

**Meeting of the Central Valley Flood Protection Board
December 18, 2015**

Staff Report

**California Department of Water Resources
California WaterFIX Project
Request to Initiate Project Review Pursuant to Title 33, USC Section 408**

1.0 – ITEM

Consider Central Valley Flood Protection Board (Board) approval of a letter to the U. S. Army Corps of Engineers (USACE) pursuant to federal Title 33, USC Section 408 (Section 408) as described in USACE Engineering Circular 11165-2-216, §7c(2), requesting initiation of, in cooperation with the California Department of Water Resources, a joint review of proposed alterations to the east levee of the Sacramento River, the channel and levees at the head of Old River, and associated mitigation measures in order to construct three intake and sedimentation facilities on the Sacramento River, and a barrier at the head of Old River.

2.0 – PROJECT PROPONENT

California Department of Water Resources (DWR) has requested the Board to initiate USACE project review (Attachment A).

3.0 – PROJECT LOCATION

Three intake and sedimentation facilities are proposed to be constructed along the east levee of the Sacramento River between Clarksburg and Courtland at River Miles 36.8, 39.4 and 41.1 in Sacramento County (Attachment B1). An operable barrier across the head of Old River where the San Joaquin River and Old River diverge is also proposed in San Joaquin County (Attachment C1). Associated mitigation (if necessary) will be proposed and reviewed as project designed are advanced.

4.0 –PROJECT DESCRIPTION

The purpose of the proposed project is to improve water supply reliability in conjunction with ecosystem improvements to significantly reduce reverse flows and direct fish species impacts associated with the existing South Delta intakes at Clifton Court Forebay. The proposed project will require lands to be acquired by non-Federal

interests, and will not require any lands owned by the USACE. Once approved and constructed, these intakes would become part of the State Water Project and will be maintained in perpetuity by DWR. Attachment B2 is a concept drawing of an intake facility.

The main components of the proposed intake facilities include:

- On-bank intake screening structures that divert flow from the Sacramento River
- Collector box conduits that funnel the flow to the sedimentation basins. Flow meters and flow control sluice gates located on each box conduit assure that limitations on approach velocities and flow balancing between the three intake facilities are achieved. Isolation drop gates allow for maintenance of the flow meters and flow control sluice gates.
- A sedimentation system including:
 - sedimentation basins to provide for the settling and removal of sandy material and coarse silts prior to flow entering the conveyance tunnels
 - a sedimentation outlet structure connecting the intake facilities to the north conveyance tunnels

The proposed project also involves constructing a Head of Old River operable barrier with control gates to reduce migration of San Joaquin River watershed salmonids into the South Delta through Old River. The barrier would be approximately 210 feet long and 30 feet wide, with a top elevation of 15 feet msl (NAVD 88). It would consist of five independent 125-foot bottom-hinged gates, with a fish passage structure, boat lock with gates at each end, control building, boat lock operator's building, and communications antenna, as well as floating and pile-supported warning signs, water level recorders, and navigation lights. Attachment C2 is an artist's rendering of the proposed barrier.

Further details of the proposed project are contained in the DWR Conceptual Engineering Report located online at:

http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Conceptual_Engineering_Report-Modified_Pipeline_Tunnel_Option-Clifton_Court_Forebay_Pumping_Plant.sflb.ashx

5.0 – STAFF RECOMMENDATIONS

Staff recommends the Board:

- **Approve** the draft letter to the USACE (Attachment D); and
- **direct** the Executive Officer to sign and send the letter to the USACE.

6.0 – LIST OF ATTACHMENTS

- A. DWR Director 408 Request Letter
- B. Intake and Sedimentation Facilities
 - B1. Location Map
 - B2. Concept Drawing
- C. Head of Old River Operable Barrier
 - C1. Location Map
 - C2. Artist Rendering
- D. Draft Board 408 Request Letter to USACE

Report Preparation
Document Review:

Eric Butler, PE, Supervising Engineer, Projects and Environmental Branch
Nicole Rinke, Board Counsel

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

**SENT VIA EMAIL AND REGULAR MAIL**

December 9, 2015

Ms. Leslie Gallagher, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Subject: 33 USC §408 Request for the California WaterFix Project, Levee Intake Project.

Dear Ms. Gallagher:

The California Department of Water Resources (DWR) is seeking permission from the U.S. Army Corps of Engineers (USACE) pursuant to 33 USC §408 (Section 408) for alteration of the Sacramento River Flood Control Project and San Joaquin River and tributaries project for proposed Intake and Sedimentation facilities, head of Old River barrier and associated mitigation for the California WaterFix Project. We request your assistance in pursuing this permission by reviewing the enclosed documents and forwarding our request to the USACE Sacramento District. Included is a letter to the USACE, a project description, table of coordinates, a map of the area and sample designs for the intakes and barrier.

DWR is proposing to construct three Intake and Sedimentation Facilities located on the east bank of the Sacramento River between Clarksburg and Courtland. Head of Old River barrier is located on Old River. Please refer to Conceptual Engineering Report located at this link: <http://baydeltaconservationplan.com/Libraries/Dynamic Document Library/Conceptual Engineering Report-Modified Pipeline Tunnel Option-Clifton Court Forebay Pumping Plant.sflb.ashx>

The purpose of the proposed project is to improve water supply reliability in conjunction with ecosystem improvements to significantly reduce reverse flows and direct fish species impacts associated with the existing South Delta intakes. The proposed project will require lands to be acquired by non-Federal interests, and will not require any lands owned by the USACE. Once approved and constructed, these intakes would become part of the State Water Project and will be maintained in perpetuity by DWR.

The main components of the Intake Facilities include:

- On-bank intake screening structures that divert flow from the Sacramento River.
- Collector box conduits that funnel the flow to the sedimentation basins. Flow meters and flow control sluice gates located on each box conduit assure limitations on approach velocities and flow balancing between the three Intake Facilities is achieved. Isolation drop gates allow for maintenance of the flow meters and flow control sluice gates.

Ms. Gallagher
December 9, 2015
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- A sedimentation system that includes sedimentation basins that provide for the settling and removal of sandy material and coarse silts prior to the flow entering the conveyance tunnels and a sedimentation outlet structure that connects the Intake Facilities to the North Conveyance Tunnels.

Intakes will be on-bank structures with fish screens similar to the Sacramento River intakes owned by the Freeport Regional Water Authority, Glenn-Colusa Irrigation District, and Tehama-Colusa Canal Authority. Each of the three Modified Pipeline/Tunnel Options with Clifton Court Option sites will vary slightly in terms of bathymetric conditions and design river levels.

Approval under Section 404 of the Clean Water Act is anticipated to be required for the proposed alterations. DWR submitted a Section 404 application on August 25, 2016.

Questions regarding this request can be made to Michael Bradbury, Program Manager, Permitting, California WaterFix Program, (916) 651-2987.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mark W. Cowin', is written over a faint, larger version of the same signature.

Mark W. Cowin
Director

cc: (see attached list)

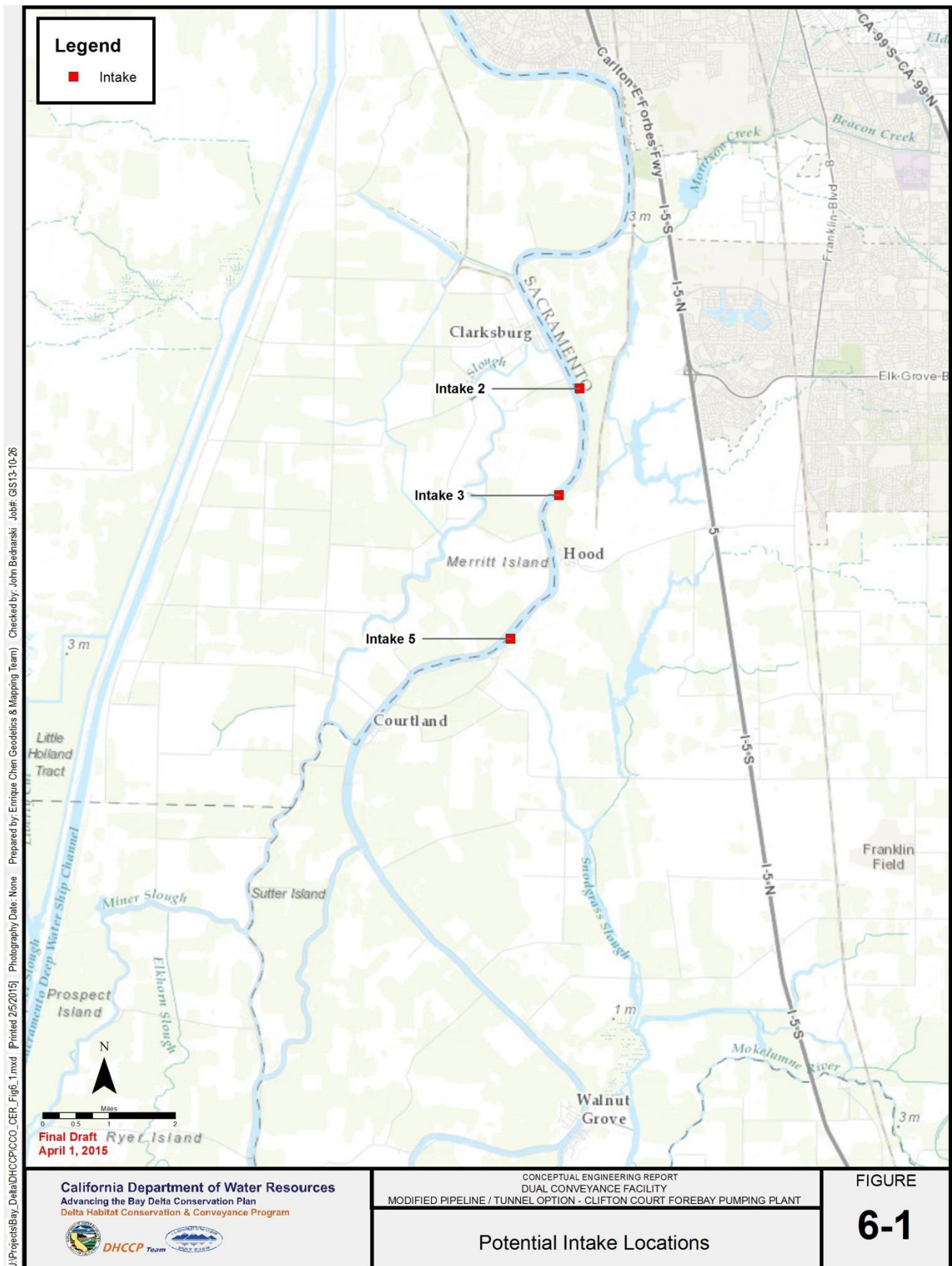


Figure 6-1 Potential Intake Locations



Final Draft
April 1, 2015

California Department of Water Resources
Advancing the Bay Delta Conservation Plan
Delta Habitat Conservation & Conveyance Program



CONCEPTUAL ENGINEERING REPORT
DUAL CONVEYANCE FACILITY
MODIFIED PIPELINE / TUNNEL OPTION - CLIFTON COURT FOREBAY PUMPING PLANT

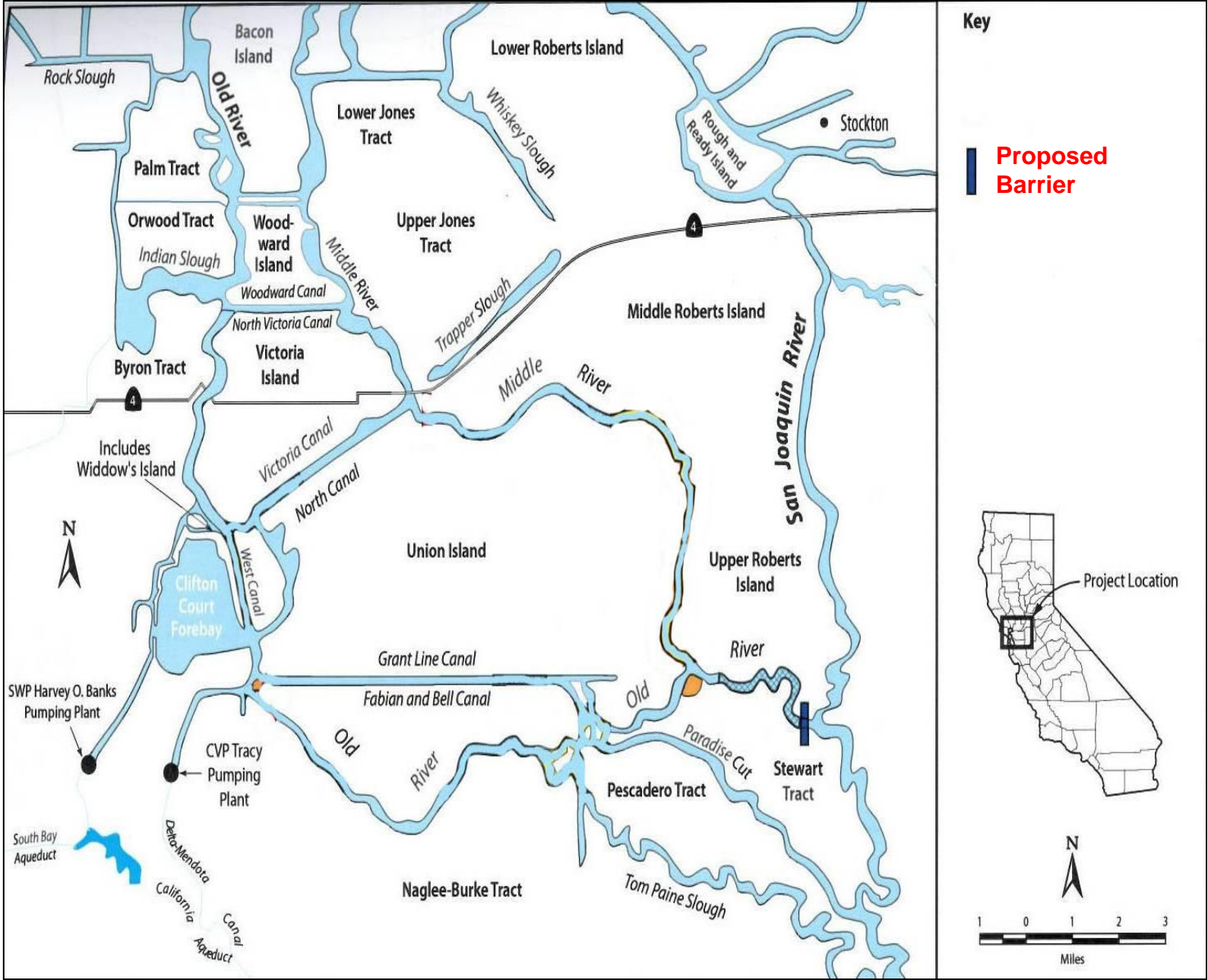
On-Bank Intake

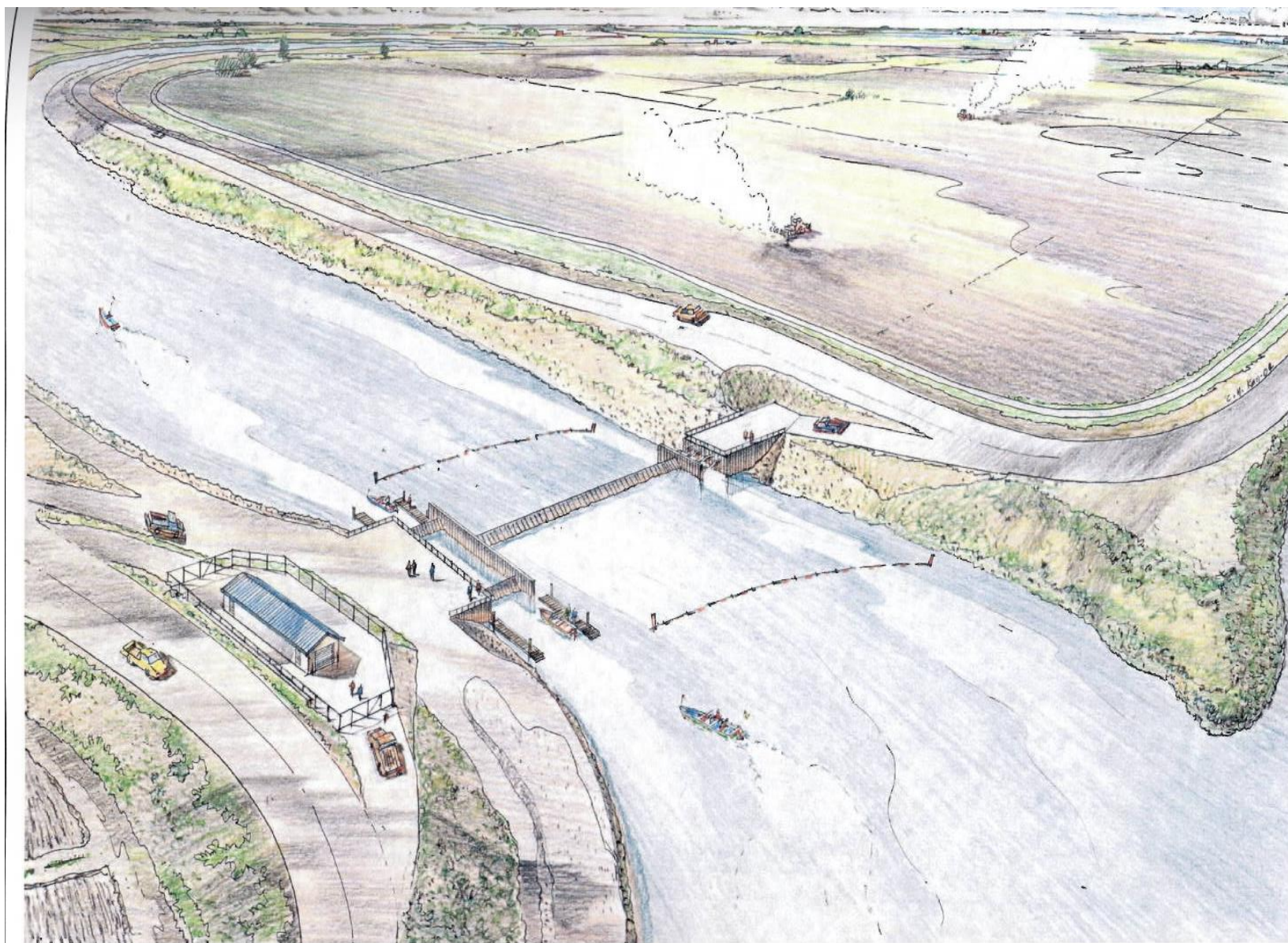
FIGURE

6-2

Figure 6-2: On-Bank Intake

Figure 17-1 Fish Control Gate Location





Source: California Department of Water Resources.

Figure 17-2: Head of Old River Gate, Artist's Rendering (Looking Northward)

CENTRAL VALLEY FLOOD PROTECTION BOARD

3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682



December 18, 2015

Colonel Michael J. Farrell
District Commander
U.S. Army Corps of Engineers
Sacramento District
1325 J. Street
Sacramento, California 95814

Subject: Request to Initiate Project Review pursuant to Title 33, USC Section 408 for the California WaterFix Project

Dear Colonel Farrell:

Pursuant to Title 33, USC Section 408 (Section 408) as described by the U.S. Army Corps of Engineers (USACE) Engineering Circular 1165-2-216, §7c(2), the California Department of Water Resources (DWR) has requested the Central Valley Flood Protection Board (Board) staff to initiate the Section 408 process for the joint review of possible alterations to the east project levee of the Sacramento River in the Sacramento River Flood Control Project, and to project levees at the Head of Old River in the San Joaquin River and Tributaries Project, needed to construct proposed components of DWR's California WaterFIX project.

The purpose of this project is to improve water supply reliability in conjunction with ecosystem improvements to significantly reduce reverse flows and direct fish species impacts associated with the existing South Delta intakes at Clifton Court Forebay.

Proposed alterations may include:

- On-bank intake screening structures to divert flow from the Sacramento River
- Collector box conduits to funnel flow to sedimentation basins
- Sedimentation basins to provide for settling and removal of sandy material and coarse silts prior to the flow entering conveyance tunnels
- Sedimentation outlet structures to connect intake facilities to conveyance tunnels
- An operable barrier across the Head of Old River
- Associated mitigation measures

Further details of the proposed project are contained in the DWR Conceptual Engineering Report located online at:

http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Conceptual_Engineering_Report-Modified_Pipeline_Tunnel_Option-Clifton_Court_Forebay_Pumping_Plant.sflb.ashx

Colonel Michael J. Farrell
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The proposed project will require lands to be acquired by non-Federal interests, and will not require any lands owned by the USACE. Approval under Section 404 of the Clean Water Act is anticipated to be required for the proposed alternations. DWR submitted a 404 application on August 25, 2016. Title 33, Section 221 credit is not being sought for this project.

On behalf of DWR, the Board requests the USACE, in cooperation with DWR and other federal agencies, to initiate a joint review of possible alterations to the Sacramento River Flood Control Project, and to the San Joaquin River and Tributaries Project, needed to construct the proposed WaterFIX facilities and associated mitigation.

Thank you for your attention to this request. We look forward to working with you, your staff, and the DWR staff on this project. If you have any questions regarding this request, please contact me at (916) 574-0609 or by email at leslie.gallagher@water.ca.gov.

Sincerely,

Leslie M. Gallagher
Executive Officer

Enclosure: 33 USC § 408 Request from DWR dated December 9, 2015.

cc: (via electronic file)

Mr. Mark Cowin, Director
Department of Water Resources