resources.

The Land Manager for the Bank shall implement the following:

Element A.1 Habitat Monitoring

Objective: Monitor, conserve and maintain the Bank site's habitats including waters of the U.S. Limit any impacts to waters of the U.S.

Task A.1-1: The Land Manager will be responsible for conducting at least two surveys each year in perpetuity to qualitatively monitor the general condition of the Bank habitats. General topographic conditions, hydrology, vegetation cover and composition, trash accumulation, evidence of vandalism, invasive species, and erosion will be noted, evaluated and mapped. Notes to be made will include observations of species encountered, water quality, and general extent of wetlands.

Task A.1-2: A qualified biologist will be responsible for conducting at least two annual biological inspections each monitoring year in perpetuity to qualitatively monitor the biological health of the Bank. Because access to the site is limited, Wildlands shall provide Sacramento-Yolo Mosquito & Vector Control District the opportunity to attend these site visits to monitor the need for mosquito control on the site.

Task A.1-3: A qualified biologist will be responsible for conducting long-term monitoring of the Bank in years 10, 20, and every 10 years thereafter if no problems arise. If problems arise, monitoring will be conducted more

frequently. A total of 10 areas on the Bank will be selected as photo reference sites ("Reference Areas").

Subtask: Aerial and photo point monitoring will continue in Year 10 and every 10 years thereafter.

Subtask: The Land Manager will monitor the constructed channels and levee breaches to ensure they remain unblocked by sediment and debris so that the hydrologic connection is maintained.

Subtask: The Land Manager will monitor the restored marsh habitats to ensure that the established habitats persist on the Bank and provide the maximum benefits. The extent of marsh habitats will be documented by mapping signatures using GIS software based upon rectified aerial photos.

Element A.2 Non-native Invasive Species and Vegetation Management

Invasive species (including SAV and FAV) threaten the diversity or abundance of native species through competition for resources, predation, and parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat.

Objective: Monitor and maintain control over non-native invasive species that may diminish site quality for which the Bank was established.

Task A.2-1: The Land Manager will be responsible for mapping of non-native invasive species (including non-native invasive SAV and FAV and water primrose) cover or presence during the first five years of Bank management, to establish a baseline. Mapping shall be accomplished through use of available technologies, such as GIS and aerial photography.

Task A.2-2: A qualified biologist will be responsible for conducting an annual survey that includes a qualitative assessment (e.g. visual estimate of cover) of potential or observed noxious weeds or other non-native species invasions. Actions to control invasive plant species (including upland, riparian, water primrose, SAV, and FAV species) will be implemented as needed to promote the conservation values of the Bank using one or more of the following methods:

- hand removal,
- chemical treatment, and/or
- livestock grazing.

Due to access limitations (via slough channels), chemical treatment and hand removal will be the primary methods for treating noxious weeds. Only herbicides approved for use in California (using a licensed pesticide applicator and following all label instructions) will be utilized. If more extensive treatment is needed, a detailed plan will be included in the Annual Report and discussed with the IRT.

Task A.2-3. The right is reserved to utilize livestock grazing, but grazing will likely only be utilized infrequently. If livestock grazing is utilized, the Land Manager will be responsible for managing any livestock (e.g., cattle or goats) that may be used to control vegetation in upland areas. Livestock grazing will be targeted to manage vegetation along the levees or other areas accessible during the growing season.

Element A.3 Woody Vegetation Management

Because of the Bank's location within the Yolo Bypass (a designated floodway), hydraulic modeling was conducted to ensure that the project does not have a negative impact on the flood system. Although woody vegetation will not be planted on site, woody vegetation may establish within restored areas, particularly within the interface of the created tidal emergent marsh and the adjacent seasonally inundated floodplain north of Shag Slough.. The type of vegetation expected is as currently exists, riparian scrub-shrub habitat. However, if Fremont cottonwood (*Populus fremontii*) or oak (*Quercus* spp.) become established in these areas, they will be removed to address concerns by the Central Valley Flood Protection Board.

Objective: Monitor the extent of woody vegetation recruitment within the enhanced riparian scrub shrub area to ensure that Fremont cottonwood and oak do not become established.

- **Task A.3-1:** All cottonwoods and oaks establishing post-project within areas where active restoration has occurred shall be removed by the Land Manager before they exceed a 4 inch diameter at breast height (dbh).

Element A.4 Adaptive Management

Objective: Maintain flexibility to modify management strategies and methods to ensure that the protected resources persist over time.

Task A.4-1: The Land Manager shall adjust management actions, if necessary, to meet the Bank's objectives. These changes shall be based on the results of monitoring data and observations and/or new information from ongoing research on smelt, anadromous salmonids and other species of relevance. Any adaptation of the methods described in this Plan must be agreed upon by the Land Manager, Monitoring Biologist and IRT. Techniques to address management of the new conditions, if not addressed in this Plan, may be implemented by the Land Manager upon review and written approval by the IRT. Adaptive management actions will be evaluated, prioritized and implemented as funding is available.

B. Security, Safety, and Public Access

The Bank shall have no general public access, nor any regular public use. No fire hazards are located in the vicinity of the Bank. Research and/or other educational programs or efforts may be allowed on the Bank as deemed appropriate by IRT, but are not specifically funded or a part of this Plan.

Element B.1 Trash and Trespass

Objective: Monitor sources of trash and trespass.

Task B.1-1: During each site visit, the Land Manager and Conservation Easement Monitor will record occurrences of trash and/or trespass. The Land Manager and Conservation Easement Monitor shall record the type and location of trash and/ or trespass and will make management recommendations to avoid, minimize, or rectify trash and/or trespass problems.

Task B.1-2: At least once yearly or earlier, the Land Manager will collect and remove trash.

Element B.2 Authorized Access

Objective: Provide access to the Bank site for maintenance activities, law enforcement or emergency situations while limiting impacts to biological values.

Task B.2-1: The Land Manager will be responsible for providing access to the Bank. Unauthorized access to the Bank shall be discouraged. Access to the Bank for maintenance activities is allowed, but shall be restricted to the immediate area where maintenance is occurring. Access to the Bank in emergency or law enforcement situations, by medical, fire or law enforcement personnel or vehicles is allowed. The Bank Owner, Land Manager, Conservation Easement Monitor, and IRT shall have access to the Bank. Except in cases where the IRT determines that immediate entry is required to prevent, terminate, or mitigate a violation of the Plan or the Conservation Easement, 48 hours notice will normally be given.

Task B.2-2: After the Bank is approved, the Land Manager, in consultation with the Conservation Easement Monitors, will install signs around the Bank perimeter along remaining levees to discourage trespassing. The Land Manager will be responsible for maintaining the signs, as necessary, and as funding allows. During each site visit by the Land Manager or the Conservation Easement Monitors, the condition of the signs will be recorded.

Element B.3 Unauthorized Motor Vehicle Use

Objective: Maintain the site as required while limiting impacts to biological values.

Task B.3-1: The Land Manager and Conservation Easement Monitor will be responsible for noticing any unauthorized motor vehicle use on the Bank during routine inspections. No motorized vehicles, including pleasure boats, shall be used or permitted on any portion of the Bank with the exception of motorized vehicular use required for:

- Bank maintenance purposes
- Biological monitoring purposes

- Conservation easement monitoring purposes
- Non-native (exotic) plant species and habitat maintenance
- Emergency or law enforcement situations requiring access by medical, fire or law enforcement vehicles.

Element B.4 Flood Protection

Objective: Maintain the site as required by law to continue functioning as part of the floodway while limiting impacts to biological values.

Task B.4-1: If the Property Owner or Land Manager receives a request in writing by the Central Valley Flood Protection Board requiring the removal of woody vegetation which is interfering with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control, then the Property Owner and/or Land Manager will remove the woody vegetation specified for removal on the Bank in accordance with Title 23, California Code of Regulations (CCR), Section 131.

In the event that the Land Manager fails to implement Task B.4-1, the Department of Water Resources or the Central Valley Flood Protection Board (CVFPB) shall have the right to restore the site to baseline project design conditions (i.e. as approved in the CVFPB Permit and as approved in the CBA) and shall have the right to access the proceeds from the endowment account to cover the cost of implementing these maintenance tasks. The Land Manager will be responsible for securing any necessary permits incidental to habitat manipulation and restoration work completed in the flood control project, and will provide any biological surveying, monitoring, and reporting needed to satisfy those permits. The Land Manager will coordinate all permits and resolve conflicts between any of the terms and conditions and those that another local, state, or federal governmental agency might impose under the laws and regulations it administers and enforces.

C. Education, Recreation and Habitat Restoration

Element C.1 Educational Activities

Objective: Provide opportunities to use the Bank for educational purposes to encourage awareness of and respect for open space and wildlife habitat in the community.

Task C.1-1: Individuals or groups wishing to use the Bank for educational purposes shall obtain the consent of and coordinate with the Land Manager. If the educational activities will be passive in nature, such as a discussion of plants and animals of the habitats, then written permission of the Land Manager is sufficient. If active use (other than restoration activities) of the Bank is proposed or regular but passive use of the Bank is proposed, review and approval by the IRT is required. To avoid repeated inquiries to the IRT, a use plan could be developed by the interested party for a one-time approval.

Element C.2 Recreational Activities

Objective: Provide opportunities for the Bank Owner, Land Manager, and Conservation Easement Monitor to use the Bank site for recreational purposes including hunting, fishing, bird watching, etc. while limiting impacts to biological values.

Task C.2-1: Hunting shall be prohibited except by the Bank Owner, Land Manager, or Conservation Easement Monitor, or an employee or guest of the Bank Owner, Land Manager or Conservation Easement Monitor where the Bank Owner, Land Manager or Conservation Easement Monitor is also present. All hunting activities shall be carried out pursuant to current (i.e., season during which hunting occurs) state and federal laws and regulations.

The total number of hunters is limited to six each shoot day. Hunting will be consistent with DFG seasons and limits. All hunters shall possess no more than 25 shells while in the field hunting.

It is the responsibility of the hunters, Bank Owner and Land Manager to ensure compliance with all relevant laws and prohibitions. If the Conservation Easement Monitor or the IRT reasonably determines that the hunting is harmful to the conservation values of the Bank, or if any of these restrictions has been violated, all hunting shall be prohibited.

Element C.3 Habitat Restoration/Enhancement Activities

Objective: Provide opportunities to use the Bank for future habitat restoration and/or enhancement purposes.

Task C.3-1: In the future, the Bank Owner, Land Manager, Conservation Easement Monitor, or other group/organization, may want to conduct additional habitat restoration or enhancement within the Bank. This could include the removal of non-native (exotic) plant species, planting native plants, or other restoration activities. Restoration activities that involve work in wetlands or other waters of the United States may require a permit under Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers, and/or a Streambed Alteration Agreement from CDFG. The current Nationwide Permit (NWP) 27, Stream and Wetland Restoration Activities, is available from the Corps for these types of activities. Coordination and permitting from NMFS, USFWS, and CDFG. as well as review of the proposed activities by the Sacramento-Yolo Mosquito &Vector Control District may also be necessary.

The Land Manager need not notify the IRT if restoration activities do not require a permit; however, these activities will be reviewed by the Monitoring Biologist and will be described in the Annual Report. If there is a question regarding whether a restoration activity will require a permit, the Land Manager shall seek guidance from the IRT.

D. Reporting and Administration

Element D.1 Annual Report

Objective: Provide annual report on all management tasks conducted and general site conditions to the IRT, CVFPB, Sacramento-Yolo Mosquito & Vector Control District, Conservation Easement Monitor, Land Owner, and any other appropriate parties.

Task D.1-1: The Land Manager shall be responsible for preparing an annual report on all management tasks conducted and general site conditions. The annual report will include a summary of monitoring and management activities undertaken during the previous year. The results of the general inspections and the biological surveys will be included in the annual report. The annual report will be completed and circulated to the IRT and other parties (as described above) by December 31st of each year. The annual report will include the following at a minimum:

- A map of the Bank;
- Photos documenting the status of the Bank;
- A description of proposed activities and maintenance or management actions as required by this Plan;
- A description of actions for which the IRT notification or approval was not needed, but were carried out during the year;
- Observations from the Monitoring Inspections and Habitat and Biological Surveys; and
- Recommendations for altered (adaptive) management practices as needed.

Annual reports will be provided to the IRT, CVFPB, Sacramento-Yolo Mosquito & Vector Control District, and Conservation Easement Monitor in perpetuity.

Task D.1-2: The Land Manager shall make recommendations in the annual report with regard to (1) any habitat enhancement measures deemed to be warranted, (2) any problems that need near short- and long-term attention (e.g., weed removal, erosion control, mosquito control), and (3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date.

Element D.2 Annual Conservation Easement Monitoring Inspection Report

Objective: Provide annual report on all conservation easement inspections conducted and general site conditions to the IRT and the Land Manager.

Task D.2-1: The Land Manager shall allow the Conservation Easement Monitor access to the Bank for the purpose of conducting Monitoring Inspections related to the Conservation Easement. Monitoring Inspections shall be scheduled at a frequency and duration that adequately verifies the integrity of the conservation values of the conservation easement. Monitoring Inspections shall be conducted at least annually, but preferably twice a year. Monitoring Inspections will concentrate on an evaluation of the condition of the protected conservation values as well as the Land Manager's adherence to the terms of the Conservation Easement. The Conservation Easement Monitor will also note the existence or condition of the following factors: erosion and evidence of unauthorized use. The Conservation Easement Monitor will also evaluate any potential or actually violation of the terms of the Conservation Easement, and will identify measures to remediate or restore any violations.

During Monitoring Inspections, the entire perimeter of the Bank shall be surveyed, as well as meandering transects throughout the entirety of the Bank. Photographs from fixed locations will be used in the Monitoring Inspections. A Conservation Easement Monitoring Inspection Report shall be prepared upon the completion of each survey. Previous Monitoring Inspection Reports shall be reviewed before each visit to better identify potential trouble spots or recurring problem areas. If any maintenance issues or violations are identified, more frequent inspections will be done to identify if the problem is a recurring issue and whether remedial actions are effective. The written Monitoring Inspection Report shall be provided to the Land Manager within 30 days of its Monitoring Inspections.

Element D.3 Special and/or Emergency Notifications

Objective: Provide notification to the IRT and the Corps on any activities with the potential to result in temporary or permanent loss of waters of the U.S., including wetlands or other habitats.

Objective: Provide notification to the IRT on any emergency situations that may arise that would normally require the agencies to be notified or have review and approval authority.

Task D.3-1: The Land Manager shall be responsible for providing notification to the IRT (and the Corps for any activities requiring Corps review and approval). All efforts will be made to outline the activities for the coming 12 months in the annual report. If this is not possible, the Land Manager will submit a separate letter to the IRT (and the Corps, if applicable) with a written description of the activity, including when the activity will take place and what methodology will be used, as well as a map showing what areas will be targeted. The IRT will have 30 days to contact the Land Manager to discuss the activity if they do not approve. If the Land Manager is not contacted within 30 days, the activity will be considered approved. Notification will be made either by fax, email, registered mail, or overnight transmittal. The Land Manager will remain responsible for obtaining any permits.

Task D.3-2: The Land Manager shall be responsible for identifying emergency situations that require immediate action. Should an emergency situation arise that requires immediate action, and would normally require that the IRT be notified or have review and approval authority, the Land Manager shall notify the IRT verbally within forty-eight (48) hours, with written confirmation of the actions taken within five (5) business days. In these situations, "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship.

Should an emergency situation arise that requires immediate action in a wetland or waters of the U.S., but would normally require that a permit be obtained from the Corps, the Land Manager shall notify the Corps verbally within twenty-four (24) hours regarding the situation and the actions taken. The Corps will be notified in writing of the actions taken and further actions (if any) proposed, within five (5) business days. Emergency situations are defined as a situation that would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship. The Land Manager will work with the Corps to determine, what, if any further actions or compensation are necessary. The following applies as stated in the Code of Federal Regulations, Title 33, Chapter II, Part 325, Section 325.2 – Processing of Applications:

> Emergency procedures – Division engineers are authorized to approve special processing procedures in emergency situations. An "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unseen, and significant hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures.

The California Fish and Game Code Section 1600 also have emergency procedure stipulations that may apply.

Section V Transfer, Replacement, Amendments, and Notices

A. Transfer

Any subsequent transfer of responsibilities under this Plan to a different Land Manager or Land Owner shall be requested by the appropriate party in writing to the IRT, shall require written approval by the IRT, and shall be incorporated into this Plan by amendment. Any subsequent Land Owner assumes Land Manager responsibilities described in this Plan and as required in the Conservation Easement, unless otherwise amended in writing by the IRT.

B. Replacement

If the Land Manager fails to implement the tasks described in this Plan and is notified of such failure in writing by the IRT, the Land Manager shall have 90 days to cure such failure. If failure is not cured within 90 days, the Land Manager may request a meeting with the IRT to resolve the failure. Such meeting shall occur within 30 days or a longer period if approved by the IRT. Based on the outcome of the meeting, or if no meeting is requested, the IRT may designate a replacement Land Manager in writing by amendment of this Plan. If the Land Manager fails to designate a replacement Land Manager, then such public or private land or resource management organization acceptable to and as directed by the IRT may enter onto the Bank property in order to fulfill the purposes of this Plan.

C. Amendments

The Land Manager, Land Owner, and IRT may meet and confer from time to time, upon the request of any one of them, to revise the Plan to better meet management objectives and preserve the habitat and conservation values of the Bank property. Any proposed changes to the Plan shall be discussed with the IRT and the Land Manager. Any proposed changes will be designed with input from all parties. Amendments to the Plan shall be approved by the IRT in writing, shall be required management components, and shall be implemented by the Land Manager.

If the NMFS, USFWS or CDFG determine, in writing, that continued implementation of the Plan would jeopardize the continued existence of a state or federally listed species, any written amendment to this Plan, determined by either the NMFS, USFWS or CDFG as necessary to avoid jeopardy, shall be a required management component and shall be implemented by the Land Manager.

D. Notices

Any notices regarding this Plan shall be directed as follows:

Land Manager

Liberty Island Holdings II, LLC (Wildlands)
3855 Atherton Road
Rocklin, CA 95765

Attn: General Counsel
Telephone: (916) 435-3555

Land Owners

Reclamation District 2093
c/o The Trust for Public Land
1107 9th Street – Suite 1050
Sacramento, CA 95814
Attn: Erik Vink
Telephone: (916) 557-1673
Fax: (916) 557-1675

The Trust for Public Land
1107 9th Street – Suite 1050
Sacramento, CA 95814
Attn: Erik Vink
Telephone: (916) 557-1673
Fax: (916) 557-1675

Conservation Easement Monitor

Wildlife Heritage Foundation
563 2nd Street, Suite 120
Lincoln, CA 95648
Attn: Executive Director
Telephone: (916) 434-2759

Interagency Review Team

National Marine Fisheries Service
650 Capitol Mall, Suite 8-300
Sacramento, CA 95814-4708
Telephone: (916) 930-3600
Fax: (916) 930-3629

U.S. Fish and Wildlife Service
Bay-Delta Fish and Wildlife Office
2800 Cottage Way, Rm W-2605
Sacramento, CA 95825
Attn: Field Supervisor
Telephone: (916) 414-6600
Fax: (916) 414-6712

California Department of Fish and Game
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558

Attn: Regional Manager
Telephone: (707) 944-5500
FAX: (707) 944-5563

California Department of Fish and Game
Water Branch
830 S Street
Sacramento, CA 95814
Attn: Water Branch Chief
Telephone: (916) 445-1231
Fax: (916) 445-1768

Other Interested Agencies

Central Valley Flood Protection Board
P. O. Box 942836
Sacramento, CA 94236

Sacramento-Yolo Mosquito & Vector Control District
8631 Bond Road
Elk Grove, CA 95624
Telephone: (916) 405-2085

Section VI Funding and Task Prioritization

A. Funding

During the Initial Monitoring Period, the cost to conduct the monitoring and carry out the management activities will be fully funded by the Land Manager. Following the completion of the Initial Monitoring Period, the annual cost of monitoring and management described in this Plan will be funded through the interest generated on an endowment account (Endowment Fund). The Land Manager will be responsible for depositing money into the Endowment Fund concurrent with the transfer of the Conservation Credits. The Endowment Fund will be held and managed by a CDFG-approved third party entity (likely the National Fish and Wildlife Foundation [NFWF]).

The value of the Endowment Fund is based upon the costs necessary to manage the Bank in perpetuity calculated using the Center for Natural Lands Management's Property Analysis Record (PAR) software. The PAR analysis of the Endowment Fund is provided as *Exhibit D-2 of the CBA*. The accrued interest and earnings from the Endowment Fund shall be used exclusively to fund the permanent management and long-term maintenance of the Bank.

The Endowment Fund shall remain as a permanent capital endowment to manage the Bank consistent with this Plan and the Conservation Easement. The Bank Owner or Land Manager may use interest and earnings from the Endowment Account to pay any costs and expenses reasonably incurred through the monitoring, maintenance, or long-term management, including, without limitation, property taxes, contracts, equipment or materials, and signage related to the management of the Bank and consistent with the Conservation Easement.

NFWF or other CDFG-approved entity shall hold the endowment principal and interest monies. These interest monies will fund the long-term management, enhancement, and monitoring activities on habitat lands in a manner consistent with this Plan.

The Land Manager shall consult with NFWF or other CDFG-approved entity on a year-to-year basis to determine the amount of funding available for management and monitoring activities. Following annual management activities, the Land Manager may invoice NFWF or other CDFG-approved entity for management activities following the invoicing instructions provided by NFWF or other CDFG-approved entity.

The Endowment Fund obligations, the management obligations described in this Plan, and the obligations under the Conservation Easement shall continue in perpetuity as a covenant running with the land.

B. Task Prioritization

Due to unforeseen circumstances, prioritization of tasks, including tasks resulting from new requirements, may be necessary if insufficient funding is available to accomplish all tasks. The Land Manager and the IRT shall discuss task priorities and funding availability to determine which tasks will be implemented. In general, tasks are prioritized in this order:

1. Tasks required by a local, state, or federal agency;

2. Tasks necessary to maintain or remediate habitat quality; and

3. Tasks that monitor resources, particularly if past monitoring has not shown downward trends.

Equipment and materials necessary to implement priority tasks will also be considered priorities. Final determination of task priorities in any given year of insufficient funding will be determined in consultation with the IRT and as authorized by the IRT in writing.

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Section VII References

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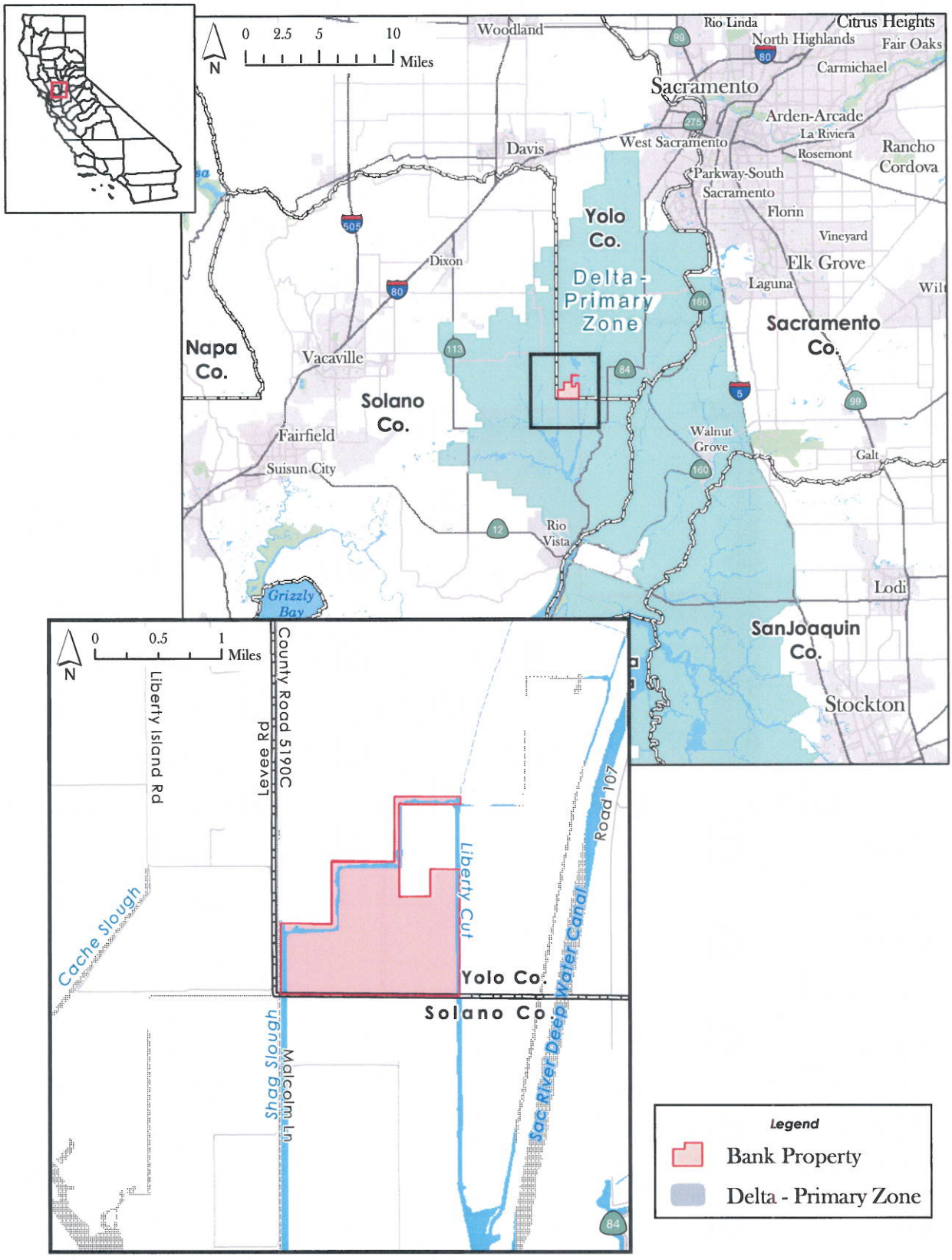
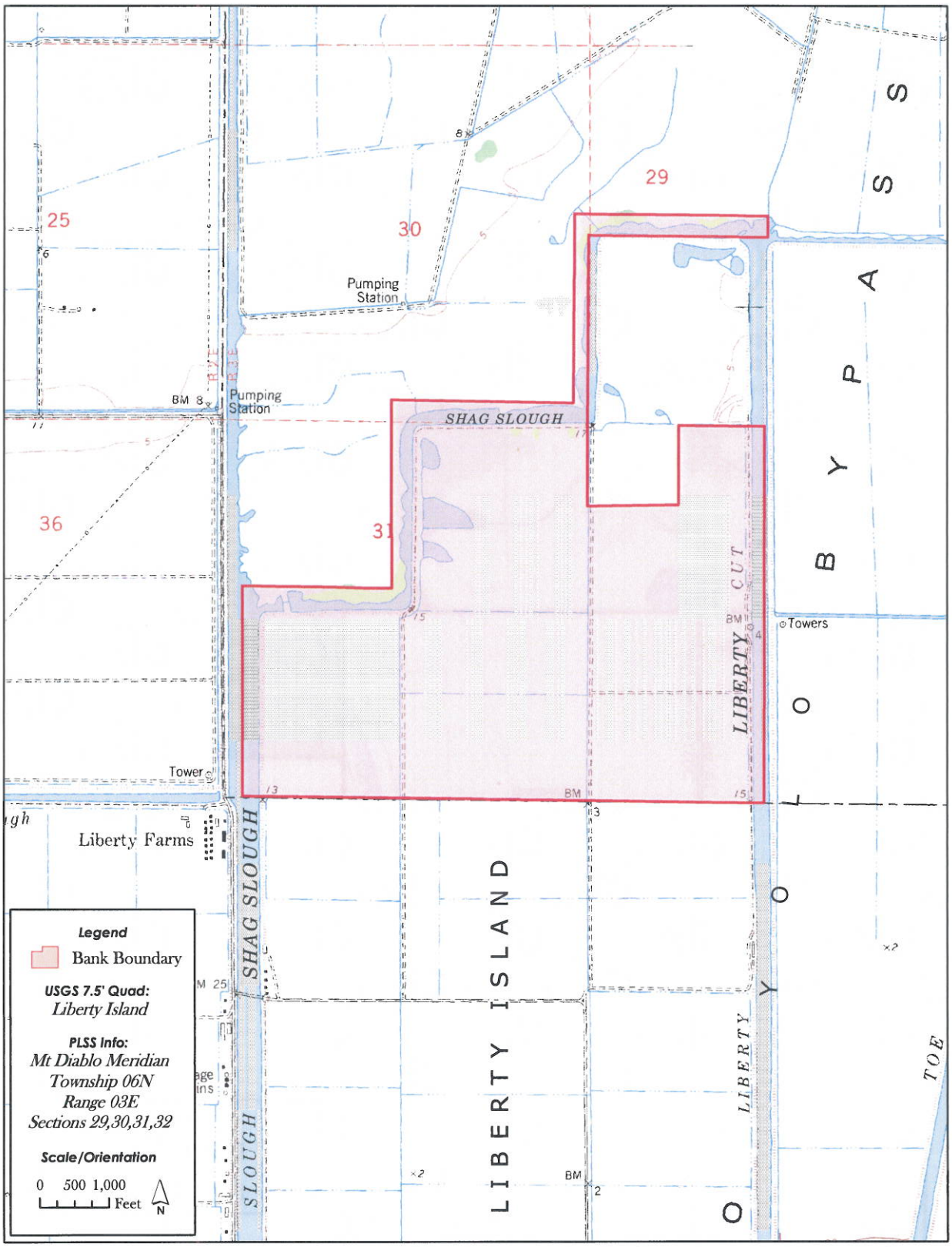
FIGURES



WILDLANDS

Northern Delta Fish Conservation Bank
Long-Term Management Plan

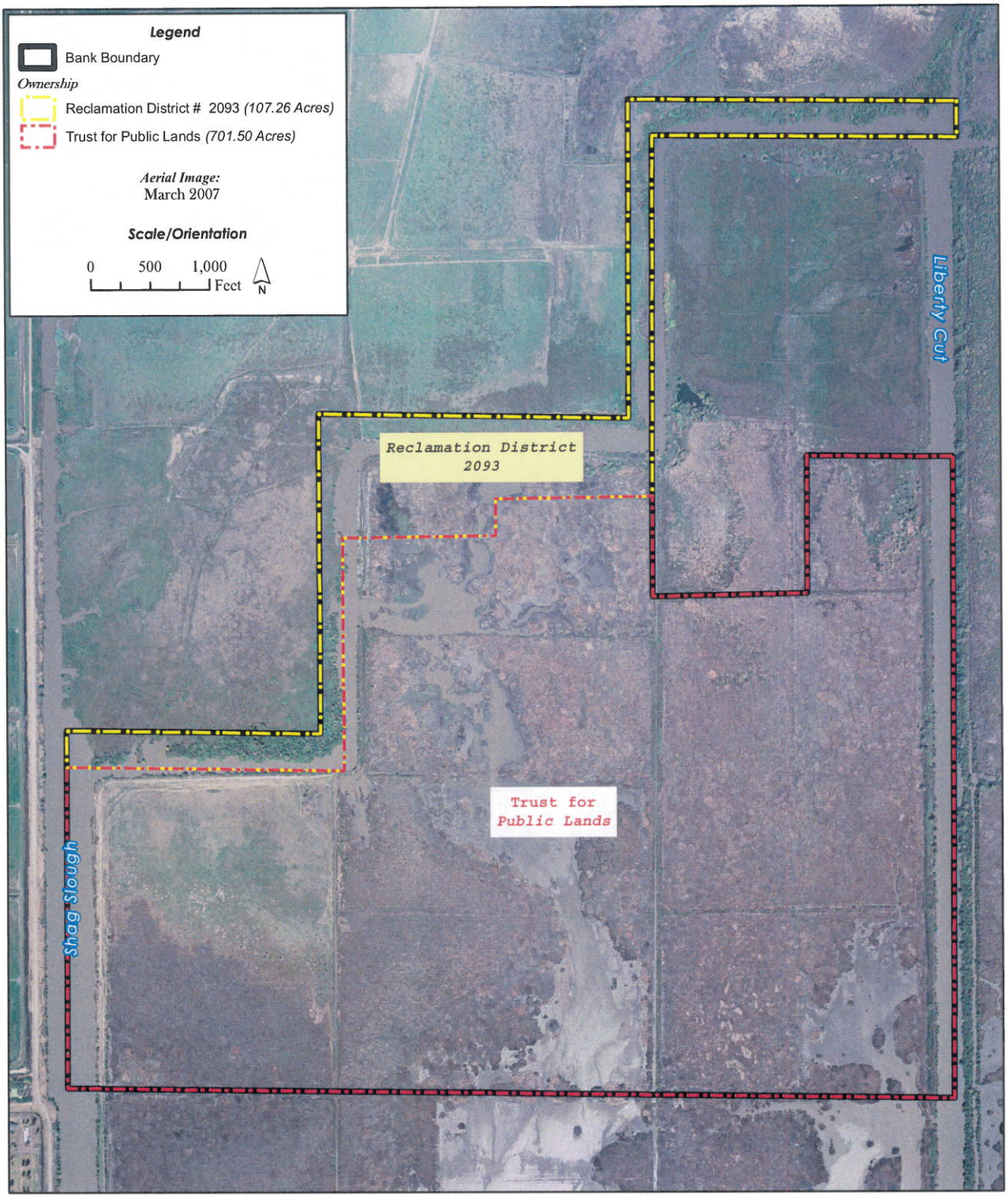
Figure 1
Regional Vicinity



WILDLANDS

North Delta Fish Conservation Bank
Long-Term Management Plan

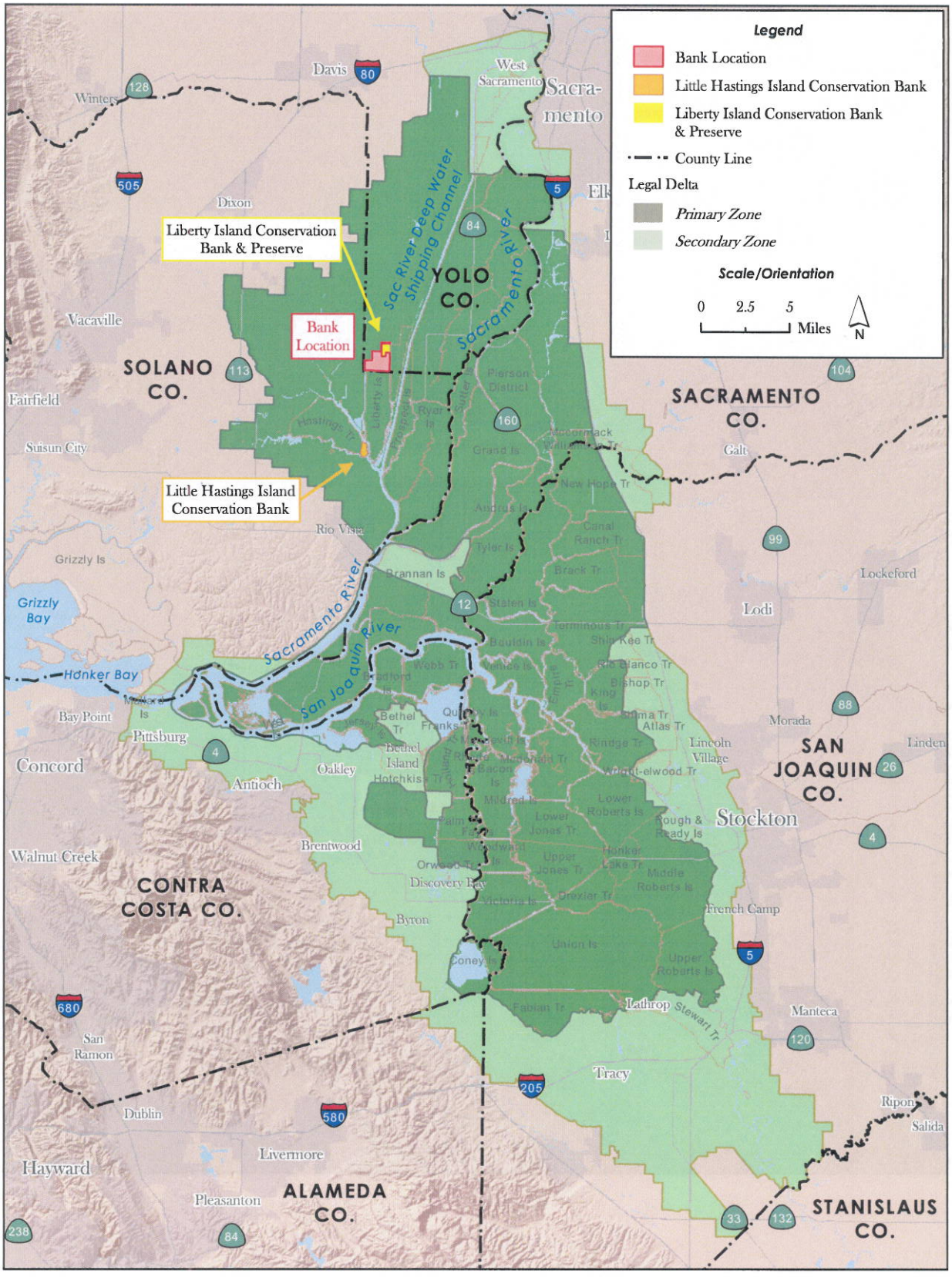
Figure 2
Bank Location



WILDLANDS

North Delta Fish Conservation Bank
Long-Term Management Plan

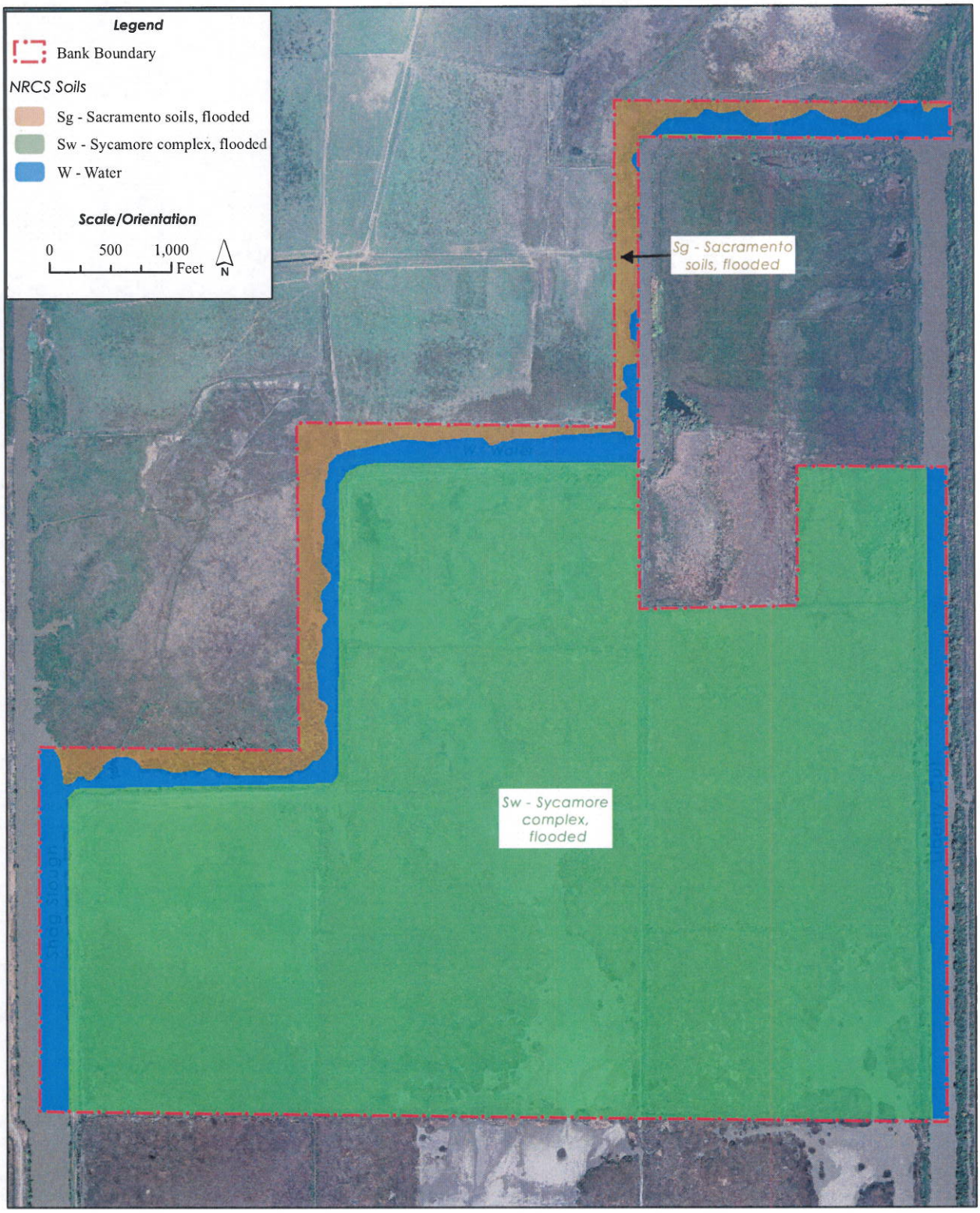
Figure 3
Property Ownership



WILDLANDS

North Delta Fish Conservation Bank
Long-Term Management Plan

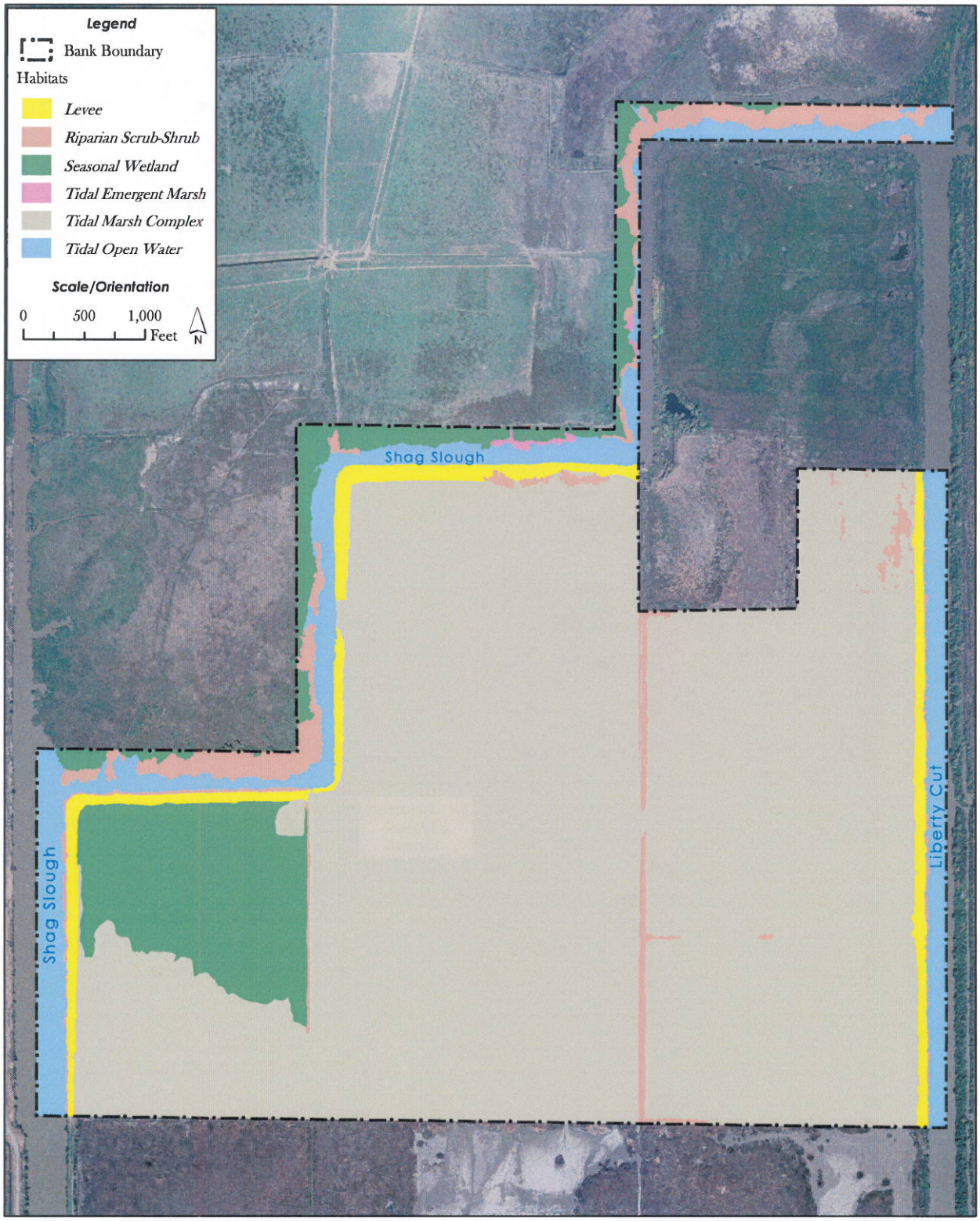
Figure 4
Map of Legal Delta



WILDLANDS

North Delta Fish Conservation Bank
Long-Term Management Plan

Figure 5
Soils



WILDLANDS

North Delta Fish Conservation Bank
Long-Term Management Plan

Figure 6
Existing Habitats

LEGEND

Bank Boundary

Existing

Tidal Emergent Marsh Complex - Enhanced

Riparian Scrub Shrub / Shaded Riverine Aquatic Cover (SRA) - Preserved

Riparian Scrub Shrub and Seasonal Wetland Floodplain - Preserved

Levee Upland - Preserved

Tidal Channels - Enhanced

Ditches

Water Control Structure to be Removed

Proposed

Tidal Emergent Marsh Complex - Created (Excavation and/or Rock Removal / Tule Planting)

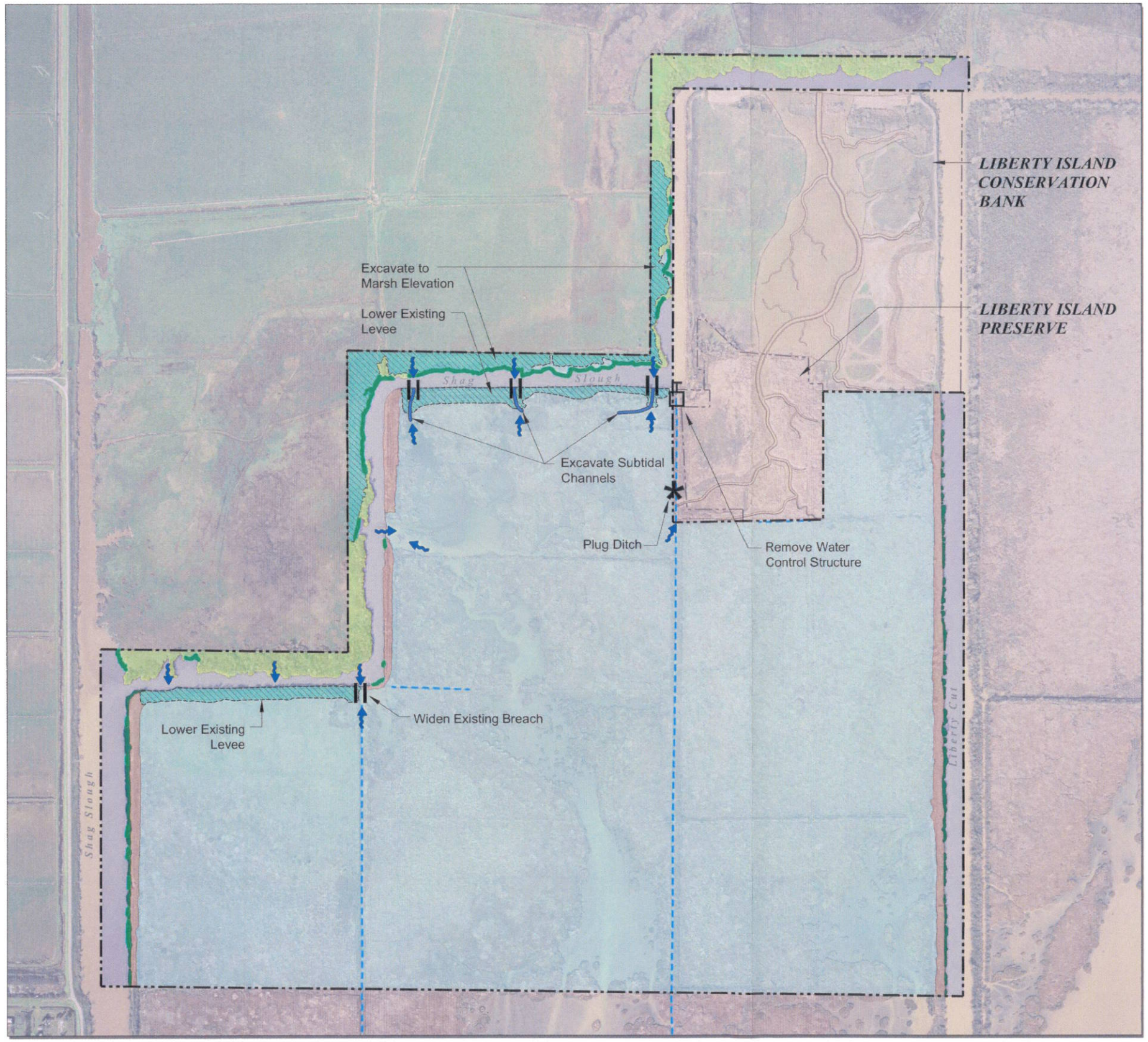
Tule Planting / Shaded Riverine Aquatic Cover (SRA)

Channels

Levee Breach

Enhanced Tidal and Bypass Flow

0 500' 1000' NORTH



WILDLANDS

North Delta Fish Conservation Bank
Long-Term Management Plan

Figure 7
Concept Plan

ATTACHMENT A
LONG-TERM MANAGEMENT FUNDING CROSSWALK

Attachment A. Long Term Management Funding	
Long Term Management Plan Task	**Task Description in the PAR (Exhibit D-2 of the CBA)**
Element A.1 Habitat Monitoring	
Element A.1-1	Inspection, Field Equipment
Element A.1-2	Inspection, Field Equipment
Element A.1-3	Vegetation Surveys
Element A.2 Non-native Invasive Species	
Element A.2 -1	N/A (Conducted during Interim Management Period)
Element A.2-2	Exotic Plant Control – Labor and Materials
Element A.2-3	Exotic Plant Control – Livestock Grazing Oversight
Element A.3 Woody Vegetation Management	
Element A.3-1	Habitat Maintenance – Other (Woody Vegetation)
Element A.4 Adaptive Management	
Element A.4-1	N/A
Element B.1 Trash and Trespass	
Element B.1-1	Inspection, General Maintenance – Other (Trash Removal)
Element B.1-2	Trash Removal
Element B.2 Authorized Access	
Element B.2-1	N/A
Element B.2-2	Public Services – Sign, & Site Construction/Maint – Sign and Maintenance
Element B.3 Unauthorized Motor Vehicle Use	
Element B.3 -1	Inspections
Element B.4 Flood Protection	
Element B.4-1	N/A
Element C.1 Educational Activities	
Element C.1-1	N/A
Element C.2 Recreational Activities	
Element C.2-1	N/A
Element C.3 Habitat Restoration/Enhancement Activities	
Element C.3-1	N/A
Element D.1 Annual Report	
Element D.1-1	Annual Reports, Monitoring Reports, Aerial Photo
Element D.1-2	Annual Reports, Monitoring Reports, Aerial Photo
Element D.2 Annual Conservation Easement Monitoring Inspection Report	
Element D.2-1	N/A
Element D.3 Special and/or Emergency Notifications	
Element D.3-1	N/A
Element D.3-2	N/A
Element D.3-3	N/A