APPENDIX A

ENVIRONMENTAL PLANNING AND COMPLIANCE

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

APPENDIX A-1

PUBLIC SCOPING MATERIAL

(NOI & PUBLIC MEETINGS)

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

US ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Memorandum for Record

March 16, 2010

To: File

From: CESPK-PD-RP (Doug Edwards, Environmental Planner)

Subject: LSJRFS Scoping Meeting

Scoping Period

January 15 – February 15, 2010

Public Notices (Attachment 1)

Federal Register
State Clearing House
Newspapers
- Stockton Bulletin
- Manteca Bulletin
- Lodi News Sentinel
- Ripon Record
- Tracy Press

SAJAFCA Website
Email Distribution List

Scoping Meeting (Attachment 2)

University of Pacific, Regents Dining Room
Wednesday, January 27, 2010
6:00 – 7:00

Comment Letters (Attachment 3)

<u>USPS/FAX</u>

River Islands at Lathrop, Susan Dell'Osso, Project Director

City of Lathrop, Cary Keaten, City Manager

California Department of Transportation, Kathy Selsor

Neumiller & Beardslee, John W. Stovall, Attorney at Law

San Joaquin County, Misquito & Vector Control District, John R. Stroh, Manager

California Department of Fish and Game, North Central Region, Jeff Drongessen, Acting Conservation Program Manger

San Joaquin River Group Authority, Dennis W. Westcot, Project Administrator

U.S. EPA, Region IX, Kathleen M. Goforth

Email

Private Individual, Nicky Suard,

Insite Environmental, Inc., Charlie Simpson, Principal

Friant Water Authority, Bill Luce, P.E. Resources Manager

Private, Richard Riley

South Delta Water Agency, John Herrick Law, John Herrick, Esq.,

San Joaquin River Group Authority, Dennis W. Westcot, Project Administrator

U.S. EPA, Region IX, James Munson

Regional Water Quality Control Board, Central Valley (Region 5 Sacramento), Sanj Joaquin TMDL &NPS Unit, Christine Joab

California Department of Transportation, Kathy Selsor

U.S. Bureau of Reclamation, Policy and Administration, Theresa Taylor

ATTACHMENT 1

Federal Register Notice

Notice of Completion & Environmental Document Transmittal

Email Distribution List

Email Content

Webpage Confirmation Email

Newspaper List Email

The above rates are effective for services rendered on or after October 1, 2009.

Dated: December 18, 2009.

Patricia Toppings,

OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2010–598 Filed 1–14–10; 8:45 am]

BILLING CODE 5001–06–P

DEPARTMENT OF DEFENSE

Department of the Army; Army Corps of Engineers

Notice of Intent To Prepare a Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study

AGENCY: Department of the Army, U.S. Army Corps of Engineers; DOD.

ACTION: Notice of intent.

SUMMARY: The action being taken is the preparation of a joint environmental impact statement/environmental impact report (EIS/EIR) for the Lower San Joaquin River Feasibility Study (LSJRFS). The EIS/EIR will be prepared in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The U.S. Army Corps of Engineers (USACE) will serve as lead agency for compliance with NEPA, and the San Joaquin Area Flood Control Agency (SJAFCA) will serve as lead agency for compliance with CEQA. The LSJRFS will evaluate alternatives, including a locally preferred plan, for providing flood damage reduction and ecosystem restoration along the lower (northern) portion of the San Joaquin River system in the Central Valley of California. The approximate area of the proposed action and analysis is identified in Figure 1.

DATES: Written comments regarding the scope of the environmental analysis should be received at (*see* **ADDRESSES**) by February 15, 2010.

ADDRESSES: Written comments concerning this study and requests to be included on the LSJRFS mailing list should be submitted to Mr. Doug Edwards, U.S. Army Corps of Engineers, Sacramento District, *Attn:* Planning Division (CESPK–PD–R), 1325 J Street, Sacramento, CA 95814.

FOR FURTHER INFORMATION CONTACT: Mr. Doug Edwards via telephone at (916) 557–7062, e-mail at *Douglas.M.Edwards@usace.army.mil*, or regular mail at (*see* **ADDRESSES**).

SUPPLEMENTARY INFORMATION:

1. *Proposed Action.* USACE is preparing an EIS/EIR to analyze the environmental impacts associated with a range of alternatives for providing flood damage reduction and ecosystem restoration along the lower (northern) portion of the San Joaquin River system (Figure 1).

2. *Alternatives.* The EIS/EIR will address an array of alternatives for providing flood risk management alternatives that are intended to reduce flood risk within the project area. Alternatives analyzed during the investigation may include, but are not limited to, a combination of one or more of the following flood damage reduction measures: adding, modifying, and/or re-regulating storage on major tributaries; new transitory storage within flood plains, increasing conveyance by raising levees; widening channels and floodway areas; dredging; and constructing or modifying weirs and bypasses; and various floodplain management measures. Ecosystem restoration measures may include, but are not limited to, restoring riparian, wetland, and floodplain habitats, and/or constructing setback levees for habitat restoration.

3. *Scoping Process.*

a. A public scoping meeting will be held to present an overview of the LSJRFS and the EIS/EIR process, and to afford all interested parties with an opportunity to provide comments regarding the scope of analysis and potential alternatives. The public scoping meeting will be held at the University of Pacific, Regent's Dining Room, 3601 Pacific Avenue, Stockton, CA on January 27, 2010, from 6–8 p.m.

b. Potentially significant issues to be analyzed in depth in the EIS/EIR include project specific and cumulative effects on hydraulics, wetlands and other waters of the U.S., vegetation and wildlife resources, special-status species, esthetics, cultural resources, recreation, land use, fisheries, water quality, air quality, and transportation.

c. USACE is consulting with the State Historic Preservation Officer to comply with the National Historic Preservation Act and with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to comply with the Endangered Species Act. USACE is also coordinating with the U.S. Fish and Wildlife Service to comply with the Fish and Wildlife Coordination Act.

d. A 45-day public review period will be provided for all interested parties individuals and agencies to review and comment on the draft EIS/EIR. All interested parties are encouraged to respond to this notice and provide a current address if they wish to be notified of the draft EIS/EIR circulation.

4. *Availability.* The draft EIS/EIR is currently scheduled to be available for public review and comment in 2014.

Dated: December 29, 2009.

Thomas Chapman,

COL, EN Commanding.

[FR Doc. 2010–686 Filed 1–14–10; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Notice of Solicitation for Estuary Habitat Restoration Program

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of solicitation for project applications.

SUMMARY: Congress has appropriated limited funds to the U.S. Army Corps of Engineers (Corps) and the National Oceanic and Atmospheric Administration (NOAA) for implementation of the Estuary Habitat Restoration Program as authorized in Section 104 of the Estuary Restoration Act of 2000, Title I of the Estuaries and Clean Waters Act of 2000 (Pub. L. 106–457) (accessible at *http://www.usace.army.mil/CECW/ERA/Pages/home.aspx*). On behalf of the Estuary Habitat Restoration Council (Council) the Corps is soliciting proposals for estuary habitat restoration projects. The Council requests that all proposals address the potential effects of sea level change and other impacts related to climate change on the viability of the proposed restoration. This may take the form of considering climate change in the planning, design, siting, and construction of the project, or in testing new restoration technologies that may help to alleviate effects of climate change. This document describes project criteria and evaluation criteria the Council will use to determine which projects to recommend. Recommended projects must provide ecosystem benefits, have scientific merit, be technically feasible, and be cost-effective. Proposals selected for Estuary Habitat Restoration Program funding may be implemented in accordance with a cost-share agreement with the Corps; or a cooperative agreement with the Corps or NOAA, subject to availability of funds.

In addition to this solicitation and the application form, a Supplemental Guide for Prospective Applicants is available at: *http://www.usace.army.mil/CECW/*

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2010012027

Project Title: Lower San Joaquin River Feasibility Study

Lead Agency: San Joaquin Area Flood Control Agency — Contact Person: Doug Edwards

Mailing Address: 1325 J Street — Phone: (916) 557-7026

City: Sacramento — Zip: 95814 — County: Sacramento

Project Location: County: San Joaquin — City/Nearest Community: Stockton, Manteca, Lathrop

Cross Streets: _____ Zip Code: _____

Longitude/Latitude (degrees, minutes and seconds): ____° ____' ____" N / ____° ____' ____" W Total Acres: _____

Assessor's Parcel No.: _____ Section: _____ Twp.: _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: _____ Waterways: _____

Airports: _____ Railways: _____ Schools: _____

Document Type:

CEQA: ☑ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec
☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) _____ Other: _____

NEPA: ☑ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☑ Joint Document ☐ Final Document ☐ Other: _____

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☑ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other: _____

RECEIVED JAN 14 2010 STATE CLEARINGHOUSE

Development Type:

☐ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☐ Educational: _____
☐ Recreational: _____
☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ MW _____
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☑ Other: Flood risk management and ecosystem restoration

Project Issues Discussed in Document:

☑ Aesthetic/Visual
☑ Agricultural Land
☐ Air Quality
☑ Archeological/Historical
☑ Biological Resources
☐ Coastal Zone
☑ Drainage/Absorption
☑ Economic/Jobs
☑ Fiscal
☑ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☑ Geologic/Seismic
☑ Minerals
☑ Noise
☐ Population/Housing Balance
☑ Public Services/Facilities
☑ Recreation/Parks
☐ Schools/Uuiversities
☐ Septic Systems
☐ Sewer Capacity
☑ Soil Erosion/Compaction/Grading
☐ Solid Waste
☐ Toxic/Hazardous
☑ Traffic/Circulation
☑ Vegetation
☑ Water Quality
☑ Water Supply/Groundwater
☑ Wetland/Riparian
☑ Growth Inducement
☑ Land Use
☑ Cumulative Effects
☐ Other: _____

Present Land Use/Zoning/General Plan Designation:

Various

Project Description: *(please use a separate page if necessary)*

The EIS/EIR will be prepared to analyze environmental impacts associated with a range of alternatives for providing flood damage reduction and ecosystem restoration along the lower (northern) portion of the San Joaquin River system. Alternatives may include, but are not limited to, a combination of one or more of the following flood damage reduction measures: adding modifying, and/or re-regulating storage on major tributaries; new transitory storage within flood plains, increasing conveyance by raising levees; widening channels and floodway areas; dredging; and constructing or modifying weirs and bypasses; and various floodplain management measures. Ecosystem restoration measures may include, but are not limited to, restoring riparian, wetland, and floodplain habitats, and/or constructing setback levees for habitat restoration.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

____	Air Resources Board	X	Office of Emergency Services
X	Boating & Waterways, Department of	X	Office of Historic Preservation
____	California Highway Patrol	____	Office of Public School Construction
X	Caltrans District #10	X	Parks & Recreation, Department of
____	Caltrans Division of Aeronautics	____	Pesticide Regulation, Department of
____	Caltrans Planning	____	Public Utilities Commission
X	Central Valley Flood Protection Board	X	Regional WQCB # 5
____	Coachella Valley Mtns. Conservancy	____	Resources Agency
____	Coastal Commission	____	S.F. Bay Conservation & Development Comm.
____	Colorado River Board	____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
____	Conservation, Department of	____	San Joaquin River Conservancy
____	Corrections, Department of	____	Santa Monica Mtns. Conservancy
X	Delta Protection Commission	____	State Lands Commission
____	Education, Department of	____	SWRCB: Clean Water Grants
____	Energy Commission	____	SWRCB: Water Quality
X	Fish & Game Region #2, 3	____	SWRCB: Water Rights
X	Food & Agriculture, Department of	____	Tahoe Regional Planning Agency
____	Forestry and Fire Protection, Department of	____	Toxic Substances Control, Department of
____	General Services, Department of	X	Water Resources, Department of
____	Health Services, Department of		
____	Housing & Community Development	____	Other: ____
____	Integrated Waste Management Board	____	Other: ____
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date January 15, 2010 Ending Date February 15, 2010

Lead Agency (Complete if applicable):

Consulting Firm: ____
Address: ____
City/State/Zip: ____
Contact: ____
Phone: ____

Applicant: San Joaquin Area Flood Control Agency
Address: 22 East Weber Avenue, Suite 301
City/State/Zip: Stockton, CA 95202-2317
Phone: (209) 937-7900

Signature of Lead Agency Representative: James B. Giottonini *Roger Churchwell* For **Date:** 01/14/2010

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

REGISTRY
MAILING LIST

emailed via 1/15/10

First	Last	Title	Affiliation	Address	State/City/Zip	Phone	E-Mail
	Federal Participants						
Dennis	Cardoza	Congressman, 18th District	U.S. House of Representatives	Merced County Administration Bldg., 2222 M Street, Suite 305	Merced, CA 95340	(209) 383-4455	
Jerry	McNerney	Congressman, 11th District	U.S. House of Representatives	PO Box 12022	Pleasanton, CA 94588	(925) 833-0643	
Barbara	Boxer	Senator	U.S. Senate	501 I Street, Suite 7-600	Sacramento, CA 95814	(916) 448-2787	
Dianne	Feinstein	Senator	U.S. Senate	One Post Street, Suite 2450	San Francisco, CA 94104	(415) 393-0707	
Gary	Prost	Field Representative for Congressman McNerney	U.S. Government	2222 Grand Canal Blvd., #7	Stockton, CA	(202) 476-5552	gary.prost@mail.house.gov
Deedee	D'Adamo	Sr. Policy Advisor for Congressman Cardoza	U.S. Government	1010 10th Street, Suite 5800	Modesto, CA 95354	(209) 527-1914	DDADAMO@EARTHLINK.NET
Colonel	Chapman	District Commander	U.S. Army Corps of Engineers	1325 J Street	Sacramento, CA 95814	(916) 557-7490	Thomas.C.Chapman.COL@usace.army.mil
Frank	Piccola	Chief, Planning	U.S. Army Corps of Engineers	1325 J Street	Sacramento, CA 95814	(916) 557-6735	Francis.C.Piccola@spk01.usace.army.mil
Kevin	Knuuti	Chief, Engineering Div.	U.S. Army Corps of Engineers	1325 J Street	Sacramento, CA 95814	(916) 557-7623	Kevin.Knuuti@usace.army.mil
Brandon	Muncy	Chief, Civil Works Br.	U.S. Army Corps of Engineers	1325 J Street	Sacramento, CA 95814	(916) 557-6682	Brandon.C.Muncy@spk01.usace.army.mil
Michelle	Williams	Project Manager	U.S. Army Corps of Engineers	1325 J Street	Sacramento, CA 95814	(916) 557-7098	Michelle.R.Williams@usace.army.mil
Cindy	Tejeda	South Pacific Division	U.S. Army Corps of Engineers	1455 Market Street	San Francisco, CA 94105	(415) 503-6572	cindy.l.tejeda@usace.army.mil
Kathy	Schaefer	Region IX Engineer	Federal Emergency Management Agency	1111 Broadway, Suite 1200	Oakland, CA 94607-4052	(510) 292-9075	kathleen.schaefer@dhs.gov
Susan	Jones	Director	U.S. Fish & Wildlife Service	2800 Cottage Way, Rm. W-2605	Sacramento, CA 95825-1888	(916) 414-6600	susan_p_jones@fws.gov
	State Participants						
Jose	Morales	Rep for Lois Wolk Sen District #5	Rep. for Senator Lois Wolk	State Capitol, Room 5066	Sacramento, CA 95814	(916) 651-4005	jose.morales@sen.ca.gov
Jeff	Denham	Senator	State Senate, 12th District	1231 8th Street, Suite. 175	Modesto, CA 95354	(209) 577-6592	senator.denham@sen.ca.gov
Bob	Wiedman	Dep Dist Dir Rep for Dave Cogdill Sen Dist #14	Rep. for Senator Cogdill	1308 W. Main Street, Ste. C	Ripon, CA 95366	(209) 599-8540	bob.wiedman@sen,ca.gov
Dave	Cogdill	Senator	State Senate, 5th District	1308 W. Main Street, Ste. C	Ripon, CA 95366	(209) 599-8540	bob.wiedman@sen.ca.gov
Brian	Regnart	Rep for Bill Berryhill, Assembly Dist #26	Rep. for Assemblymember Berryhill	4557 Quail Lakes Dr. Ste C-3	Stockton, CA 95207	(209) 473-6972	adam.struck@asm.ca.gov
Bill	Berryhill	Assemblymember, 26th District	State Assembly	4557 Quail Lakes Dr. Ste C-3	Stockton, CA 95207	(209) 473-6972	adam.struck@asm.ca.gov
Anne	Baird	Rep. for Alyson Huber, Assembly Dist #10	Rep. for Assemblymember Huber	218 W. Pine Street	Lodi, CA 95240	(209) 333-5330	anne.baird@asm.ca.gov
Alyson	Huber	Assemlymember, 10th District	State Assembly	218 W. Pine Street	Lodi, CA 95240	(209) 333-5330	anne.baird@asm.ca.gov
Victor	Francovich	Rep Cathleen Galgiani, Assembly Dist #17	Rep. for Assemblymember Cathleen Galgiani	31 E. Channel St., Suite 306	Stockton, CA 95202	(209) 948-7479	victor.francovich@asm.ca.gov
Cathleen	Galgiani	Assemblymember, 17th District	State Assembly	31 E. Channel St., Suite 306	Stockton, CA 95202	(209) 948-7479	victor.francovich@asm.ca.gov
		Planning Department	CALTRANS District 10	1976 E Charter Way / East Dr. Martin Luther King Jr. Blvd	Stockton, CA 95205-7015	(209) 948-7543	robert_boswell@dot.ca.gov
Jay	Punia	Executive Officer	Central Valley Flood Protection Board	3310 El Camino Avenue, Rm LL40	Sacramento, CA 95821	(916) 574-0609	jpunia@water.ca.gov
Ben	Carter	Board President	Central Valley Flood Protection Board	3310 El Camino Avenue, Rm LL40	Sacramento, CA 95821	(916) 574-0609	lpendleb@water.ca.gov
Teri	Rie	Board Member	Central Valley Flood Protection Board	3310 El Camino Avenue, Rm LL40	Sacramento, CA 95821	(916) 574-0609	teririe@comcast.net
Gary	Bardini	Chief of Flood Management	Department of Water Resources	3310 El Camino Avenue, Rm LL60	Sacramento, CA 95821	(916) 574-0601	gbardini@water.ca.gov
Eric	Koch		Department of Water Resources	3310 El Camino Avenue, Rm 140	Sacramento, CA 95821	(916) 574-0385	ekoch@water.ca.gov
	Local Participants						
Leroy	Ornellas	Board Member	Board of Supervisors, District 5	44 N. San Joaquin St., 6th Flr., Ste 627	Stockton, CA 95202	(209) 468-3113	lornellas@sjgov.org
Carlos	Villapudua	Chairman	Board of Supervisors, District 1	44 N. San Joaquin St., 6th Flr., Ste 627	Stockton, CA 95202	(209) 468-3113	cvillapadua@sjgov.org

REGISTRY
MAILING LIST

First	Last	Title	Affiliation	Address	State/City/Zip	Phone	E-Mail
Larry	Ruhstaller	Vice Chairman	Board of Supervisors, District 2	44 N. San Joaquin St., 6th Flr., Ste 627	Stockton, CA 95202	(209) 468-3113	lruhstaller@sjgov.org
Steve J	Bestolarides	Board Member	Board of Supervisors, District 3	44 N. San Joaquin St., 6th Flr., Ste 627	Stockton, CA 95202	(209) 468-3113	sbestolarides@sjgov.org
Ken	Vogel	Board Member	Board of Supervisors, District 4	44 N. San Joaquin St., 6th Flr., Ste 627	Stockton, CA 95202	(209) 468-3113	kvogel@sjgov.org
Anne	Castillou	Project Development/Habitat Plan	County of San Joaquin, Council of Governments	555 E Weber Avenue	Stockton, CA 95202-3016	(209) 235-0449	castillou@sjcog.org
Steve	Mayo	Project Development/Habitat Plan	County of San Joaquin, Council of Governments	555 E Weber Avenue	Stockton, CA 95202-3016	(209) 235-0449	mayo@sjcog.org
David E.	Wooten	Office of the County Counsel	San Joaquin County	44 N. San Joaquin St., 6th Flr., Ste 679	Stockton, CA 95202	(209) 468-2980	
Terrence	Dermody	Special Water Counsel	San Joaquin County	44 N. San Joaquin St., 6th Flr., Ste 679	Stockton, CA 95202	(209) 468-2980	trpd@aol.com
Phonxay	Keokham	Rep. County Administrators Office	San Joaquin County	222 E. Weber Avenue, Room 707	Stockton, CA 95202	(209) 468-3203	pkeokham@sjgov.org
Tom	Flinn	P W Director	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 468-3100	tflinn@sjgov.org
Steve	Winkler	Deputy PW Director	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 468-3031	swinkler@sjgov.org
Mel	Lytle	Water Resources Coordinator	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 468-9360	mlytle@sjgov.org
Butch	Waddle	Channel Maint Superintendant	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 468-9698	lwaddle@sjgov.org
Mark	Connelly	Engineering Serv Mgr	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 953-7617	mconnelly@sjgov.org
Candis	Oldham	Program Assistant	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 468-3174	coldham@sjgov.org
Katina	Conn	Management Analyst II	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95205	(209) 468-3061	kconn@sjgov.org
Ron	Baldwin	Director, Emergency Ops	San Joaquin County	2101 E. Earhart Ave., Suite 300	Stockton, CA 95206	(209) 953-6200	rbaldwin@sjgov.org
Kerry	Sullivan	Director, Community Development Department	San Joaquin County	1810 E. Hazelton Avenue	Stockton, CA 95202	(209) 468-3121	ksullivan@sjgov.org
Susan	Palmeri	Director, Stockton Metro Airport	San Joaquin County	5000 S. Airport Way	Stockton, CA 95206	(209) 953-6000	spalmeri@sjgov.org
Donna	Heran, REHS	Environmental Health Department	San Joaquin County	600 E. Main Street	Stockton, CA 95202	(209) 468-3420	dbrownfield@sjcehd.com
Steve	Salvatore	Director, Public Works	City of Lathrop	390 Towne Centre Drive	Lathrop, CA 95330-9358	(209) 941-7491	ssalvatore@ci.lathrop.ca.us
		Planning Department	City of Lathrop	390 Towne Centre Drive	Lathrop, CA 95330-9358	(209) 941-7290	
		Planning Department	City of Lodi	221 West Pine Street	Lodi, CA 95241-1910	(209) 333-6711	
Jim	Stone	Dept. of Public Works	City of Manteca	1001 W. Center St.	Manteca, CA 95337	(209) 825-2592	jstone@ci.manteca.ca.us
Ken	Zuidervaart	Director of Planning	City of Ripon	259 N. Wilma Avenue	Ripon, CA 95366	(209) 599-2108	kzuidervaart@cityofripon.org
Jim	Giottonini	Executive Director	SJAFCA	22 E. Weber Ave., Suite 301	Stockton, CA 95202-2317	(209) 937-8339	jim.giottonini@ci.stockton.ca.us
Diana	Lowery	Councilmember Dist 4, SJAFCA Vice-Chairperson	Stockton City Council/SJAFCA Board	425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8244	diana.lowery@ci.stockton.ca.us
		Administrator/Engineer	City of Stockton	City Hall, 425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8460	
Connie	Cochran	Public Information Officer	City of Stockton	City Hall, 425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8827	connie.cochran@ci.stockton.ca.us
Kevin	O'Rourke	Interim City Manager	City of Stockton, City Manager's Office	City Hall, 425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8212	CityManager@ci.stockton.ca.us
Richard E.	Nosky, Jr.	City Attorney	City of Stockton, Office of the City Attorney	City Hall, 425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8333	
John	Luebberke	Assistant City Attorney	City of Stockton, Office of the City Attorney	City Hall, 425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8333	
Mike	Niblock	Director	City of Stockton, Community Development Services	345 N. Eldorado Street	Stockton, CA 95202	(209) 937-8561	
Mark	Madison	Director	City of Stockton Municipal Utilities District	2500 Navy Drive	Stockton, CA 952026	(209) 937-8700	Mark.Madison@ci.stockton.ca.us
Tony	Tovar	Senior Civil Engineer	City of Stockton Municipal Utilities District	2500 Navy Drive	Stockton, CA 952026	(209) 937-8790	Antonio.Tovar@ci.stockton.ca.us
Lance	Calkins	Chief	City of Stockton, Fire Department	City Hall, 425 N. El Dorado Street	Stockton, CA 95202	(209) 937-8801	Lance.Calkins@ci.stockton.ca.us
	Reclamation Districts						

REGISTRY
MAILING LIST

First	Last	Title	Affiliation	Address	State/City/Zip	Phone	E-Mail
Susan	Dell'Osso	Project Director	River Islands at Lathrop	73 W. Stewart Road	Lathrop, CA 95330	(209) 879-7900	sdellosso@cambaygroup.com
Ramon	Batista	Director of Planning	River Islands at Lathrop	73 W. Stewart Road	Lathrop, CA 95330	(209) 879-7900	rbatista@cambaygroup.com
John	Cain	Director, Restorations Program	Natural Heritage Institute	100 Pine St., Suite 1550	San Francisco, CA 94708	(415) 693-3000	jcain@n-h-i.org
Dante	Nomellini	Principal Attorney	RD 17	PO Box 1461	Stockton, CA 95201	(209) 465-5883	ngmplcs@pacbell.net
Chris	Neudeck	Kjeldsen-Sinnock, Nuedeck	RD1,2,17,524,544,2023,2027,2030, 2040, 2042,2089,2095,2113,2115, 2119, 2126	P.O. Box 844	Stockton, CA 95201	(209) 946-0268	cneudeck@ksninc.com
Drew	Meyers	District Trustee	RD 1608, Smith Track	3868 Fourteen Mile Dr.	Stockton, CA 95219	(209) 403-1223	cdrusn9057@aol.com
Al	Hoslet	Principal Attorney	RD 2042, Bishop Tract	311 East Main Street, Suite 504	Stockton, CA 95202	(209) 943-5551	ahoslett@sbcglobal.net
Anthony	Lopes	Siegfried Engineering	RD 2074	3244 Brookside Road	Stockton, CA 95219	(209) 943-2021	ajlopes@siegfriedeng.com
Jeff	Kasper	Deputy Port Director	Port of Stockton	2201 W. Washington Street	Stockton, CA 95203	(209) 946-0246	portmail@stocktonport.com
	Consultants						
Scott	Brown	Supervising Engineer	Parsons Brinckerhoff	3840 Rosin Court, Suite 200	Sacramento, CA 95834	(916) 567-2506	brownsc@pbworld.com
Cheryl	Creson	Local Business Executive	Parsons Brinckerhoff	3480 Rosin Court, Suite 200	Sacramento, CA 95834	(916) 526-2500	creson@pbworld.com
Dave	Peterson	Principal	Peterson Brusted Inc.	1180 Iron Point Road, Suite 260	Folsom, CA 95630	(916) 792-6285	dpeterson@pbieng.com
Barry	O'Regan	Vice President	Peterson Brusted Inc.	1180 Iron Point Road, Suite 260	Folsom, CA 95630	(916) 608-2232	boregan@pbieng.com
Jeff	Twitchill	Office Principal	Wood Rogers	3301 C Street, Bdlg 100B	Sacramento, CA 95816	(916) 326-5225	jtwitchell@woodrogers.com
Michael	Conrad	Office Principal	Michael Baker Jr., Inc.	1730 I Street, Ste. 100	Sacramento, CA 95834	(916) 329-3169	mconrad@mbakercorp.com
	Other Agenicies/ Individuals/Groups						
Will	Price	Professor	UOP, Business and Engineering Management	3601 Pacific Ave.	Stockton, CA 95211	(209) 946-2638	wprice@pacific.edu
Ravi	Jain	Dean	UOP, School of Engineering and Computer Science	Baun 3rd Floor, 3601 Pacific Ave.	Stockton, CA 95211	(209) 946-3066	rjain@pacific.edu
Ted	Leland	Vice President	UOP, Community Relations	3601 Pacific Ave.	Stockton, CA 95211		tleland@pacific.edu
Mark	Plovnick	Director	UOP, Office of Economic Development	3601 Pacific Ave.	Stockton, CA 95211	(209) 946-2466	mplovnick@pacific.edu
Will	Stringfellow	Professor	UOP, Environmental Research Center	Sears 116, 3601 Pacific Ave.	Stockton, CA 95211	(209) 946-2497	wstringfellow@pacific.edu
Camilla	Saviz	Professor	UOP, School of Engineering and Computer Science	Anderson 208, 3601 Pacific Ave.	Stockton, CA 95211		csaviz@pacific.edu
Gary	Litton	Professor	UOP, School of Engineering and Computer Science	Anderson 205, 3601 Pacific Ave.	Stockton, CA 95211	(209) 946-3070	glitton@pacific.edu
Walter	McInnis	President	San Joaquin Audobon Society	PO Box 7755	Stockton, CA 95267	(209) 473-3904	kaseyfoley@sbcglobal.net
John	Beckman	Executive Director	Building Industry Association of the Delta	315 N. San Joauqin Street, 202	Stockton, CA 95202	(209) 235-7831	johnb@biadelta.org
			Sierra Club Foundation - Delta Sierra Group	PO Box 9258	Stockton, CA 95208		dsg.webmaster@mlc.sierraclub.org
Barbara	Barrigan-Parrilla	Campaign Director	Restore the Delta	PO Box 691088	Stockton, CA 95269	(209) 479-2053	Barbara@restorethedelta.org
Linda	Fiack	Executive Director	Delta Protection Commission	14215 River Road	Walnut Grove, CA 95690	(916) 776-2290	dpc@citlink.net
Margit	Aramburu	Director	UOP Natural Resources Institute	Baun Hall, 3601 Pacific Avenue	Stockton, CA 95211	(831) 419-0905	margithind@comcast.net
Bill	Jennings	Executive Director	California Sportfishing Protection Alliance	3536 Rainier Avenue	Stockton, CA 95204	(209) 464-5067	deltakeep@ol.com
Jeremy	Terhune	San Joaquin Valley Representative	Friends of the Lower Calaveras	4555 Pershing Ave., #33-373	Stockton, CA 95207	(209) 922-8215	jterhune@defenders.org
James	Ramos	Chairman	Native American Heritage Commission	915 Capital Mall, Room 364	Sacramento, CA 95814	(916) 653-4082	nahc@pacbell.net
Katerine	Perez	Representative	Connections North Valley Yokut Tribe	PO Box 4123	Stockton, CA 95204		
		CEQA-ISR Division	San Joaquin Valley APCD	1990 E. Gettysburg Avenue	Fresno, CA 93726		

REGISTRY
MAILING LIST

	First	Last	Title	Affiliation	Address	State/City/Zip	Phone	E-Mail
		UTILITIES						
			Aqueduct Section	East Bay Mud	PO Box 228	Stockton, CA 95201		
	George	Biagi, Jr.	President	Central Delta Water Agency	PO Box 1461	Stockton, CA 95201	(209) 465-5883	
				North Delta Water Agency	921 11th Street, #703	Sacramento, CA 95814		
	John	Herrick	Counsel & Manager	South Delta Water Agency	4255 Pacific Avenue, Suite 2	Stockton, CA 95207	(209) 956-0150	jherrlaw@aol.com
	Anders	Christiansen	General Manager	Woodbridge Irrigation District	18777 N. Lower Sacramento Rd.	Stockton, CA 95258	(209) 369-6808	wid2000@softcom.net
	Kevin	Kauffman		Stockton East Water District	PO Box 5157	Stockton, CA 95205-7015		
			Manager of Engineering	Union Paciic RailRoad	833 East 8th Street	Stockton, CA 95206		
			Attention: Land Agent	PG&E Land Rights Office	4040 West Lane	Stockton, CA 95201		
	Ed	Harrington	General Manager	San Francisco Public Utilities District	1155 Market Street	San Francisco, CA 95103	(415) 554-1600	eharrington@sfwater.org
	Juan	Acosta	Director, Govt. Affairs	Burlington Northern & SFRR	2500 Lou Menk Dr.	Fort Worth, TX 76131		
				California Water Service	1550 W Fremont Street, Suite 100	Stockton, CA 95203	(209) 547-7900	
				COMCAST	6505 Tam O'Shanter Drive	Stockton, CA 95210	(800) 866-2278	
	Robert	Ocosta		Pacific Bell	44 W Yokuts Avenue	Stockton, CA 95207		
	Thomas	Samaniego	Sr. New Business Rep.	Pacific Gas & Electric, Estimating & Mapping Department	PO Box 930	Stockton, CA 95201-0930	(209) 942-1793	TJS7@pge.com
				AT&T	4950 Pacific Avenue	Stockton, CA 95207-2307	(209) 952-9161	
	Greg	Carney	President, Chief Operating Officer	Stockton Terminal Eastern RR Co.	1330 N. Broadway Avenue	Stockton, CA 95205	(209) 466-7001	greg@sterailroad.com

Edwards, Douglas M SPK

From: Marlo Duncan [Marlo.Duncan@ci.stockton.ca.us]
Sent: Wednesday, January 13, 2010 3:03 PM
To: Marlo Duncan
Subject: Public Scoping Meeting Notice

Attachments: Scoping Meeting Notice Jan 27 at UOP.pdf

Scoping Meeting Notice Jan 27 ...

NOTICE OF INTENT TO PREPARE A JOINT ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

Dear Mail Recipient,
Attached is a Public Scoping Meeting Notice concerning the Lower San Joaquin River Feasibility Study. The meeting will be held at 6:00 p.m. on Wednesday, January 27, 2010 at the University of the Pacific, Regent's Dining Room - Anderson Hall, 3601 Pacific Avenue, Stockton, CA. See attachment for further detail, available parking, etc.

You are receiving this email notification because you are on an mail registry list for public scoping meeting notices. If you wish to be removed from this mail recipient list, please reply to this email. Thank you.

Marlo A. Duncan
San Joaquin Area Flood Control Agency
22 E. Weber Avenue, Room 301
Stockton, CA 95202
Marlo.Duncan@ci.stockton.ca.us
(209) 937-7900
Visit our web site at www.sjafca.com <http://www.sjafca.com/>

SJAFCA
San Joaquin Area FLOOD CONTROL Agency
22 E. Weber Avenue, Room 301, Stockton, CA 95202-2317 (209) 937-7900

JOINT ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

SCOPING MEETING NOTICE

DATE/TIME: **WEDNESDAY, JANUARY 27, 2010 AT 6:00 P.M.**

LOCATION: **UNIVERSITY OF THE PACIFIC**
REGENT'S DINING ROOM – ANDERSON HALL
3601 PACIFIC AVENUE, STOCKTON, CA

- Environmental Impact Study/Environmental Impact Report (EIS/EIR) Objectives, Process, and Opportunities for Public Input
- Lower San Joaquin River Feasibility Study EIS/EIR Discussion and Comments

Enclosures

Notice of Intent to Prepare a Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study

AGENCIES: Department of the Army, U.S. Army Corps of Engineers; San Joaquin Area Flood Control Agency.

ACTION: Notice of intent/Notice of preparation.

SUMMARY: The action being taken is the preparation of a joint environmental impact statement/environmental impact report (EIS/EIR) for the Lower San Joaquin River Feasibility Study (LSJRFS). The EIS/EIR will be prepared in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The U.S. Army Corps of Engineers (USACE) will serve as lead agency for compliance with NEPA, and the San Joaquin Area Flood Control Agency (SJAFCA) will serve as lead agency for compliance with CEQA. The LSJRFS will evaluate alternatives, including a locally preferred plan, for providing flood damage reduction and ecosystem restoration along the lower (northern) portion of the San Joaquin River system in the Central Valley of California.

DATES: Written comments regarding the scope of the environmental analysis should be received at (see **ADDRESSES**) by February 15, 2010.

ADDRESSES: Written comments concerning this study and requests to be included on the LSJRFS mailing list should be submitted to Mr. Doug Edwards, U.S. Army Corps of Engineers, Sacramento District, Attn: Planning Division (CESPK-PD-R), 1325 J Street, Sacramento, CA 95814.

FOR FURTHER INFORMATION CONTACT: Mr. Doug Edwards via telephone at (916) 557-7026, e-mail at *Douglas.M.Edwards@usace.army.mil*, or regular mail at (see **ADDRESSES**).

SUPPLEMENTARY INFORMATION:

1. ***Proposed Action.*** USACE is preparing an EIS/EIR to analyze the environmental impacts associated with a range of alternatives for providing flood damage reduction and ecosystem restoration along the lower (northern) portion of the San Joaquin River system (Figure 1).

2. ***Alternatives.*** The EIS/EIR will address an array of alternatives for providing flood risk management alternatives that are intended to reduce flood risk within the project area. Alternatives analyzed during the investigation may include, but are not limited to, a combination of one or more of the following flood damage reduction measures: adding, modifying, and/or re-regulating storage on major tributaries; new transitory storage within flood plains, increasing conveyance by raising levees; widening channels and floodway areas; dredging; and constructing or modifying weirs and bypasses; and various floodplain management measures. Ecosystem restoration measures may include, but are not limited to, restoring riparian, wetland, and floodplain habitats, and/or constructing setback levees for habitat restoration.

3. ***Scoping Process.***

a. A public scoping meeting will be held to present an overview of the LSJRFS and the EIS/EIR process, and to afford all interested parties with an opportunity to provide comments regarding the scope of analysis and potential alternatives. **The public scoping meeting will be held at the University of Pacific, Regent's Dining Room, Anderson Hall, 3601 Pacific Avenue, Stockton, CA on January 27, 2010, from 6:00 – 8:00 p.m.**

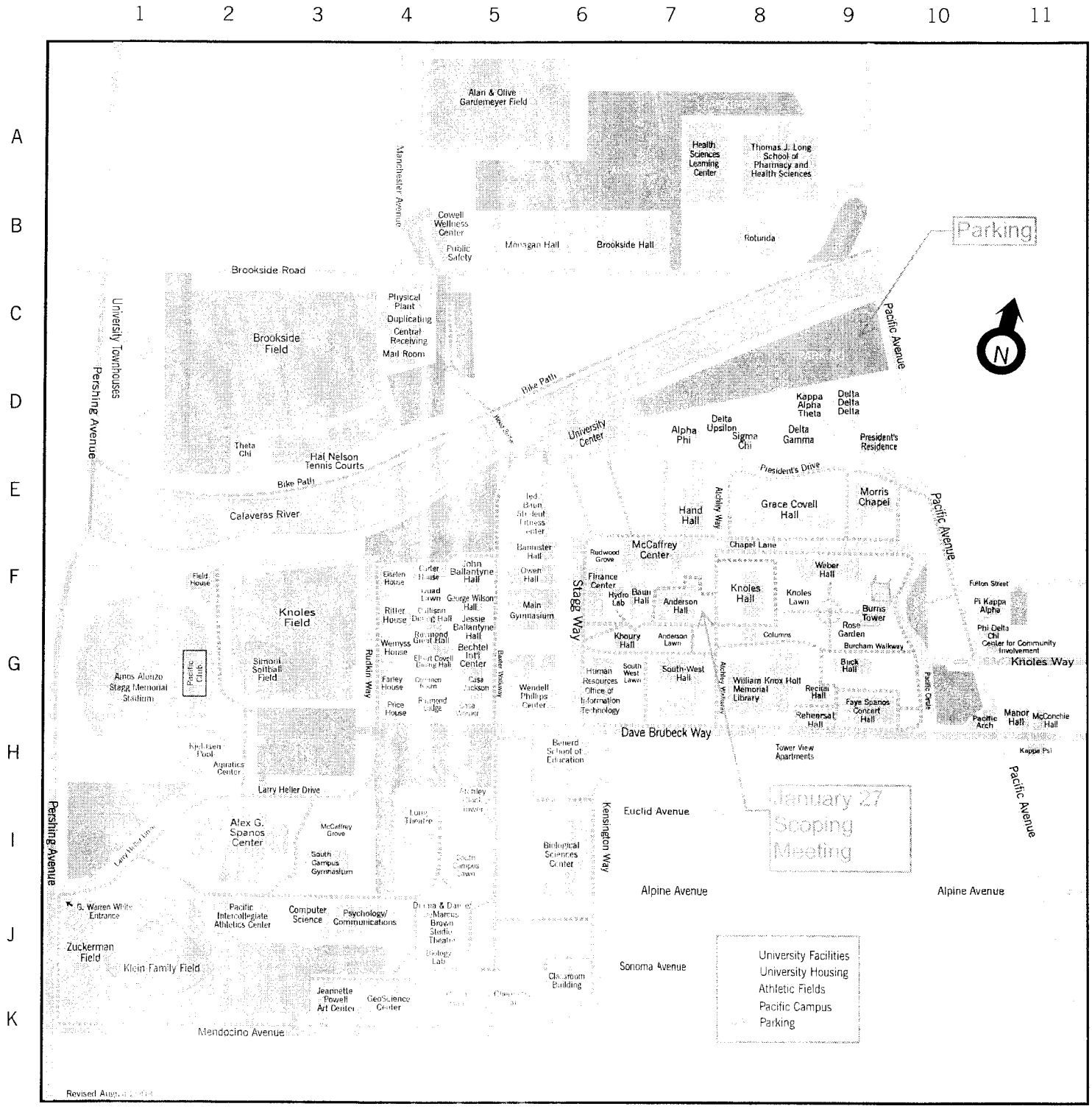
b. Potentially significant issues to be analyzed in depth in the EIS/EIR include project specific and cumulative effects on hydraulics, wetlands and other waters of the U.S., vegetation and wildlife resources, special-status species, esthetics, cultural resources, recreation, land use, fisheries, water quality, air quality, and transportation.

c. USACE is consulting with the State Historic Preservation Officer to comply with the National Historic Preservation Act and with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to comply with the Endangered Species Act. USACE is also coordinating with the U.S. Fish and Wildlife Service to comply with the Fish and Wildlife Coordination Act.

d. A 45-day public review period will be provided for all interested parties individuals and agencies to review and comment on the draft EIS/EIR. All interested parties are encouraged to respond to this notice and provide a current address if they wish to be notified of the draft EIS/EIR circulation.

4. ***Availability.*** The draft EIS/EIR is currently scheduled to be available for public review and comment in 2014.

University of the Pacific



Campus Map

Edwards, Douglas M SPK

From: Marlo Duncan [Marlo.Duncan@ci.stockton.ca.us]
Sent: Tuesday, January 19, 2010 7:47 AM
To: Edwards, Douglas M SPK
Cc: Roger Churchwell; Williams, Michelle R SPK
Subject: RE: Public Scoping Meeting Notice

Yes! This posted on 1/15 ~ our web address is www.sjafca.com and the item can be found on our "News" page. Thanks,

Marlo A. Duncan
San Joaquin Area Flood Control Agency
22 E. Weber Avenue, Room 301
Stockton, CA 95202
Marlo.Duncan@ci.stockton.ca.us
(209) 937-7900
Visit our web site at www.sjafca.com <http://www.sjafca.com/>

>>> "Edwards, Douglas M SPK" <Douglas.M.Edwards@usace.army.mil>
>>> 1/15/2010 8:37 AM >>>

Did SJAFCA post the notice on its website?

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Marlo Duncan [mailto:Marlo.Duncan@ci.stockton.ca.us]
Sent: Wednesday, January 13, 2010 3:03 PM
To: Marlo Duncan
Subject: Public Scoping Meeting Notice

NOTICE OF INTENT TO PREPARE A JOINT ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

Dear Mail Recipient,
Attached is a Public Scoping Meeting Notice concerning the Lower San Joaquin River Feasibility Study. The meeting will be held at 6:00 p.m. on Wednesday, January 27, 2010 at the University of the Pacific, Regent's Dining Room - Anderson Hall, 3601 Pacific Avenue, Stockton, CA. See attachment for further detail, available parking, etc.

You are receiving this email notification because you are on an mail registry list for public scoping meeting notices. If you wish to be removed from this mail recipient list, please reply to this email. Thank you.

Marlo A. Duncan
San Joaquin Area Flood Control Agency
22 E. Weber Avenue, Room 301
Stockton, CA 95202
Marlo.Duncan@ci.stockton.ca.us
(209) 937-7900
Visit our web site at www.sjafca.com <http://www.sjafca.com/>

Edwards, Douglas M SPK

From: Marlo Duncan [Marlo.Duncan@ci.stockton.ca.us]
Sent: Tuesday, January 19, 2010 7:46 AM
To: Edwards, Douglas M SPK
Cc: Roger Churchwell
Subject: RE: Public Scoping Meeting Notice

The Stockton Record (on 1/15)
Manteca Bulletin (1/15)
Lodi News Sentinel (1/15)
Ripon Record (1/13)
Tracy Press (1/16)

>>> "Edwards, Douglas M SPK" <Douglas.M.Edwards@usace.army.mil>
>>> 1/15/2010 8:28 AM >>>

Thanks Marlo. In which newspapers were the notices published?

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Marlo Duncan [mailto:Marlo.Duncan@ci.stockton.ca.us]
Sent: Wednesday, January 13, 2010 3:03 PM
To: Marlo Duncan
Subject: Public Scoping Meeting Notice

NOTICE OF INTENT TO PREPARE A JOINT ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

Dear Mail Recipient,
Attached is a Public Scoping Meeting Notice concerning the Lower San Joaquin River Feasibility Study. The meeting will be held at 6:00 p.m. on Wednesday, January 27, 2010 at the University of the Pacific, Regent's Dining Room - Anderson Hall, 3601 Pacific Avenue, Stockton, CA. See attachment for further detail, available parking, etc.

You are receiving this email notification because you are on an mail registry list for public scoping meeting notices. If you wish to be removed from this mail recipient list, please reply to this email. Thank you.

Marlo A. Duncan
San Joaquin Area Flood Control Agency
22 E. Weber Avenue, Room 301
Stockton, CA 95202
Marlo.Duncan@ci.stockton.ca.us
(209) 937-7900
Visit our web site at www.sjafca.com <http://www.sjafca.com/>

ATTACHMENT 2

Agenda

PowerPoint Presentation

Handouts

Sign-in Sheet

Transcripts

Lower San Joaquin River Feasibility Study
NEPA/CEQA Scoping Meeting

January 27, 2010
6:00 - 7:30 P.M.

University of Pacific, Regent's Dining Room
3601 Pacific Avenue, Stockton, CA

AGENDA

1. **Housekeeping Items**

2. **Host's Welcome**

3. **Local Conditions**

4. **Corps Planning Process**

5. **Environmental Compliance**

6. **Comments**

7. **Open House**

Written comments concerning this study and requests to be included on the Lower San Joaquin River Feasibility Study mailing list should be submitted to Mr. Doug Edwards, U.S. Army Corps of Engineers, Sacramento District, Attn: Planning Division (CESPK-PD-R), 1325 J Street, Sacramento, CA 95814.

Mr. Doug Edwards can be contacted via telephone at (916) 557-7026, or e-mail at Douglas.M.Edwards@usace.army.mil.

US ARMY CORPS OF ENGINEERS

Lower San Joaquin River Feasibility Study

NEPA/CEQA Scoping Meeting
January 27, 2010
6:00 - 7:30 P.M.

University of Pacific, Regent's Dining Room
3601 Pacific Avenue, Stockton, CA

Lower San Joaquin River Feasibility Study

Local Perspective

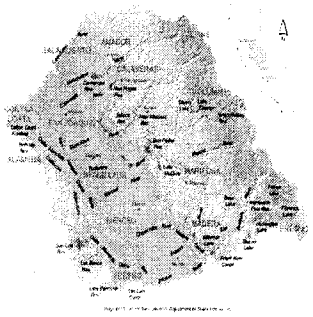
Jim Giottonini
Executive Director

San Joaquin Area Flood Control Agency
(SJAFCA)

www.SJAFCA.com

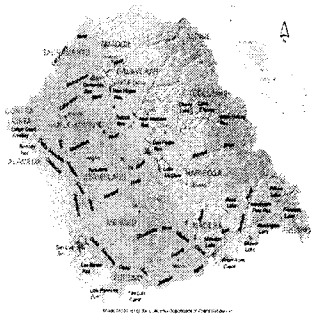
Lower San Joaquin River Feasibility Study

- Flood Damage Reduction Study with opportunities for Ecosystem Restoration
- Study cost estimate at $11Million
- Feasibility Cost Share Agreement signed on February 19, 2009
- Co-sponsors are SJAFCA, and the US Army Corps of Engineers and in the future the State and San Joaquin County Flood Control and Water Conservation District



Lower San Joaquin River Feasibility Study

- Locally we are at the "bottom of the bathtub"
- Streams and Rivers Include: Bear Creek, Mosher Slough, Calaveras River (New Hogan Reservoir), San Joaquin River, French Camp Slough (Duck Creek, and Littlejohns)
- On the west side, levees provide protection from the Delta, an infinite supply of Flood Waters
- Is there a threat of flooding? Living behind levees there is always the threat of a storm larger than the 100-year event or even a levee failure.

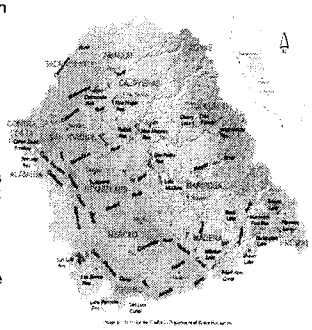


Lower San Joaquin River Feasibility Study

- Locally we are partnering with 10 Reclamation Districts including:

  Mossdale (RD 17), Boggs Tract (RD 404), Rough &Ready (RD 403) Weber Tract (RD 828), Smith Tract (RD 1614) Brookside (RD 2074), Lincoln Village (1608), Shima Tract (RD 2115), Atlas Tract (RD 2126, Bishop Tract (RD 2042)

  Also San Joaquin County Flood Control and Water Conservation District, and the City of Lodi.



Current Status of Levees

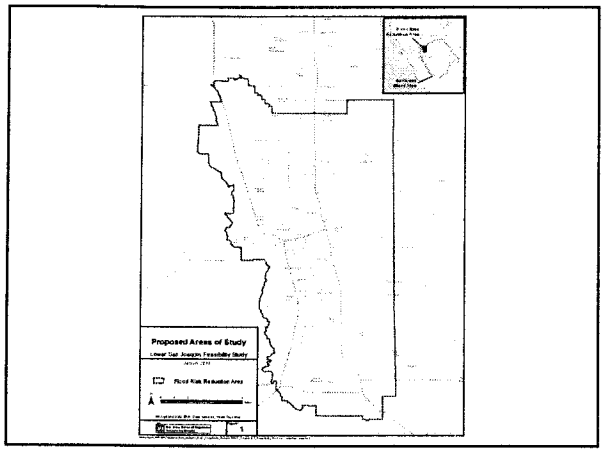
- The majority of our levees protecting urban areas meet FEMA 100-year flood protection requirements or are Provisionally Accredited by FEMA
- The levees along Smith Canal have been disaccredited by FEMA

SB 5 Requirements

- New State legislation went into law in 2007.
  - Mandating 200-year level of protection for urban areas
    - Plan in place by 2015
    - Protection in place by 2025

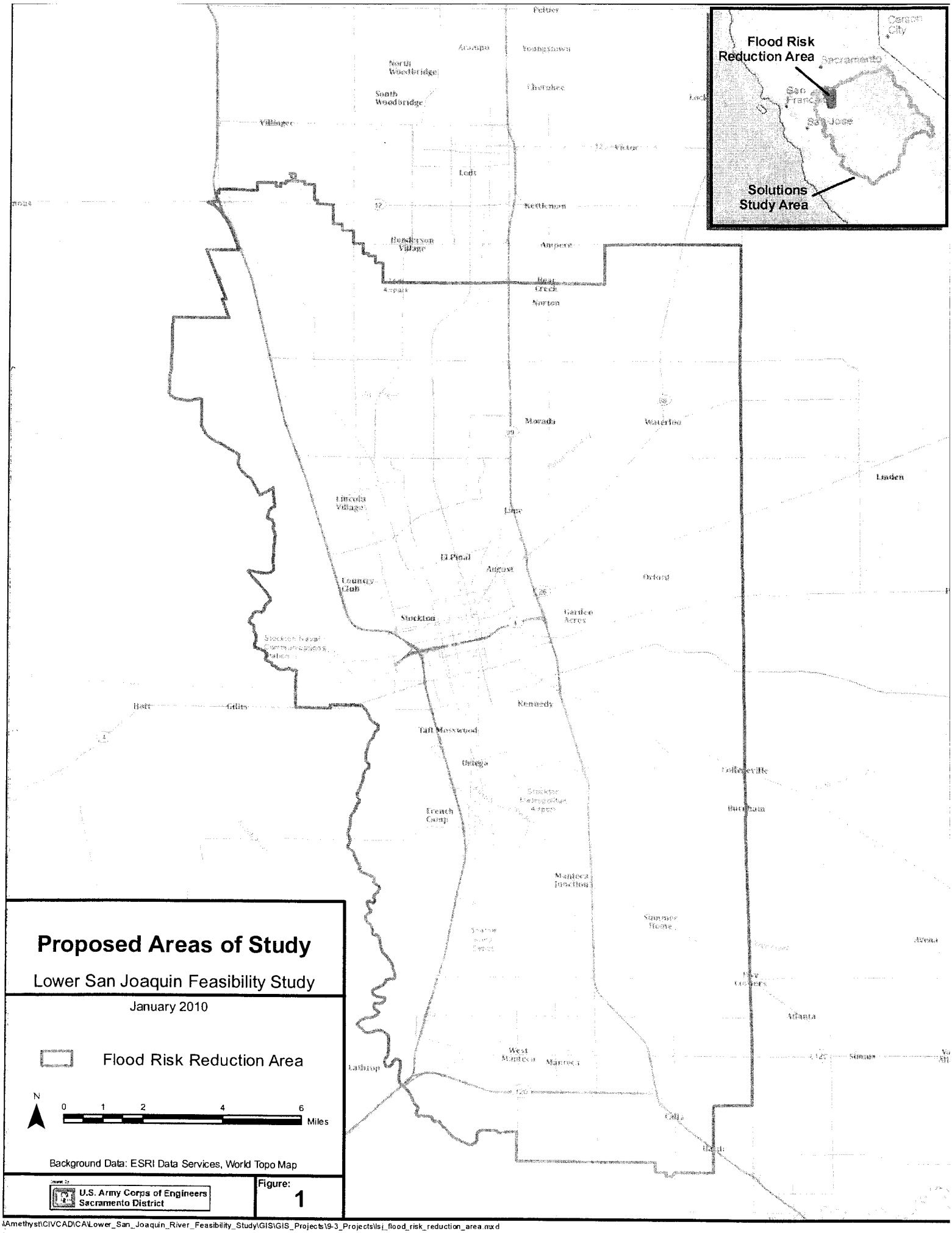
U.S. ARMY CORPS OF ENGINEERS

- Project Delivery Team
- Study Evolution and Milestones
- Corps Planning Process
- Environmental Compliance



US ARMY CORPS OF ENGINEERS: PLANNING AND ENVIRONMENTAL COMPLIANCE

Planning Process Steps	Corps Feasibility Study Milestone System	NEPA/CEQA Requirements
Identify Problems and Opportunities	Initiate Feasibility Study (F1)	Define project purpose and need, Publish Notice of Intent/Notice of Preparation
	Public Workshop/Scoping (F2)	Conduct scoping process
Inventory and Forecast	Feasibility Scoping Meeting (F3)	Write description of proposed action and statement of purpose and need. Describe existing conditions
Alternative Formulation	Alternative Review Conference (F4)	Define Alternatives/Begin evaluation of impacts
Alternative Evaluation Alternative Comparison	Alternative Formulation Briefing (F4a)	Evaluate impacts/compare alternatives/develop mitigation
Identify Tentatively Recommended Plan	Draft Feasibility Report (F5)	Draft Environmental Impact Statement (EIS) / Environmental Impact Report (EIR). Public notice and 45-day public review
	Public Meeting(s) (F6)	
	Feasibility Review Conference (F7)	
	Final Report to Division and HQ (F8)	Final EIS/EIR: Response to comments and concerns
	Civil Works Review Board	
Select Recommended Plan	State/Agency 30-day review	Final EIS/EIR. Public notice and 30-day public review
	Chief of Engineer's Report to ASA (CW)	
	ASA (CW) transmits Chief's Report to OMB	Record of Decision
	ASA transmits Chief's Report to Congress	
	Congressional Authorization	



Proposed Areas of Study

Lower San Joaquin Feasibility Study

January 2010

Flood Risk Reduction Area

N

0 1 2 4 6 Miles

Background Data: ESRI Data Services, World Topo Map

U.S. Army Corps of Engineers
Sacramento District

Figure: 1

\\Amethyst\CIVCAD\CA\Lower_San_Joaquin_River_Feasibility_Study\GIS\GIS_Projects\9-3_Projects\lsj_flood_risk_reduction_area.mxd

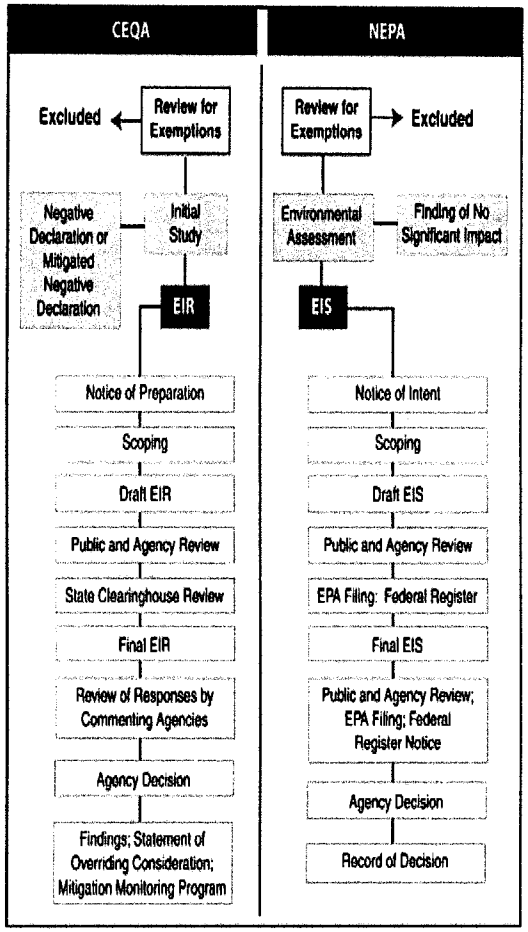
US CORPS OF ENGINEERS: NEPA/CEQA OVERVIEW

National Environmental Policy Act (NEPA): Requires that federal agencies prepare an Environmental Impact Statement (EIS) for major federal actions that may significantly affect the quality of the human and natural environment.

California Environmental Quality Act (CEQA): Requires that California state and local agencies prepare an Environmental Impact Report (EIR) for actions that significantly affect the quality of the human and natural environment.

EIS/EIR: An EIS/EIR is a public document that provides an assessment of the potential environmental impacts resulting from a proposed action and alternatives. The EIS/EIR will be comprised of the following sections:

Project Description
Project Alternatives
Existing Conditions
Environmental Consequences
Mitigation Measures



NEPA/CEQA FLOWCHART

Impact Analysis: Environmental resource areas to be evaluated in an EIS/EIR include, but are not limited to: air quality, biology, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation and traffic.

Outreach: Official notification of project milestones (i.e. initiation of the study, availability of the draft and final EIS/EIR, and issuance of the record of decision) will be made through the following channels: the Federal Register, the State Clearinghouse, appropriate regional newspapers, the project mailing list, and lead agency websites.

Public Input: There are several opportunities for input regarding the project's potential to impact the quality of the human and natural environment.

Scoping Period (30 days)
Draft EIS/EIR (45 days)
Final EIS/EIR (30 days)

US ARMY CORPS OF ENGINEERS: PLANNING AND ENVIRONMENTAL COMPLIANCE

Planning Process Steps	Corps Feasibility Study Milestone System	NEPA/CEQA Requirements
Identify Problems and Opportunities	Initiate Feasibility Study (F1)	Define project purpose and need. Publish Notice of Intent/Notice of Preparation
	Public Workshop/Scoping (F2)	Conduct scoping process
Inventory and Forecast	Feasibility Scoping Meeting (F3)	Write description of proposed action and statement of purpose and need. Describe existing conditions
Alternative Formulation	Alternative Review Conference (F4)	Define Alternatives/Begin evaluation of impacts
Alternative Evaluation Alternative Comparison	Alternative Formulation Briefing (F4a)	Evaluate impacts/compare alternatives/develop mitigation
Identify Tentatively Recommended Plan	Draft Feasibility Report (F5)	Draft Environmental Impact Statement (EIS) / Environmental Impact Report (EIR): Public notice and 45-day public review
	Public Meeting(s) (F6)	
Select Recommended Plan	Feasibility Review Conference (F7)	Final EIS/EIR: Respond to comments and concerns
	Final Report to Division and HQ (F8)	
	Civil Works Review Board	
	State/Agency 30-day review	Final EIS/EIR: Public notice and 30-day public review
	Chief of Engineer's Report to ASA (CW)	Record of Decision
	ASA (CW) transmits Chief's Report to OMB	
	ASA transmits Chief's Report to Congress	
	Congressional Authorization	

US Army Corps of Engineers
BUILDING STRONG ®

SIGN IN SHEET / MAILING LIST

SCOPING MEETING: **LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY**

NAME	ADDRESS	ORGANIZATION	MAILING LIST? YES	MAILING LIST? NO
Bob Hurst	4622 Saint Andrews Dr, Stockton	bob_hurst@msn.com	X	
Ellen Powell	1317 E. Weber	US Congress Candidate	X	
Elizabeth Hewert	1416 9th St room 1148, 95814	DWR - FESERC	X	
John Brodie	3422 W. Hammer Ln. Ste. A. 95219	SJ County RCD	X	
Michael Sabbaghian	3310 El Camino Ave, #140, Sacto	DWR - DFM		
STEVE MAYO	555 E. WEBER AVE STK 95202	SJCOG	X	
GEMMA FISCOCHO	22 E. WEBER AVE., #301, STOCKTON, CA 95202	SJAFCA		
Eric Elias	345 N. EL DORADO ST Stockton CA 95202	C.O.S. BUILDING	X	
ROGENE REYNOLDS	4444 W. UNIONE RD, STOCKTON CA 95206	LANDOWNER	X	
Max Vargas	31 E. Channel St. #396, Stockton, CA 95202	Assemblymember Galgiani's Office	✓	
Cheryle Lawson		SJAFCA		
Barry O'Regan	119 E Weber Avenue, Stockton CA	95201, Peterson Brustad	✓	
Katina Conn	San Joaquin County 1810 E Hazelton		✓	
Margit Aramburu	Pacific	Pacific	✓ elist	
RICHARD RILEY	591 NALPINE RD STOCKTON 95215	COUNTY RESIDENT	✓	
JUAN NEIRA	22 E WEBER AVE	SJAFCA	✓	

US Army Corps of Engineers
BUILDING STRONG ®

SIGN IN SHEET / MAILING LIST

SCOPING MEETING: **LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY**

NAME	ADDRESS	ORGANIZATION	MAILING LIST? YES	MAILING LIST? NO
John Grant	8444 W Sacramento Ave	—	X	
Russ Brown	630 K St Sacramento 95814	ICF International		X
Dennis Westcot	716 Valencia Ave, Davis 95616	SJRGA	Need to be X	
Jessica Ludy	1413 Pine, Martinez	American Rivers		x
W Stringfellow	3601 Pacific Ave, UOP, Searsfall	Univ of Pacific	X	
~~Teresa Schneeo~~	—	W.R.I. for the Port of Stockton		
Dominick Gulli	1314 Paloma Stkn 95209	Green Mtn Engineering	✓	
John VanRyn	3422 W Hammer Lane Stockton 95219	USDA - NRCS	X	
Tom Rosten	227 Alvarado Way, Tracy CA 95376	R.D. 404	✓	

US Army Corps of Engineers
BUILDING STRONG ®

SIGN IN SHEET / MAILING LIST

SCOPING MEETING: **LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY**

NAME	ADDRESS	ORGANIZATION	MAILING LIST? YES	MAILING LIST? NO
DAN G. [illegible]	519 W. Locust St Lodi CA 95240	CDF+G	X	
N. J. Towey	6237 Embarcadero Suite D			X
Charlie Simpson	6653 Embarcadero Stk 95219	In Site Env	X	
Marlo Duncan	22 E Weber Ave #301 95202	SSAFCA		X
Ravi Jain	3601 Pacific Ave Stockton	Univ. of the Pacific		X
Deborah Condon	2825 Watt Ave Sacramento 95211	DWR-DFM	X	
Julie Rentner	1301 L St. #4 Modesto 95354	River Partners	X	

1/27/2010

Notice of Intent to Prepare a Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study

JUDITH: You came here to get information and have a presentation this evening, so I'll get on with it. First, I'm going to go through a couple of housekeeping details. My name is Judith Buethe. I'm to here facilitate the meeting this evening, and I want to thank the different parties for hosting the meeting. And in just a couple of minutes, we'll hear from the Dean of the School of Engineering. Again, this meeting is to provide information about the study that's underway. You'll hear speakers and also we'll provide the opportunity for you to provide comments that should be addressed in the environmental studies. So, it's kind of a listening evening. If you would, please hold your comments until the comment period, so we can go through the entire presentation, and if you haven't filled out a request-to-speak card, or a comment card, you still have plenty to have time to do so. Marlo back there will be happy to hand one to you. And when we do get to the comment period, I'm going to ask you to limit your comment to three minutes, so that everybody who is here has an opportunity to speak. And then if

there's time at the end, and you still want to make a second comment, you'll be welcome to do that.

I want to ask, how did you hear about the meeting? First of all, how many saw an article or a notice in the newspaper? Okay. How many might have received a postcard or a letter? How many might have heard about it from a neighbor or a friend? Okay. And let's see, I also wanted to ask how many attendees are a part of the Lower San Joaquin River Feasibility Delivery Team? Okay. And how many people here are University of the Pacific students? How many are teachers or professors or deans? Okay. How many are with friends of the Calaveras River? Okay.

And I want to remind you to sign in, so that we can be sure that you're given notice as the project progresses. Before I review the agenda, there are a couple of people here that I'd like to introduce here representing their bosses. And first, representing Congressman Dennis Cardoza is Ellen Powell. Thank you, Ellen. And representing Assemblymember Cathleen Galgiani is Max Vargas. And do we have any others representing representatives of the state or national legislators? Okay. And again I remind you to sign in. That's good.

We will be starting and providing information from a variety of speakers. The first one that I'd like to introduce to you to is the Dean of the School of Engineering. He's also a professor here, Ravi Jain.

RAVI: I'm delighted that you selected this as your venue. Many people marvel at this beautiful campus. The last report said it is not as good as Harvard, but better than Yale. I wish to tell you that I have a long history with the Corps. U.S. Army Corps of Energy helped me finish my PhD. I worked with the Corps for many years. I had a secondary fellowship after my PhD. They sent me to Harvard to study public policy, public administration. I got a degree there. And then later on after five years, they gave me a year off, because I had almost spent a year extra some time working. And so they sent me to learn proper English. So I learned a great deal from many of civilians in the military officers who work with the Corps of Engineers. It's a great organization; and any time, any of your kids want to go to school and they want to study engineering or computer science, please let me know. It's a great place. If any of you are very wealthy, we have a new building. We still need only 1.4 million dollars; for equipment we need 2.5. But if you have a million you want to give to society, you have another opportunity. If you want to name the laboratory after you, that costs only half a million dollars. So it's a lovely campus, great people. You have some of the finest people working with you: Will Price. And he works very hard. He wants to make sure your meeting here is enjoyable, successful, and professionally rewarding. He has a great deal of experience in planning and, certain qualities in many other areas. He stayed

back from going home just because of you today. Because usually he leaves by 5:30, 6:00 because he lives about an hour away from here. So I'm delighted. Thank you very much for inviting me and have a productive meeting. Any time you want to have any meetings here, please contact one of the faculty members because they are the key to the success of your enterprise. Thank you very much.

JUDITH: Thank you. One of the things I want to mention so you can be thinking about this, is that I mentioned an opportunity to comment, and there's several ways that you can comment. One is after the meeting, at the end of the presentation. By the way, we do have a public stenographer here who will be taking down comments. If you want to fill out one of the comment cards, and if you want to take one home with you and send it in within a few days; you're welcome to e-mail them, of course; or send a letter. So there's several different ways that you can comment. We do appreciate those comments in writing. And that's one of reasons why we have Kate here and why we provide those comment cards.

And with that, the next person I'd like to introduce is: Jim Giottonini of the San Joaquin County Area Flood Control Agency.

JIM: Thank you. I hope I can handle the PowerPoint. First, I'd like to introduce the SJAFCA staff. Well, would you please stand, Roger,___ , Cheryl and Marlo. It's a fairly small staff and you can ask any of these members for answers tonight. So please, avail yourself of that if you want to talk about the local perspective and why we're preparing this Feasibility Study.

So, basically it's a flood reduction project that we're undertaking. So, it has not only some flood benefits but restoration of all the projects. It's about 11 million dollars, plus a year project study. The cost-share agreement was signed on February 19th, 2009. Cosponsors are currently a joint powers agency between the City of Stockton, San Joaquin County and the San County Flood Control District. Many of you know it was formed in the mid '90s, during the last flood threat that we had back then. What we intend to do is as soon as the two parties have signed the cost-share agreement, we want to add the study, and we will talk about that in a few minutes. And then after, that the County Flood Control Water Conservation District will be to your [unclear]. Many of you have lived in the area and the river drains north. And then we have a lot of streams from the East. And considering that we are dealing with global warming, or whatever the term is called now, sea level rise, you know, since we're kind of lower in sea level, in some parts of your community, so that's a big threat that we also need to deal

with. Not just the stream to the east of us. It's the threat of flooding. It's amazing how many people live next to a levee and don't give it a thought until maybe something breaks or something. We have the flood in '97. We evacuated Weston Ranch because the threat of flooding. So there, it's a levee. It's a levee - it's a manmade structure made of dirt. You know these things have a tendency to fail. They are designed for a hundred-year storm event. Locally -- we've partnered with reclamation districts and in the urban Stockton area, those are the areas west _____. As well, we've partnered with the City of Lodi because they have a sewer treatment plant that's kind of ___. So, so they're also interested and also the County Flood Control is a local partner. They are going to sign the cost-share agreement shortly. The majority of your levees protecting Stockton are certified by FEMA as providing hundred-year flood protection or their professional credibility, and I suggest talking about that if you want to corner one of the SJAFCA staff to talk about what a protective levee means. But the only area that has been put into the flood plain in the Stockton area by FEMA is the _____ area, and it was because of the levees on the north side of the ____ could not be certified to the FEMA standards requirements mainly because of ___ and ____ and swimming pools and all sorts of things. So it couldn't be certified. The real reason that we started the Feasibility Study is when legislation was passed. It was <his> legislation

that was passed in '08. It requires us to have a plan in place to get to two-hundred-year flood protection by 2015. That's basically when we embarked on the project levees. Streams that come from the west, most of these are federal and state project levees. And so really the only way to improve those is to involve the Corps of Engineers and the state of California in order to increase the flood protection that we need because it is required by legislation. And I'm going to turn it over to Mike Sabbaghian. I'm sure I'm butchering that: Mike from the Department of Resources. I streamed over Judith. She was going to introduce him. Mike, it's all yours.

MIKE: Hello everyone. I'm not using the PowerPoint. I'm just speaking. So whatever it says on there, it's not mine. Since we live in California, we obviously have to get interested in flood protection within California to ensure that all the citizens are protected. Our effort has always continued. However, because lack of ____ is it today because the bonds that were passed in 2006. Bonds that you guys all voted for and passed, allowed us a significant amount of money -- almost five billion dollars -- to start moving some of the projects forward. Based on this, we have many flood protection measures and this Feasibility Study is one of those. Unfortunately to date, we haven't had the contract. But that's to be happening in the very near future due to several reasons. We had some issue with

the bond money and we had some issues. So just because of the times and the time it takes to get some money in place. The intent to have the Feasibility Study as Jim mentioned, it is to get Federal authorization to be accomplished, and that's the key for the major projects and protection - to bring the level of protection to the point that's necessary for all their urban areas. In advance of that, the state's already funded what we call the early implementation program. We're funneling another 60 billion dollars right now. That actually started last year some in 2009 and 2008, and they're going to continue working on that in 2010 and '11, to do some improvements as it is to be completed. And we have great interest in the study for two reasons: Get the Federal authorization to actually bring the flood protection to the area; also secure the Federal credit for the money that we already put in. Both the state and local and state of California are putting money in to grow the ideas for those projects as they advance to ensure that those monies are available for future projects. One thing else I want to do: I want to introduce _____ sitting in the back. Could you stand up? He is the project manager we have for this study. He recently was promoted to supervisor of the project and supervisor ____. The last couple of weeks we hired his replacement to take another project, so he's here answering questions, and obviously I will be here to answer your questions, also. Thank you.

JUDITH: Thank you. And the next person that we would like to introduce you to . . . His name is Michael Sabbaghian: S-A-B-B-A-G-H-I-A-N. And he's with the Department of Water Resources of California. Department of Water Resources. And the next person I'd like to introduce you to is Michelle Ulm. She is the project manager for the U.S. Corps of Engineers.

MICHELLE: Before I get too far along in my introduction, I'd like to thank the University of the Pacific, the faculty. I have been told UOP is gorgeous and we mentioned in our earlier meeting that the windows are refreshing when conducting a meeting. So as Judith mentioned, my name is Michelle, and I'm the project manager for the Corps of Engineer for the Lower San Joaquin River Project Feasibility Project. Our team is, our Project Delivery Team includes your local representatives and so that includes San Joaquin County and California Department of Water Resources. Your local supporting representation districts as well as University of the Pacific. Today our Project Delivery Team is here to execute our second project milestone and that is our public scoping meeting. We are here to listen to the concerns of the locals and get your input on the study. My colleagues from the Corps of Engineers Project Study, would you raise your hand? And project Environmental Planner, Doug Edwards, as well our Senior Oversight Deputy Chief Alicia _____.

They'll be here shortly presenting the Corps of Engineers planning process. But before we get into the planning process, I'd like to share a little bit about where the study came from. Because of expressed interest to the Corps of Engineers to study the problems and opportunities, through Congressional authorization, the Corps of Engineering was able to execute ____. And that resulted in the Feasibility Study we are conducting today. Once the Feasibility Study is completed, the project will go back to Congress for authorization for design and construction. During the length of the project, the project is funded through Congressional appropriations and the local agency contributions. Let's briefly discuss our upcoming Project Delivery Team milestones. We are here today, as I mentioned, conducting our public scoping meeting. In 2012, we will have ___ our project allows us Feasibility scoping meeting. [unclear] In 2015, we will make public our draft feasibility report and all the reports for public review. And finally, in 2016, we will submit our final report to Congress for approval and authorization. Now without further ado, I give you Stacey to talk about the planning process. Thank you, Stacey.

STACEY: Thank you, Michelle. Well, as Michelle alluded to, we're at the point of the planning process where we are asking for your input for the study area as explained in this next slide. Also, what you have on your handout -- it's not real

clear on the screen here-- is called the study area. The major footprint is in the area and that's pretty much a watershed area, but kind of narrows that down and kind of shortens the scope, or not shortens the scope, but just reduces the vast area that we would have to look at for opportunities and problems within this area. The team, as defined in boxed area ___ as the primary focus area for opportunities, problems and opportunities to address flood risks reduction in our study. So, we have, have this primary area that we'll be looking at to reduce economic damages from flood risk or reduction in flood risks and flood damages as a focus of this study. So, this meeting is kind of the first step in this. You have this public workshop scoping meeting. This is where, where we want to know what you folks think. Your issues, concerns are to help the team, is worked on, identifies problems and opportunities within the study area. This is an opportunity for you folks to bring things to us that we may not be aware of, and so we can look at those in the course of this study process. The next major step that we'll be looking at is the Feasibility Scoping meeting or kind of beyond that to the Alternative Formulation Briefing. But the, the Feasibility Scoping meeting that we'll do is tied down without ____ and the informal kind of the baseline where is the system now. And then we'll,… the team with input from you folks, we'll start developing alternatives and the Alternative Formulation Briefing, which is shown as F4a on this slide, is

where we will present the range of alternatives that the team developed to our leadership for a policy check. The policy check is whether the alternatives can be implemented within policy, and our leadership will provide to us and we'll finalize the document. So that's the next major thing. And then the draft report, which has many alternatives, which will be the national economic development plan, the local referred plan which as Mr._____ said, basically complies with the SP five requirements and any other alternative plans or range of alternatives that the team developed over time will be presented for public review and comment. So once the document is finalized and goes out for public review and those comments are addressed, then it goes up for change for approval. And that's pretty much the planning steps in here. And so, once it goes from, you know, the Feasibility Study is finalized, it will go to our division headquarters and on up, as Michelle alluded to, back to Congress for authorization of the plan as recommended by our leadership. And with that, I'm going to turn this over to Doug Edwards who will get into the meat of why were here tonight.

DOUG: Thank you. A couple of weeks ago, I was worried that the State of the Union was going to conflict with the start of the Lost final season and there was word they were taking it off, but apparently, the President was not aware there was a scoping

meeting tonight. So we're a bit ____ sometimes, that will limit the crowds, but where we have so many people out here, because it is an important opportunity to reach out and say. I'm the Environmental Planner for the Corps of Engineers. My role in this PDT meeting study is through the column on your right-hand side here and the process which is integrated with the Corps planning process. My goal tonight is to kind of give a _____ on compliance and the process and how people can participate in that process very early on. They help out on that. Again, I'm going to be rather brief up here tonight, but on the backside of the handout that this plan and the compliance matrix and of the compliance process is going to be two ____ that are going to take place with the study. On the Federal side and that's for the National Environmental Policy Act, also known as NEPA. And for that, the Corps engineers will be the lead agency and then on the state/local side will be compliance with the state of California, CEQA. That's what you hear about all the time. And really, when you boil it down, there's two main purposes for both of those: the Federal and the State Environmental Compliance Act that I just mentioned. And that's the first one, is that the agency making decisions to implement the projects needed to identify and assignment to folks. And then when, the second thing that these studies really are out there to do, is to allow the public to have an opinion in the studies that are done, before the decisions are made. Again, that's simplified and there's some difference between them, but I don't think I

need to go into that at this moment. For both of those, rather than one at a time, we're going do, we've determined to do a combined document, which is the scope of the study to form environmental compliance documentation, which is called, Environmental EIR study, which is the EIS. So we're doing an EIR/EIS for this study. And if you follow along, your term allows it, and maybe these will sink in and they'll make sense to you after a while. In doing both of those compliances, we're also accomplishing other compliance acts in relationships that you've probably heard before, including the Endangered Species Act, Clean Air and Water Act, and other such acts that State and Federal agencies must comply with. Then I quickly wanted to touch on the process. And the first step in that is the scoping process. Again, we're doing this at the very early stage. Scoping is 30 days and a minimum of 30 days, and it starts with the, the Notice of Intent or Notice of Preparation in the mail. Also known as NOI/NOP. That was distributed quite widely. We wanted input. It's important. And what we're trying to do is get input, as I mentioned before. There's a variety of ways to give input, too. Tonight, read it, make sure if you don't take a moment for a written comment, you can mail those to me or to the others. Make sure that you are on the mailer list and sign in if you want to be informed as it goes along. When we did the draft EIS/EIR, it will include the alternatives that will be provided along with this study. Look at the existing conditions and then, then the area. Once that document is ___, we have a

draft of that document. Again, this is important that there will be public opportunity for you folks to provide comments on that draft. And again, if you get on the mailing list now, this is available to you and you will know how it will end up and you can read it. Provide all the comments you want, and by law, we have to consider all those comments. When we first started on this study and did a draft or an, excuse me, a final document, the public has to have a minimum of 30 days to review and then issue a final EIS/EIS 30 days before they issue or record a decision on that. And on that again, that's, that's a quick overview of the environmental process. And I'd like to thank you for your time and again invite you to give comments. Judith is going to come up here and do that.

1/27/2010

Notice of Intent to Prepare a Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study

FACILITATOR: Judith Buethe

JOHN BRODIE

3422 W. HAMMER LANE, SUITE A

STOCKTON, CA. 95632

Thank you. I'm here representing the San Joaquin County Resource Conservation District. We work with local agriculture producers to conserve natural resources. The district is happy to see that dredging will be one of the considerations here for some of the channels. For a couple of reasons: One, it will improve channel capacity. For another, it will help with some conveyance. We've got a lot of sedimentation issues in the Delta and water areas, and that's one thing that the district is working to help our producers solve. But along with the dredging, we hope that you will consider the use of the dredge spoils to enhance our levees and that way we can solve two problems at once: the flooding problem and then the levee stabilization problem. We know our levees are weakening. So if you consider dredging and are considering the use of dredge pipes to help solve some of those levee problems, we think that

will go a long way and the District itself stands ready to be a partner in this project. We have a history of partnering with other agencies and a very good history of successful habitat restoration and enhancement projects using both state and Federal dollars, and because of agriculture we do a lot of work with private landowners. And I'm sure you're going to need help with a lot of private landowners as well. We stand ready to help with that.

JUDITH: Thank you, Mr. Brodie. And then, Klaus Garcia.

KLAUS GARCIA

6237 EMBARCADERO DRIVER

STOCKTON, CA. 95219

He pretty much covered it. No comments. I'll make a comment. Okay? So I got three minutes here. I'm kind of new here to Stockton and the project engineer said something about like she wasn't from the area either and you know we have a lot of water usage and know some of the issues were as far as environment goes has to do with wildlife and something about "ecosystem restoration measures may include but not limited to restoring riparian, wetland, and floodplain habitats, and/or constructing setback levees." So I'm not really sure what

setback levees are. I know this isn't a water issue, although it is in a sense. But maybe we can just take into consideration the fact that we've already moved into an area that was wetland and swamps and dredged everything and pushed the wildlife that we had into these small areas we call sloughs, and excuse me, I'm a little nervous. So, you know, just take into consideration the fact that, that how much impact we've already made on the environment, and maybe we can mitigate some of that. Or take into account our water usage and Southern California water usage and not let the environment be harmed too much. And, or, you know, actually make something that could help the wildlife in the area. This place is going to dry up and we got to stop pushing water out of here. And I don't know if that's one of the interests--to make this a larger collection reservoir. I say build more reservoirs down South.

ANONYMOUS: One question I have is this whole environmental impact and the environmental review process. This is all just for the Feasibility Study; is that correct? What kind of environmental impact could we have just doing the study? I don't really understand how there can be such an impact when we are just studying something. I'd like to second that gentleman's statement about making the channel deeper and making the levees higher.

ANONYMOUS: Sir, sir, this is a study and although there's an effect on the environment with an environmental study, the scope of the study perhaps can be influenced by them knowing that there's people out there that will go and talk.

KLAUS GARCIA: Ask Southern California water people who are empowered by whom, by proxy, by election, take control of the situation and make things and kill this area, rape this area, 'cause that's what's going to happen. So that's why I made that comment.

JUDITH: Next commenter.

ANONYMOUS: My comment is can someone explain that please? The San Joaquin River. The San Joaquin system is a fairly stronger system, you will recall, and are you going to be looking up the environment on the San Joaquin River? You want to request that that action be taken? That's what I want to know--if that's being considered.

JUDITH: So the answer to that is yes, but we would like to stick to comments this evening, and so that comment will be considered in the environmental study.

# # #

ATTACHMENT 3

Letters/Faxes

Emails

RIVER ISLANDS

AT LATHROP

February 8, 2010

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 J Street
Sacramento, CA 95814

Subject: Comments on Notice of Intent/Notice of Preparation for the Lower San Joaquin River Feasibility Study (LSJRFS)

Dear Mr. Edwards:

We are providing you the following comments in response to USACE's Notice of Intent/Notice of Preparation (NOI/NOP) for the proposed Lower San Joaquin River Feasibility Study Draft EIS/EIR.

By way of background, I am the Project Director of the River Islands master planned community located within the City limits of Lathrop. I am also the President of Reclamation District 2062 which has a boundary coterminous with the River Islands development on the Stewart Tract. As the project developer, we own the portion of the Paradise Cut Bypass located to the west of the Union Pacific Railroad west of I-5, and we control the land in the Bypass just west of the weir on the San Joaquin River through a long term option agreement. In essence, we own and/or control the entire area within the Paradise Cut Bypass which is the only bypass located in the South County and is instrumental for diverting flood waters away from urban areas along the San Joaquin River.

River Islands has worked for years analyzing the hydrology and hydraulics in the Lower San Joaquin River area. Our consultant, MBK Engineers of Sacramento, developed a HEC-RAS hydraulic model for the area from Vernalis to Grant Line Road and the Stockton Deep Water Channel which was reviewed extensively by DWR and the USACE during the process. We have expended over $1.5 million on the modeling effort. Additionally, we have already completed significant flood protection on the River Islands project and have taken about 25% of our project area out of the 200 year flood plain through a "super-levee" program.

During the approval process for the super levees, the project and the State of California were sued by several environmental groups including Natural Resources Defense Council and the Natural Heritage Institute. We successfully settled our disputes with these entities and have mutually agreed to work together on enlarging the Paradise Cut Bypass to divert more flood flows away from the urban areas of Lathrop and Stockton. Our agreement is to work together to

THE CAMBAY GROUP, INC.
73 W. Stewart Road, Lathrop CA 95330 209.879.7900 Fax 209.879.7928 www.riverislands.com

enlarge the bypass in order to take 20" of flood flows off the San Joaquin River at Mossdale during the 100 year storm event. The River Islands development is not dependent upon the success of this extended project but we have been working and we will continue to work in good faith with our environmental partners on this extended project.

In summary, we are surprised and disappointed that the Stewart Tract is not included in the Flood Risk Reduction Zone as proposed in the LSJRFS. We believe that the Stewart Tract must be included in the Flood Risk Reduction Zone because of the following reasons:

- The project site is completely within the Secondary Zone of the legal Delta where urban development may take place and planning entitlements (specific plan approval, zoning, etc.) for the entire project have already been obtained by the City of Lathrop. The rest of the City of Lathrop (the area east of the San Joaquin River) is already included in the Flood Risk Reduction Zone, so the current proposal is in essence bifurcating Lathrop into two halves; one in which flood risk reduction makes sense, and another that apparently the member agencies of the LSJRFS feels does not.

- The first 4,300 dwelling units, the entire mixed use Town Center and 3 million square feet of the Employment Center are within the first phase of development and are included in a vesting tentative map with all project level approvals. The first two lakes, initial grading and utilities have been provided to this area and when market conditions improve, vertical construction will begin (e.g. homes). In other words, development of the Stewart Tract is imminent and permanent.

- The entire River Islands area will contain up to 30,000 residents and 20,000 employees who will ultimately reside and work on the Stewart Tract. To not include these 50,000 persons within in the Flood Risk Reduction Zone would be sending a message that protecting this significant sum of people is not important.

- Initial construction of high ground plateaus and the 300 foot wide super-levees has already been completed as mentioned and a large part of the River Islands project already meets a minimum 200 year level of flood protection. We are the only such area so designated in the region. As the USACE is aware, all areas of the Central Valley subject to flooding and slated for urban development must meet the new 200 year flood protection standard in the near future. River Islands is the only project we are aware of that currently meets this standard.

- Paradise Cut, the only flood control bypass in the south Delta region is owned and controlled by River Islands and already has CEQA approvals for the River Islands based flood protection improvements. These improvements include setback levees, eco-system/habitat improvements and improvements near Paradise Weir that will assist in bringing Paradise Cut closer to its original design capacity and alleviate downstream

flooding impacts to the existing urban areas of Stockton, Lathrop and Manteca. As mentioned earlier, Paradise Cut is the linchpin of an extended flood bypass project and without River Islands' participation; the LSJRFS goal of better protecting hundreds of thousands of San Joaquin County residents affected by the LSJRFS will be much more difficult to meet.

It is interesting to note that other areas along the San Joaquin River, in particular the northern portion of the Bishop Tract north of Stockton, is included in the Risk Reduction Zone. That area is outside the City of Stockton city limits and faces several hurdles for development to occur there. Why would the USACE include that area but exclude a project that has full entitlements, initial infrastructure already completed and is fully within a member city's corporate limits? We do understand that Paradise Cut and the Stewart Tract are included in the proposed "Study Area" for the LSJRFS. That seems appropriate. However, it seems illogical to not include the River Islands development area in the Flood Reduction Zone where 50,000 people will reside in the future.

Additionally, there are hundreds, if not thousands of acres within the planning areas of Stockton and Manteca that are not currently within the corporate limits of those cities, do not yet have project level entitlements for development, are not included in SJFCA's boundaries and yet, are included within the Flood Risk Reduction Zone. To embark on such a large regional flood protection project but exclude the Stewart Tract which is already approved for significant new population, seems shortsighted and would result in an incomplete scope for the CEQA/NEPA study.

As we have offered to SJAFCA in the past, we have significant "in-kind" work that could be helpful to your analysis. As a participant in the process, we could make available the hydraulic information that we have already gathered for the area, as well as environmental data that we have developed for Paradise Cut. Paradise Cut could also be a significant habitat resource for the environmental impacts that are certain to require mitigation in conjunction with any improvements associated with the LSJRFS. As noted, our proposals for Paradise Cut include levee setbacks, habitat restoration and the creation of a sustainable habitat for the Riparian Brush Rabbit. By not including River Islands, the USACE and other LSJRFS partners would not receive the benefit of our previous and current modeling efforts and studies and the full participation of River Islands and the inclusion of Paradise Cut within the LSJRFS.

We appreciate the opportunity to comment. We request that we be placed on the mailing list for all future documents and studies relating to the LSJRFS and all environmental documentation. Any such documentation should be forwarded to my attention at the address shown on page one of this correspondence. Should you have any questions or comments regarding our comments, please contact me at (209) 879-7900 or at sdellosso@cambaygroup.com.

Sincerely,

Susan Dell'Osso
Project Director

Attachment

cc: Steve Bestolarides, SJAFCA
John Herrick, SDWA
Alex Hildebrand, SDWA
Robert Brown, Reclamation District No. 2107
Colonel Thomas Chapman, U.S. Army Corps of Engineers
Robert Charney, Department of Water Resources
Roger Churchwell, SJAFCA
Mark Connelly, San Joaquin County Public Works Department
Thomas R. Flinn, San Joaquin County Public Works Department
Dale Fritchen, SJAFCA
Jim Giottonini, SJAFCA
Karna Harrigfeld, Herum Crabtree
Al Hoslett, Reclamation District No. 2107
Cary Keaten, City of Lathrop
Manuel Lopez, Chief Administrative Officer, San Joaquin County
Diana Lowery, SJAFCA
Tom Ruark, Acting City Engineer
Larry Ruhstaller, SJAFCA
Steve Salvatore, Director of Public Works
Monty Schmitt, NRDC
Michelle Williams, U.S. Army Corps of Engineers
Scott Woodland, DWR

City of Lathrop

Office of the City Manager

390 Towne Centre Dr. – Lathrop, CA 95330
Phone (209) 941-7220 – fax (209) 941-7248
www.ci.lathrop.ca.us

February 2, 2010

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814
Attn: Planning Division (CESPK-PD-R)

Subject: Notice of Intent/Notice of Preparation – Lower San Joaquin River Feasibility Study

Dear Mr. Edwards:

The City of Lathrop is providing you the following comments in response to the Corps' Notice of Intent/Notice of Preparation (NOI/NOP) for the proposed draft EIS/EIR, regarding Lower San Joaquin River Feasibility Study.

In short, the City is concerned about the lack of the entire City of Lathrop being included with the Flood Risk Reduction Zone boundaries. The proposed boundaries "split" the City of Lathrop in half (see attached Exhibit A). Lathrop is the only urban jurisdiction in the proposed area in which this happens. Both Stockton and Manteca are wholly included within the proposed boundaries and even areas outside their City limits are included. The areas east of the City limits are rural and may not ever be developed, but there are some areas outside of City limits adjacent to the San Joaquin River that could face extensive permitting for flood control improvements.

The City respectfully requests that the entirety of the area within the City limits be included within the scope of the draft EIS/EIR and within the proposed Flood Risk Reduction area. This includes not only the City area within Reclamation District 17, but also Reclamation Districts 2062 and 2107. The Stewart Tract, in which all of Reclamation District 2062 is included, has been in the City limits of Lathrop since 1996. The entire area has been zoned for development and the first 4,300 dwelling units need no further entitlements in order to be constructed. The project developer has already embarked on their phased flood protection program and the first 900 acres of the project is flood protected to a 200 year level of protection as per State of California standards. We believe this is the only such area to achieve this designation within the Central Valley Flood Protection Board's jurisdiction.

Another request that we have is that the Study analyze improvements to Paradise Cut. While it makes sense not to include Paradise Cut in the proposed Flood Risk Reduction Zone, we do believe that this bypass will play a critical role in reducing flood risk along the San Joaquin River.

We request that the City be placed on the mailing list for all future documents and studies relating to the project. Please forward any applicable documents to:

City Manager
City of Lathrop
390 Towne Centre Drive
Lathrop, California 95330

Should you have any questions or comments regarding this letter, you may contact me at (209) 941-7220, or by email at ckeaten@ci.lathrop.ca.us.

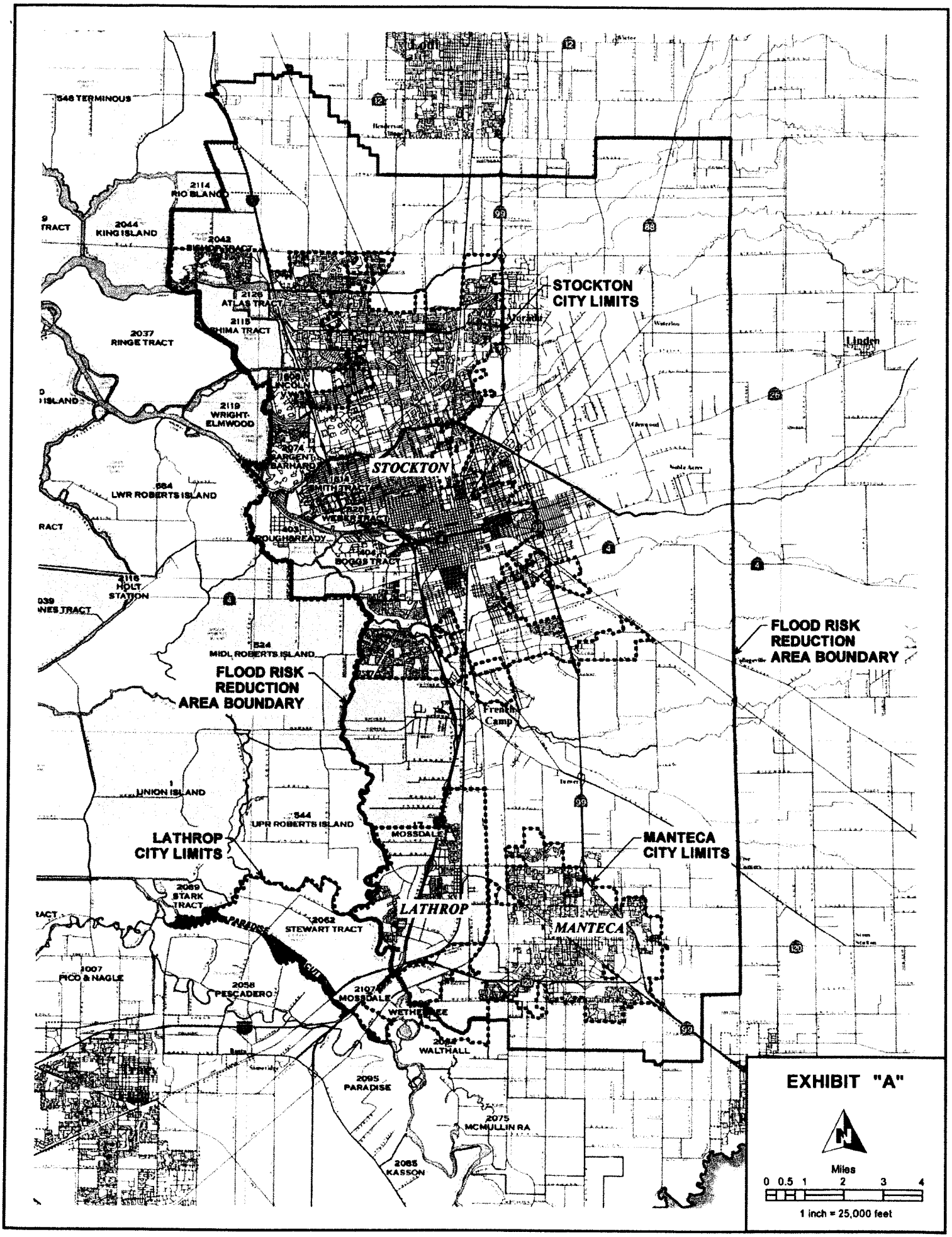
Thank you for the opportunity to comment.

Sincerely,

Cary Keaten
City Manager

Enclosure

cc: Mayor Kristy Sayles and the Lathrop City Council
Steve Salvatore, Director of Public Works
Tom Ruark, Acting City Engineer
Colonel Thomas Chapman, U.S. Army Corps of Engineers
Michelle Williams, U.S. Army Corps of Engineers
Robert Brown, Reclamation District No. 2107
Susan Dell'Osso, Reclamation District No. 2062
Al Hoslett, Reclamation District No. 2107
Robert Charney, Department of Water Resources
Manuel Lopez, County Administrator, San Joaquin County
Thomas R. Flinn, San Joaquin County Public Works Department
Mark Connelly, San Joaquin County Public Works Department
Steve Bestolarides, SJAFCA
Roger Churchwell, SJAFCA
Dale Fritchen, SJAFCA
Jim Giottonini, SJAFCA
Diana Lowery, SJAFCA
Larry Ruhstaller, SJAFCA
Karna Harrigfeld, Herum Crabtree


STOCKTON CITY LIMITS
FLOOD RISK REDUCTION AREA BOUNDARY
FLOOD RISK REDUCTION AREA BOUNDARY
LATHROP CITY LIMITS
MANTECA CITY LIMITS
STOCKTON
LATHROP
MANTECA
2114 RIO BLANCO
2044 KING ISLAND
2042
2126 ATLAS TRACT
2118 CHIMA TRACT
2037 RINGE TRACT
2119 WRIGHT-ELMWOOD
2074 SARGENT-BARNARD
LWR ROBERTS ISLAND
ROUGHGREADY
BOGGS TRACT
2118 HOLT STATION
524 MIDL ROBERTS ISLAND
UNION ISLAND
544 UPR ROBERTS ISLAND
MOSSDALE
2089 STARK TRACT
2062 STEWART TRACT
PARADISE CUT
2058 PESCADERO
2107 MOSSDALE
WETHERSEE
2064 WALTHALL
2095 PARADISE
2075 MCMULLIN RA
2085 KASSON
Linden
Lodi
EXHIBIT "A"
Miles
0 0.5 1 2 3 4
1 inch = 25,000 feet

STATE OF CALIFORNIA
FACSIMILE COVER
10-2A-0049 (NEW 10/92)

ATTENTION: **Doug Edwards**	FROM: **Kathy Selsor** **Department of Transportation** **1976 East Charter Way** **Stockton, CA 95205**	
UNIT/COMPANY: San Joaquin County Area Flood Control Agency 1325 J Street Sacramento, CA 95814	DATE: **2/2/10**	TOTAL PAGES (Including Cover Page)
	FAX # (Include Area Code) (209) 948-7194	ATSS FAX 8-423-7194
DISTRICT/CITY	PHONE # (& Area Code) (209) 948-7190	ATSS 8-423-7190
PHONE # (& Area Code) (916) 557-7026 / FAX # (& Area Code) **(916) 557-7856**	ORIGINAL DISPOSITION: Destroy ☐ Return ☐ Call for Pickup ☐	

COMMENTS:

SJ-Various
SCH# 2010012027
Lower San Joaquin River Feasibility Study

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

Flex your power!
Be energy efficient!

February 2, 2010

10-SJ-Various
SCH#2010012027
SJCO. Flood Agency

Doug Edwards
San Joaquin County Area Flood Control Agency
1325 J Street
Sacramento, CA 95814

Dear Mr. Edwards:

The California Department of Transportation (Department) appreciates the opportunity to have reviewed the Notice of Preparation (NOP) for the Lower San Joaquin River Feasibility Study draft Environmental Impact Report. The Department has the following comments:

Hydraulics:
Modification, including the increase of conveyance and channel widening, to the San Joaquin River System will potentially impact adjacent and/or spanning infrastructure. Potential scour and substandard hydraulic efficiency around bridges will need to be analyzed and mitigated if necessary. Modified levees may impact the roads atop the levee or adjacent to the levee. Encroachments to the State right of way may require modifications and upgrades to drainage systems.

If you have any questions or would like to discuss our comments in more detail, please contact Kathy Selsor (209) 948-7190 (e-mail: kathy_selsor@dot.ca.gov) or me at (209) 941-1921.

Sincerely,

Kathy Selsor for

TOM DUMAS, CHIEF
OFFICE OF METROPOLITAN PLANING

c: SMorgan CA Office of Planning & Research

NEUMILLER & BEARDSLEE
A PROFESSIONAL CORPORATION • ATTORNEYS & COUNSELORS
ESTABLISHED 1903

73671-30655

John W. Stovall

509 WEST WEBER AVENUE
FIFTH FLOOR
STOCKTON, CA 95203

POST OFFICE BOX 20
STOCKTON, CA 95201-3020

(209) 948-8200
(209) 948-4910 FAX

FROM MODESTO:
(209) 577-8200
(209) 577-4910 FAX

January 25, 2010

Via U.S. Mail & Email: Douglas.M.Edwards@usace.army.mil

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 J Street
Sacramento, CA 95814

Re: LSJRFS Mailing List

Dear Mr. Edwards:

I will not be able to attend the Public Scoping Meeting o the Lower San Joaquin Feasibility Study that will be held on January 27, 2010. However, I would like to request that you add my name to the SJSRFS mailing list. Here is my contact information:

John W. Stovall
Attorney at Law
Neumiller & Beardslee
P.O. Box 20
Stockton, CA 95201-3020
Phone: (209) 948-8200
Fax: (209) 948-4910
Email: jstovall@neumiller.com

Thank you for your courtesy and cooperation.

Very truly yours,

JOHN W. STOVALL
Attorney at Law

JWS/ect

601714-1

More Than Years of Excellence

SAN JOAQUIN COUNTY
MOSQUITO & VECTOR CONTROL DISTRICT

JOHN R. STROH
MANAGER

BOARD OF TRUSTEES

FRANCIS GROEN
PRESIDENT
CITY OF RIPON

ALLAN R. FETTERS
VICE PRESIDENT
CITY OF STOCKTON

GERALD M. SCHILBER
SECRETARY
CITY OF ESCALON

CITY OF LATHROP
VACANT

CITY OF LODI
JACK V. FIORI

CITY OF MANTECA
JACK SNYDER

CITY OF TRACY
CHESTER C. MILLER

SAN JOAQUIN COUNTY
FRANK DEBENEDETTI

SAN JOAQUIN COUNTY
MICHAEL MANNA

SAN JOAQUIN COUNTY
MARC WARMERDAM

LEGAL ADVISOR
CHRISTOPHER K. ELEY

February 1, 2010

Mr. Doug Edwards
U.S. Army Corps of Engineers, Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 J Street
Sacramento, CA 95814

San Joaquin Area Flood Control Agency
22 E. Weber Avenue, Room 301
Stockton, CA 95202-2317

Re: Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study

Dear Doug Edwards:

The San Joaquin County Mosquito and Vector Control District (the District) has received the Notice of Intent to Prepare a Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study. As the local agency responsible for surveillance and control of mosquitoes and mosquito-borne diseases, we strongly recommend that the EIS/EIR include an analysis of wetland development and management as it relates to 1) potential-increases in local and regional mosquito populations, and 2) promotion of mosquito-borne diseases (e.g. West Nile virus).

Seasonal and semi-permanent wetlands are a significant source of mosquitoes in San Joaquin County and the Northern San Joaquin Valley. The District's ability to respond to increased mosquito populations and mosquito-borne disease outbreaks is finite. The development of wetlands and other aquatic features capable of producing mosquitoes will need to be planned, built, and managed to prevent mosquito development.

Do not hesitate to contact me at (209) 982-4675 if you any questions or need additional information.

Sincerely,

John R. Stroh
Manager

7759 SOUTH AIRPORT WAY, STOCKTON, CALIFORNIA 95206-3918
(209) 982-4675 • FAX (209) 982-0120

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
(916) 358-2900
http://www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
John McCamman, Director

January 28, 2010

Doug Edwards
U.S. Army Corp of Engineers
Sacramento District, Attn: Planning Division (CESPK-PD-R)
1325 J Street
Sacramento, CA 95814

Dear Mr. Edwards:

The Department of Fish and Game (DFG) has reviewed the Notice of Preparation of a draft joint Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the Lower San Joaquin River Feasibility Study (project) (SCH #2010012027). The project consists of a plan to analyze environmental impacts associated with a range of alternatives for providing flood damage reduction and ecosystem restoration along the lower (northern) portion of the San Joaquin River system. Alternatives may include, but are not limited to, a combination of one or more of the following flood damage reduction measures: adding modifying and/or re-regulating storage on major tributaries, new transitory storage within flood plains, increasing conveyance by raising levees, widening channels and floodways areas, dredging and constructing or modifying weirs and bypasses, and various floodplain management measures. The project is located on the San Joaquin River and its tributaries in San Joaquin County.

Wildlife habitat resources consist of the lower San Joaquin River, its tributaries, and their associated floodplains. Significant natural resources include habitat for sensitive species of terrestrial and aquatic wildlife.

We recommend that the DEIR discuss and provide adequate mitigation for the following concerns:

1. The project's impact upon fish and wildlife and their habitat. To facilitate the environmental analysis the DEIS/DEIR should contain maps which depict the amounts and kinds of habitat that will be affected by various alternatives.

2. The project's impact upon significant habitat such as wetlands including vernal pools and riparian habitat. The project should be designed so that impacts to wetlands are avoided. Mitigation should be provided for unavoidable impacts based upon the concept of no net loss of wetland habitat values or acreage.

3. The project's impact to special status species including species which are State and Federal-listed as threatened and endangered.

4. The project's growth inducing and cumulative impacts upon fish, wildlife, water quality, and vegetation.

5. The DEIS/DEIR should provide an analysis of specific alternatives which reduce impacts to fish, wildlife, water quality and vegetation.

6. The DEIS/DEIR should contain an evaluation of the proposed projects consistency with the applicable land use plans, such as General Plans, Specific Plans, Watershed Master Plans, and the San Joaquin Multi-Species Habitat Conservation Plan.

The DEIS/DEIR should consider and analyze whether implementation of the proposed project will result in reasonably foreseeable potentially significant impacts subject to regulation by the DFG under Section 1600 et seq. of the Fish and Game Code. In general, such impacts result whenever a proposed project involves work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel, including ephemeral streams and water courses. Impacts triggering regulation by the DFG under these provisions of the Fish and Game Code typically result from activities that:

- Divert, obstruct, or change the natural flow or the bed, channel or bank of any river, stream, or lake;
- Use material from a streambed; or
- Result in the disposal or deposition of debris, waste, or other material where it may pass into any river stream, or lake.

In the event implementation of the proposed project involves such activities, and those activities will result in reasonably foreseeable substantial adverse effects on fish or wildlife, a Lake or Streambed Alteration Agreement (LSAA) will be required by the DFG. Because issuance of a LSAA is subject to review under the California Environmental Quality Act (CEQA), the DEIS/DEIR should analyze whether the potentially feasible mitigation measures set forth below will avoid or substantially reduce impacts requiring a LSAA from the DFG.

This project will have an impact to fish and/or wildlife habitat. Assessment of fees under Public Resources Code Section 21089 and as defined by Fish and Game Code Section 711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency.

Pursuant to Public Resources Code Sections 21092 and 21092.2, the DFG requests written notification of proposed actions and pending decisions regarding this project. Written notifications should be directed to this office.

Thank you for the opportunity to review this project. If the DFG can be of further assistance, please contact Mr. Dan Gifford, Staff Environmental Scientist,

telephone (209) 369-8851 or, Mr. Jeff Drongesen, Acting Conservation Program Manager, telephone (916) 358-2919.

Sincerely,

Jeff Drongesen
Acting Conservation Program Manager

ec. Jeff Drongesen
Dan Gifford
Department of Fish and Game
North Central Region

jdrongesen@dfg.ca.gov
dgifford@dfg.ca.gov

Ellen McBride
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W2605
Sacramento, CA 92825-1888

San Joaquin River Group

- Modesto Irrigation District
- Turlock Irrigation District
- South San Joaquin Irrigation District
- San Joaquin River Exchange Contractors

716 Valencia Ave
Davis, CA 95616-0153
(530) 758-8633
(530)297-2603-Fax

- Merced Irrigation District
- Oakdale Irrigation District
- Friant Water Authority
- City and County of San Francisco

9 February 2010

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 "J" Street
Sacramento, CA 95814-2922

Subject: Notice of Intent to Prepare a Joint EIS/EIR for the Lower San Joaquin River Feasibility Study

Your Notice of Intent for this study is based on the need to provide 200-year flood protection for the Stockton Area. Your Notice of Intent indicates that you will be looking at a range of alternatives such as adding, modifying, and/or re-regulating storage on major tributaries to the San Joaquin River as well as widening and deepening channels in the Stockton area.

During your January 27th scoping meeting it was learned from the San Joaquin Area Flood Control Agency (SJAFCA) that the Corps would be working with DWR to model upstream flow and reservoir operations but they could not provide me with any additional information. Any study of upstream flow and reservoir operations must include all the upstream operators as the present operations are regulated by a number of agencies for a number of beneficial uses including agriculture, municipal, recreation, clean hydropower and fish management. Experience teaches that having all parties involved working together leads to more effective and lasting solutions to complex problems.

Solving ongoing problems with loss of critical habitat and dissolved oxygen problems must also be considered in the proposed study. The study must take into account the ongoing problems with salmon survival during outmigration caused in part by the previous widening and deepening of the channels in the Stockton area. The loss of critical habitat caused by the present levee system may be in part responsible for low salmon survival in the Lower San Joaquin River. In addition the periodic dissolved oxygen problems in the Stockton Deep Water Ship Channel caused by previous widening and deepening of this channel by the Corps must be eliminated before any further channel modifications should be considered.

We appreciate the opportunity to comment on the proposed study and look forward to working with the Corps in development of flood protection alternatives that enhance all the River uses. If you have any questions, please contact me.

Dennis Westcot

Dennis W. Westcot
Project Administrator
San Joaquin River Group Authority

cc: SJRGA Managers

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

FEB 1 2 2010

Doug Edwards, PhD, AICP
U.S. Army Corps of Engineers
1325 J Street, Planning Division, CESPK-PD-R
Sacramento, CA 95814

Subject: Scoping Comments for the Lower San Joaquin River Feasibility Study, in the Central Valley of California.

The Environmental Protection Agency (EPA) has reviewed the Notice of Intent to prepare an environmental impact statement (EIS) for the Lower San Joaquin River Feasibility Study (LSJRFS) in the Central Valley of California. Our scoping comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

Per our conversation on January 27th, 2010, the scope of work for this project has not yet been identified nor have any detailed alternatives been suggested. We further understand that the U.S. Army Corps of Engineers (USACE) released the LSJRFS NOI to solicit comments pertaining to the geographic area depicted in Figure #1of the NOI and its geomorphology; therefore, another NOI will be released for the LSJRFS project prior to release of a DEIS. This letter provides general comments for the LSJRFS area and does not address specific impacts that may result from actual work performed as a result of this study.

The DEIS should clearly describe the effects of the project on water quality, river flows, channel alignment, riparian and oak habitat, floodplain habitat, anadromous fish, and other sensitive species. If the project involves floodplains, there may be a risk of introducing pollutants such as mercury, boron, selenium and arsenic. We recommend the DEIS evaluate potential impacts to biota and human health and discuss strategies to avoid or reduce impacts. Methylation of mercury on periodically wetted floodplains is a particular concern, and the project will need to consider requirements that would be applicable through the Delta methylmercury TMDL (currently draft).

Of specific interest is the relationship between this proposal and other large scale planning for the Delta and San Joaquin. The DEIS should address potential direct, indirect, and cumulative effects on efforts to restore the San Francisco-San Joaquin River Bay Delta and San Joaquin River such as San Joaquin River Restoration Program and the Bay Delta Conservation Plan.

EPA advocates an integrated management approach which balances flood control, water quality, water supply, and fisheries restoration with other beneficial uses of the Lower San Joaquin River, such as wetlands, wildlife habitat and municipal water supply. The project design should give full consideration to water quality, habitat, and ecosystem functions in floodplains and riparian areas.

We recommend the DEIS include a description of climate change implications for the Lower San Joaquin River project area. For example, describe and evaluate projected climate change effects such as sea level rise and increased frequency of high intensity storms. The DEIS should consider the consequences of these effects on levees protecting Lower San Joaquin River and the proposed levee improvements. A clear evaluation of all project-related air emissions should be evaluated in the DEIS. Offsets should not be considered for air quality conformity applicability analysis.

We understand that the methods for determining flood risk, appropriate flood protection levels, and management of levee vegetation have been evolving over the years. The DEIS should provide a detailed description of the current Federal Emergency Management Agency (FEMA) floodplain management and insurance regulations, the FEMA and USACE flood risk assessment for the Lower San Joaquin River area, and USACE levee vegetation management policies. We recommend USACE contact FEMA's Region IX Mitigation Division, Map Modernization Unit to insure that the latest regulation guidelines are integrated into the DEIS. Where possible, levee setback alternatives should be considered.

We appreciate the opportunity to review this NOI. When the new NOI is released, please send a copy to our office. Likewise when the DEIS is released for public review, please send one hard copy and one CD ROM to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact James Munson, the lead reviewer for this project. James can be reached at (415) 972-3800 or munson.james@epa.gov.

Sincerely,

FOR Kathleen M. Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

EPA DETAILED SCOPING COMMENTS FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY, IN THE CENTRAL VALLEY OF CALIFORNIA

Floodplain and Riparian Habitat

Maximize restoration and enhancement of functioning floodplains and riparian habitat where feasible. EPA is especially interested in evidence that the project design gives full consideration to habitat and ecosystem functions in floodplains and riparian areas. We believe ecosystem restoration provides an excellent opportunity to enhance and restore such areas.

> ***Recommendations:***
> Options for incorporating riparian and floodplain habitat, which are important elements of river system restoration, should be addressed in the project alternatives. The Draft Environmental Impact Statement (DEIS) should also explain how monitoring and program assessments will track how floodplains and riparian areas respond to restoration actions and whether functions are being restored.

Water Quality

Water quality impairments could interfere with restoration success. Therefore, we urge development of an analytic framework and plan of action for information gathering and assessment to better target and address problems. Any water storage strategies should take into consideration water diversion practices in place that could diminish Lower San Joaquin River volume.

> ***Recommendation:***
> The DEIS should evaluate the potential effects of storage alternatives on water quality, flows, hydrology, fisheries, and riparian habitat.

Conduct analysis at a level of detail (spatial and temporal) that allows for pinpointing water quality problems and remedies. It will be important to identify in the DEIS, areas and periods of time during the year when water quality conditions could have effects on the food web or direct impacts on fish and other animals.

> ***Recommendation:***
> The DEIS should conduct analysis at a level of detail (spatial, i.e., reach-specific, and temporal) that allows for pinpointing problems and remedies. For example, describe when the presence of agricultural use chemicals may be a limiting factor for restoration goals.

Edwards, Douglas M SPK

From: Edwards, Douglas M SPK
Sent: Tuesday, January 26, 2010 1:44 PM
To: 'Taylor, Theresa J'
Cc: Kleinsmith, Douglas H
Subject: RE: ER 10/74
Attachments: lsj_flood_damage_reduction_area.pdf

Theresa and Doug,

Attached is a figure showing the Flood Risk Reduction Area and Solutions Study Area for the Lower San Joaquin River Feasibility Study. As this point, we are at the front end of a feasibility study to address flooding of a large watershed. As such, the details of proposed alternative will emerge gradually over the course of the study. I will add you to the project mailing list to ensure you receive all the information as it becomes available.

Don't hesitate to contact me if you have any questions.

Doug

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Taylor, Theresa J [mailto:TTaylor@usbr.gov]
Sent: Tuesday, January 26, 2010 1:23 PM
To: Edwards, Douglas M SPK
Cc: Kleinsmith, Douglas H
Subject: ER 10/74

Dear Mr. Edwards,

Thanks for returning my call. Attached is what we call an "Assignment Memo" that the Department of the Interior sends out to its agencies when they find a project that may be of interest. I am sending my co-worker, Doug Kleinsmith, a copy of this message as I am thinking your project is within his Regional Office boundaries. Would you please reply to both of us with the map you have? If it is too big to send, maybe we could just talk over the phone as to where the project falls. Please call me if you have any questions. I appreciate your help!

Sincerely,

Theresa Taylor

San Joaquin River Group

- **Modesto Irrigation District**
- **Turlock Irrigation District**
- **South San Joaquin Irrigation District**
- **San Joaquin River Exchange Contractors**

716 Valencia Ave
Davis, CA 95616-0153
(530) 758-8633
(530)297-2603-Fax

- **Merced Irrigation District**
- **Oakdale Irrigation District**
- **Friant Water Authority**
- **City and County of San Francisco**

9 February 2010

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 "J" Street
Sacramento, CA 95814-2922

Subject: Notice of Intent to Prepare a Joint EIS/EIR for the Lower San Joaquin River Feasibility Study

Your Notice of Intent for this study is based on the need to provide 200-year flood protection for the Stockton Area. Your Notice of Intent indicates that you will be looking at a range of alternatives such as adding, modifying, and/or re-regulating storage on major tributaries to the San Joaquin River as well as widening and deepening channels in the Stockton area.

During your January 27th scoping meeting it was learned from the San Joaquin Area Flood Control Agency (SJAFCA) that the Corps would be working with DWR to model upstream flow and reservoir operations but they could not provide me with any additional information. Any study of upstream flow and reservoir operations must include all the upstream operators as the present operations are regulated by a number of agencies for a number of beneficial uses including agriculture, municipal, recreation, clean hydropower and fish management. Experience teaches that having all parties involved working together leads to more effective and lasting solutions to complex problems.

Solving ongoing problems with loss of critical habitat and dissolved oxygen problems must also be considered in the proposed study. The study must take into account the ongoing problems with salmon survival during outmigration caused in part by the previous widening and deepening of the channels in the Stockton area. The loss of critical habitat caused by the present levee system may be in part responsible for low salmon survival in the Lower San Joaquin River. In addition the periodic dissolved oxygen problems in the Stockton Deep Water Ship Channel caused by previous widening and deepening of this channel by the Corps must be eliminated before any further channel modifications should be considered.

We appreciate the opportunity to comment on the proposed study and look forward to working with the Corps in development of flood protection alternatives that enhance all the River uses. If you have any questions, please contact me.

Dennis Westcot

Dennis W. Westcot
Project Administrator
San Joaquin River Group Authority

cc: SJRGA Managers

Edwards, Douglas M SPK

From: Edwards, Douglas M SPK
Sent: Tuesday, January 19, 2010 1:00 PM
To: 'Munson.James@epamail.epa.gov'
Subject: FW: San Joaquin River Feasibility Study
Attachments: lsj_flood_damage_reduction_area.pdf

James,

Please see attached and don't hesitate to contact me if you have any questions.

Doug

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Edwards, Douglas M SPK
Sent: Tuesday, January 19, 2010 10:13 AM
To: 'Munson.James@epamail.epa.gov'
Subject: RE: San Joaquin River Feasibility Study

Hi James,

Got your voice mail and email. I'm working on getting an electronic version of the map and will send it to you as soon as possible.

Doug

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Munson.James@epamail.epa.gov [mailto:Munson.James@epamail.epa.gov]
Sent: Tuesday, January 19, 2010 8:44 AM
To: Edwards, Douglas M SPK
Subject: San Joaquin River Feasibility Study

Hi Mr. Edwards,

I also left a message regarding the San Joaquin River Feasibility Study.
The summary references a “Figurer #1”. Is this a map?

We could really use any information you have in the way of maps or coordinates to define the project area.

Thanks,

James Munson
Environmental Protection Specialist
Environmental Review Office
U.S. EPA, Region IX
75 Hawthorne Street
San Francisco, Ca 94105
(415)972-3800, Fax:(415)947-3562

Edwards, Douglas M SPK

From: Edwards, Douglas M SPK
Sent: Tuesday, January 26, 2010 1:58 PM
To: 'Christine Joab'
Subject: RE: Public Scoping Meeting for the LSJRFS and EIS/EIR
Attachments: lsj_flood_damage_reduction_area.pdf

Christine,

Attached is a figure showing the Flood Risk Reduction Area and Solutions Study Area for the Lower San Joaquin River Feasibility Study. As this point, we are at the front end of a feasibility study to address flooding of a large watershed. As such, the details of proposed alternative will emerge gradually over the course of the study. I will add you to the project mailing list to ensure you receive all the information as it becomes available.

Don't hesitate to contact me if you have any questions.

Doug

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Christine Joab [mailto:CJoab@waterboards.ca.gov]
Sent: Thursday, January 21, 2010 6:49 PM
To: Edwards, Douglas M SPK
Cc: Christine Joab
Subject: Public Scoping Meeting for the LSJRFS and EIS/EIR

Mr. Edwards,

My name is Christine Joab and I am one of the Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff that is working on a Total Maximum Daily Load (TMDL) in the lower San Joaquin River. I saw the meeting announcement for the Public Scoping Meeting for the Lower San Joaquin River Feasibility Study and EIS/EIR posted on the Delta News Newsletter.

I am interested in being added on the mailing list for this project. Staff from the Central Valley Water Board's TMDL unit will not be available to attend this meeting but we (Dissolved Oxygen, Pesticides, and Mercury TMDL staff) are interested in knowing more about this feasibility Study and EIS/EIR. Is there anyway we can get a copy of the presentation that you will be presenting at the Public Scoping Meeting or at least some other documentation outlining your alternatives?

Thanks.

Christine Joab
Environmental Scientist
San Joaquin TMDL & NPS Unit
Regional Water Quality Control Board,
Central Valley (Region 5 Sacramento)
11020 Sun Center Dr., Ste 200
Rancho Cordova, CA 95670-6114
Phone: (916) 464-4655
Fax: (916) 464-4800

Edwards, Douglas M SPK

From: Edwards, Douglas M SPK
Sent: Thursday, January 21, 2010 1:12 PM
To: 'kathy_selsor@dot.ca.gov'
Subject: LSJRFS Figure 1
Attachments: lsj_flood_damage_reduction_area.pdf

Attached is the figure you requested via phone today. Let me know if you have any questions.

Doug

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

Edwards, Douglas M SPK

From: Trujillo, Elvia [etrujillo@neumiller.com]
Sent: Monday, January 25, 2010 4:19 PM
To: Edwards, Douglas M SPK
Cc: Stovall, John
Subject: Lower San Joaquin Feasibility Study
Attachments: LSJRFS Mailing List.pdf

Mr. Edwards:

Attached you will find a letter from John Stovall requesting that you please add his name to the LSJRFS mailing list. If you should have any questions, please don't hesitate to call.

Thank you,

Elvia C. Trujillo

Assistant to

John W. Stovall

Neumiller & Beardslee
P.O. Box 20
Stockton, CA 95201-3010
(209) 948-8200 Phone
(209) 948-4910 Fax
etrujillo@neumiller.com

CONFIDENTIALITY NOTICE: This communication and any accompanying documents are confidential and privileged. They are intended for the sole use of the addressee. If you received this transmission in error, you are advised that any disclosure, copying or distribution or the taking of any action in reliance upon the communication is strictly prohibited. Moreover, any such inadvertent disclosure shall not compromise or waive the attorney-client privilege as to this communication or otherwise. If you have received this communication in error, please contact our IS Department at its Internet address (info@neumiller.com), or telephone at (209) 948-8200. Thank you.

IRS Circular 230 Disclosure: Pursuant to Treasury Regulations, any tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used or relied upon by you or any other person, for the purpose of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any tax advice addressed herein.

NEUMILLER & BEARDSLEE
A PROFESSIONAL CORPORATION • ATTORNEYS & COUNSELORS

ESTABLISHED 1903

73671-30655

John W. Stovall

509 WEST WEBER AVENUE
FIFTH FLOOR
STOCKTON, CA 95203

POST OFFICE BOX 20
STOCKTON, CA 95201-3020

(209) 948-8200
(209) 948-4910 FAX

FROM MODESTO:
(209) 577-8200
(209) 577-4910 FAX

January 25, 2010

Via U.S. Mail & Email: Douglas.M.Edwards@usace.army.mil

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 J Street
Sacramento, CA 95814

Re: LSJRFS Mailing List

Dear Mr. Edwards:

I will not be able to attend the Public Scoping Meeting o the Lower San Joaquin Feasibility Study that will be held on January 27, 2010. However, I would like to request that you add my name to the SJSRFS mailing list. Here is my contact information:

John W. Stovall
Attorney at Law
Neumiller & Beardslee
P.O. Box 20
Stockton, CA 95201-3020
Phone: (209) 948-8200
Fax: (209) 948-4910
Email: jstovall@neumiller.com

Thank you for your courtesy and cooperation.

Very truly yours,

JOHN W. STOVALL
Attorney at Law

JWS/ect

601714-1

Years of Excellence

Environmental Protection Specialist

Bureau of Reclamation

Policy and Administration

Mailstop: 84-55000

PO Box 25007

Denver, CO 80225

303-445-2806 (office)

303-445-6683 (FAX)

ttaylor@usbr.gov

From: oepchq@ios.doi.gov [mailto:oepchq@ios.doi.gov]
Sent: Thursday, January 21, 2010 3:44 PM
To: Sutton, Loretta B; Rai, Vijai N; Taylor, Theresa J; Stephanie Nash; Dickey, Marchelle; Johnson, Brenda J; Lecain, Gary D; Morlock, Dale; Kraus, Victoria; Treasure, Donald W; Singleton, Ellen; Meyer, Elizabeth A; Wilson, Judith; Carriero, Joe; Runkel, Roxanne; Demarest, Chip; Perez, John A; Port, Patricia; oepcsfn@aol.com
Subject: ENVIRONMENTAL REVIEW (ER) NEW POSTING NOTIFICATION: ER 10/74

This e-mail alerts you to an ER request from the Office of Environmental Policy and Compliance (OEPC). To access electronic ERs visit the OEPC Natural Resources Management Team website at: http://www.doi.gov/oepc/nrm.html <http://www.doi.gov/oepc/nrm.html%20> Under Quick Links select: Environmental Review Distributions (Bureau ER Notifications). For assistance, please contact the Natural Resources Management Team, at 202-208-5464.

Edwards, Douglas M SPK

From: Nicky Suard [sunshine@snugharbor.net]
Sent: Friday, January 22, 2010 8:23 AM
To: Edwards, Douglas M SPK
Subject: San Juaquin River eir/eis

The notice refers to Figure 1, which is apparently a map showing the area of the study. Can you email me the draft map please?

Thank you.

Nicole (Nicky) Suard, Esq

Edwards, Douglas M SPK

From: Edwards, Douglas M SPK
Sent: Tuesday, January 26, 2010 1:55 PM
To: 'Nicky Suard'
Subject: RE: San Juaquin River eir/eis

Attachments: lsj_flood_damage_reduction_area.pdf

lsj_flood_damage_reduction_are...

Please see attached and don't hesitate to contact me if you have any questions.

Doug

Doug Edwards, PhD, AICP
Senior Environmental Planner
U.S. Army Corps of Engineers
1325 J Street, Planning Division
Sacramento, CA 95814-2922
(916) 557-7026

-----Original Message-----
From: Nicky Suard [mailto:sunshine@snugharbor.net]
Sent: Friday, January 22, 2010 8:23 AM
To: Edwards, Douglas M SPK
Subject: San Juaquin River eir/eis

The notice refers to Figure 1, which is apparently a map showing the area of the study. Can you email me the draft map please?

Thank you.

Nicole (Nicky) Suard, Esq

Edwards, Douglas M SPK

From: Charlie Simpson [csimpson@insite-env.com]
Sent: Thursday, January 28, 2010 10:07 AM
To: Edwards, Douglas M SPK
Cc: Vicki Jordan
Subject: Lower San Joaquin River Feasibility Study

Hi Doug,

It was a pleasure to meet you last night at UOP. Best of luck on the project, and I'll look forward to seeing you again at future events.

My firm, InSite Environmental, has done literally hundreds of urban development and other projects within the study area (the smaller area, Stockton, Lathrop, Manteca), many of them adjacent to waterways, including Smith Canal. If I or InSite may be of assistance as the LSJRFS process unfolds, even informally, I would be pleased to be able to do so.

Again, best wishes.

Charlie

Charlie Simpson, Principal
InSite Environmental, Inc.
6653 Embarcadero Drive, Suite Q
Stockton, CA 95219
209-472-8650
csimpson@insite-env.com <mailto:csimpson@insite-env.com>

Edwards, Douglas M SPK

From: William Luce [wluce@friantwater.org]
Sent: Tuesday, February 02, 2010 6:55 AM
To: Edwards, Douglas M SPK
Subject: Notice of Intent to Prepare a Joint Environmental Impact Statement and Environmental Impact Report for the Lower San Joaquin River Feasibility Study

Dear Mr. Edwards:

Would you please add me to the mailing list for the Lower San Joaquin River Feasibility Study?

Thank you.

Bill Luce, P.E., Resources Manager

Friant Water Authority

1974 N. Gateway Blvd., Suite #104

Fresno, CA 93727

Office: 559-562-6931

Cell: 559-802-0091

Fax: 559-562-6308

Email: wluce@friantwater.org <mailto:wluce@friantwater.org>

Edwards, Douglas M SPK

From: Richard Riley [rrly951@yahoo.com]
Sent: Wednesday, February 03, 2010 9:49 AM
To: Edwards, Douglas M SPK
Subject: Requested Comments-Lower San Joaquin River Feasibility Study

Thank-You for holding the meeting January 27. Thanks also goes to the University of Pacific for a very nice location for the meeting.
I am just an interested county resident that attended the meeting. I have no true direction to give you. I was overwhelmed by the scope of the area under discussion. It is more to the East, when I thought it would be more to the West. It would have been very beneficial to individuals like myself if someone would have given more examples of what other studies like this one included. I still do not understand what is truly involved. My knowledge of what the U.S. Army Corps of Engineers does, amount of authority with such projects, etc is very limited.
All I can add is that you should hold another presentation at a public building more the center of the propsed study area. Most residents have no idea about all of this.

Sincerely,
Richard Riley
Stockton

Edwards, Douglas M SPK

From: Jherrlaw@aol.com
Sent: Monday, February 08, 2010 4:14 PM
To: Edwards, Douglas M SPK
Cc: sdellosso@cambaygroup.com
Subject: Comment LSJR Feasibility Study

Attachments: JH to Corps re River Islands 2-15-10.pdf

JH to Corps re River Islands 2...

Please see attached

JOHN HERRICK, Esq.
4255 Pacific Ave. Ste. 2
Stockton, CA 95207
(209) 956-0150 ph
(209) 956-0154 fax

SOUTH DELTA WATER AGENCY

4255 PACIFIC AVENUE, SUITE 2
STOCKTON, CALIFORNIA 95207
TELEPHONE (209) 956-0150
FAX (209) 956-0154
E-MAIL Jherrlaw@aol.com

Directors:
Jerry Robinson, Chairman
Robert K. Ferguson, Vice-Chairman
Natalino Bacchetti
Jack Alvarez
Mary Hildebrand

Engineer:
Alex Hildebrand
Counsel & Manager:
John Herrick

February 15, 2010

Mr. Doug Edwards
U.S. Army Corps of Engineers
Sacramento District
Attn: Planning Division (CESPK-PD-R)
1325 J Street
Sacramento, CA 95814

Re: Comments on Notice of Intent/Notice of Preparation for the Lower San Joaquin RiverFeasibility Study (LSJRFS)

Dear Mr. Edwards:

On behalf of the South Delta Water Agency I would like to add our support and endorsement to River Islands' request that its project be included in the Flood Reduction Zone. As stated by Ms. Dell'Osso, the Project Director of River Islands, their proposed improvements to Paradise Cut are a necessary part of any overall solution to San Joaquin River flood control.

Paradise Cut is the designed overflow channel for high San Joaquin River flows. Unfortunately, over the years it has degraded to the point where it will no longer hold its originally designed capacity. River Islands proposes to restore much of this capacity, while at the same time significantly increasing habitat. River Islands has also worked with SDWA on additional plans to improve flood flow capacity throughout the area, and is an eager partner to actually begin work.

As Ms. Dell'Osso also stated, River Islands' has already done significant engineering and modeling on its and other local flood control proposals. This information is not just a starting point for analyzing local issues, but the basis on which solutions will rest. It is inconceivable to us that River Islands' project for improvements to Paradise Cut would not be included in your Flood Reduction Zone analysis or as part of your Feasibility Study. We strongly encourage you to include it.

/ / / /

Please feel free to contact me if you have any questions.

Very truly yours,

JOHN HERRICK

cc: Susan Dell'Osso

Edwards, Douglas M SPK

From: Dennis Westcot [westcot-sjrga@sbcglobal.net]
Sent: Tuesday, February 09, 2010 2:36 PM
To: Edwards, Douglas M SPK
Cc: amontgomery@waterboards.ca.gov
Subject: NEPA/CEQA Scoping Meeting

Attachments: Final Letter to US Army Corps on Lower SJR.pdf

Final Letter to US Army Corps ...

Mr. Edwards:

Attached are comments from the San Joaquin River Group Authority on the NEPA/CEQA Scoping work being done on providing 200-year flood protection as part of the Lower San Joaquin River Feasibility Study. A signed copy will follow in the mail.

If you have any questions, please call me.

Dennis W. Westcot
Project Administrator
San Joaquin River Group Authority
716 Valencia Ave.
Davis, CA 95616-0153
Phone: (530) 758-8633
FAX: (530) 297-2603
e-mail: westcot-sjrga@sbcglobal.net

APPENDIX A-2

DRAFT FISH AND WILDLIFE COORDINATION ACT REPORT (DRAFT CAR)

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

United States Department of the Interior

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

In Reply Refer to:
08ESMF00-
2014-CPA-0012

JUN 24 2014

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

Subject: Transmittal of draft Fish and Wildlife Coordination Act report for the Lower San Joaquin River Feasibility Study

Dear Ms. Kirchner:

Please find enclosed for your review the U.S. Fish and Wildlife Service's draft Fish and Wildlife Coordination Act report for the Lower San Joaquin River Feasibility Study. By copy of this letter, we also request review and comment by the National Marine Fisheries Service and California Department of Fish and Wildlife.

If you have any questions, please contact Steven Schoenberg of my staff at (916) 414-6564.

Sincerely,

Daniel Welsh
Acting Field Supervisor

Enclosure

cc:
Tanis Toland, COE, Sacramento, CA
Michael Hendrick, NMFS, Sacramento, CA
Tom Kelley, USEPA, San Francisco, CA
John Kleinfelter, CDFW, Sacramento, CA
Eva Olin, CDFW, Stockton, CA
Ruth Darling, DWR, Sacramento, CA
Juan Neira, SJAFCA, Stockton, CA

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

DRAFT FISH AND WILDLIFE COORDINATION ACT REPORT FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

PREPARED BY:

Steven Schoenberg, Senior Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Habitat Conservation Division
Sacramento Fish and Wildlife Office
Sacramento, California

PREPARED FOR:

U.S. Army Corps of Engineers
Sacramento District
Sacramento, California

June 2014

DRAFT FISH AND WILDLIFE COORDINATION ACT REPORT FOR THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

INTRODUCTION

This document constitutes the Fish and Wildlife Service's (Service) draft detailed report on the U.S. Army Corps of Engineers (Corps) Lower San Joaquin River Feasibility Study. The Lower San Joaquin River Feasibility Study covers a region that includes the communities of Stockton, Lathrop, and Manteca, where there is a significant risk associated with flooding. The study has planning objectives to reduce flood risk, develop plans to address and communicate residual flood risks, and develop ecosystem restoration or enhancement features coincident with flood risk management.

There has been no prior formal (signed) coordination document prepared by the Service on the Feasibility Study. Prior involvement included attendance at one kick-off meeting in 2009 and a 2-day site visit on May 29-30, 2013. On August 15, 2013, we provided a staff-level Planning Memorandum outlining the potential effects of the project in the north central, and south areas of the project, based on the 2013 site visit, and prior involvement on a separate, Section 408 proposal known as the Reclamation District (RD) 17 Phase III Seepage Area Project; this project overlaps one of the elements of the Feasibility Study, but differs in the extent and types of work (Service 2013). A formal coordination document was not prepared for the 408 project due to lack of Corps funding. However, we did attend a site visit in March 2011, and submitted a comment letter on the Draft Environmental Impact Statement/Report (DEIS/R) for the RD 17 Phase III Seepage Area Project, which we appended to the 2013 Planning Memorandum for this project (Service 2011).

Coordination between the Service and other resource agencies has thus far has been limited to brief initial contact with the National Marine Fisheries Service (NMFS) and the Environmental Protection Agency. These agencies had previously commented on the RD 17 Phase III project as well in 2011. The California Department of Fish and Wildlife (CDFW) was contacted regarding their general guidance on mitigation for urban trees, but not specifically on the Feasibility Study. The limited nature of our coordination effort reflects: (a) the uncertain nature of project alternatives, which underwent repeated revision - culminating in a final array of alternatives received June 3, 2014, (b) the limited coordination funding the Service received from the Corps, and (c) lack of information on habitat quantities impacted by project alternatives (partial information provided May 30, 2014).

Information considered in this report includes observations during site visits, draft materials transmitted informally for our use by the Corps on this project (e.g., image files, tables, powerpoint presentations, draft narratives for the Feasibility Study), the DEIS/R for the RD 17 Phase III Seepage Project (Corps and RD 17 2011), and other materials in our files.

PROPOSED PROJECT

The Corps proposes to use a variety of structural approaches (termed "measures") used alone or in combination at different locations. Below, we describe these measures, how they are applied to each potential project element, and then the combinations of elements which form the alternatives.

Structural Measures:

Cutoff Walls: This measure is used to address seepage issues. Sites are cleared, grubbed, and the levee is degraded at least one half its height. A 3-foot minimum width trench is excavated to impermeable soil (variable depth) and filled with bentonite slurry during this excavation; after the slurry has cured, an impervious cap is installed. Finally, the levee is reconstructed.

Slope Reshaping: This measure is used to restore levees to Corps design criteria for sideslope and crown width. It is done by clearing and grubbing the waterside crest, crown, and landside slope, removing at least the top 2 feet of material. Suitable material is then placed on the landside and the slope shaped to meet Corps design criteria.

Levee Raise: For this study, this raising measure would be done to achieve 200-year protection and/or for sea level rise protection, depending on location. The work is done the same way as with slope reshaping, except that after suitable material is placed, the levee is rebuilt to a greater specified height.

Seepage Berm: This measure is also used to address seepage issues. It is a berm built on the landside of the levee, usually ranging from 150-200 feet wide, and is 3-5 feet high. Construction involves clearing and grubbing, and placement of successive layers of sand, gravel and soil (with filter fabric between the gravel and soil).

New Levee: This measure is used to reduce flood risk of outflanking, or as an alternative to repairing existing levees by setting the levee back. Construction involves clearing and grubbing, then excavating an inspection trench. Material is placed, watered, and compacted, then shaped to design specifications. A cutoff wall is also installed, if determined by inspection to be needed. Slopes are then armored with stone riprap as needed, and the remainder reseeded with grasses to prevent erosion.

Erosion Protection: This measure applies to areas which could be subject to high flows, tides, or wave action, during large events; and includes areas of the Delta Front and RD 17 work elements (see below), depending on alternative. It entails placing stone riprap on the entire slope of the levee from toe to crown.

Seismic Remediation: Used to reduce deformations during earthquakes, this measure involves installing a grid of soil-cement mix columns. It requires clearing, grubbing, and degrading the levee to one-half its height. The columns are created using a deep soil mixing auger, and then the levee is reconstructed with suitable material.

Closure Structure: This measure is used at the mouths of Smith Canal and Fourteenmile Slough. It involves installing a gate panel that is raised and lowered by rubber air bladders. This structure is attached to a concrete foundation. As needed, a sheet pile floodwall is installed to tie the structure into adjacent levee or high ground area.

Control Structure and Bypass Channel: This measure would allow use of the old Mormon Slough, or "Mormon Channel," as a flood bypass which runs from the Stockton Diverting Canal to the San Joaquin River. By taking off the peak of flood flows, this measure is an alternative to improvements along the Stockton Diverting Canal and portions of the lower Calaveras River. To do this, a box

culvert with a 12-foot-high radial gate would be installed where Mormon Channel meets the Stockton Diverting Canal. There are a number of low-water crossings which need to be removed or replaced with bridges, some channel widening, and several culvert modifications. It is designed to carry 1,200 cubic feet per second at most, and would be operated not more than every 2 years or so. The amount of flow and duration varies with the size of the event but it would be intermittent, flowing a few days, every few years. There may be other necessary work in Mormon Channel, such as remediation of any contaminants present in the slough, and restoration actions involving earthwork or plantings, but these have not yet been described.

Work Elements:

The Corps developed work elements described by location, with individual or combinations of structural measures in reaches, or collections of reaches, as follows:

Mosher Slough: In Mosher Slough, the Corps would use cutoff walls and levee raise as needed for sea level rise protection.

Delta Front (Shima Tract, Fivemile, Tenmile, and Fourteenmile Sloughs): In these reaches, the Corps would install cutoff walls and place erosion protection. Fourteenmile Slough would also receive seismic protection and a closure structure. Slope reshaping would be used in all of Tenmile and portions of Fourteenmile Slough. One section in the vicinity of Buckley Cove Marina would have slope reshaping and a seismic fix.

Smith Canal: A closure structure between Brown's Island and Dad's Point, and a short floodwall would be built (see also above, Structural Measures).

Calaveras River: Cutoff walls and some slope reshaping would be used for the north bank between the San Joaquin River and Cherryland Avenue, as well as for the south bank between the San Joaquin River and the Stockton Diverting Canal. The extent of this work is reduced in Alternative 9b compared to Alternatives 8a and 8b (see Alternatives, below).

Stockton Diverting Canal: Cutoff walls would be installed in the entire south levee between old Mormon Slough and the Calaveras River.

Mormon Channel: Work in this reach involves a control structure and other work, as described above (see Structural Measures).

San Joaquin River: This term applies to installation of cutoff walls on the right bank of the San Joaquin River from Burns Cutoff extending south and east to the north bank of French Camp Slough near Horton Avenue, and on a separate section from 2,100 feet upstream of the Calaveras River to the Smith Canal Closure Structure (this latter section would also be raised). Some slope reshaping would also be done in Burns Cutoff. For Alternative 8a, this element would be extended east by the construction of a section of about a mile of new levee on Duck Creek between French Camp Slough to the rail yard.

RD 17: This element involves various measures applied to levee sections bordering RD 17, beginning at the south bank of French Camp Slough 600 feet southeast of Carolyn Weston Boulevard, continuing south along the right bank of the San Joaquin River to Lathrop Road, and

turning east at the southern end of the existing tie back levee. It involves cutoff walls along French Camp Slough, a large section of cutoff walls and slope reshaping along the mainstem San Joaquin River, significant sections of seepage berms, levee reshaping, raising certain sections near Stewart Tract, and a new setback levee section in the vicinity of Old River. For the southernmost, east-west dryland section of levee, this levee would be extended east by a new levee section, the existing levee would be raised, and both existing and new levees would receive erosion protection.

Alternatives:

The alternatives include a No Action alternative (Alternative 1), and six action alternatives consisting of implementing different combinations of the various elements using structural measures, shown below:

Alternative 1: No Action. Under this alternative, the Corps would not participate in flood risk management.

Alternative 7a: Delta Front, Mosher Slough, Lower Calaveras River, Smith Canal, and San Joaquin River.

Alternative 7b: Delta Front, Mosher Slough, Lower Calaveras River, Smith Canal, San Joaquin River, and RD 17.

Alternative 8a: Delta Front, Mosher Slough, Lower Calaveras River, Stockton Diverting Canal, Smith Canal, and more work on the San Joaquin River (i.e., includes a new levee section on Duck Creek). This is the Corps' preferred alternative, or "tentatively selected plan."

Alternative 8b: Delta Front, Mosher Slough, the Lower Calaveras River, the Stockton Diverting Canal, Smith Canal, San Joaquin River, and RD 17.

Alternative 9a: Delta Front, Mosher Slough, less work on the Lower Calaveras River (north bank terminating at North Pershing Avenue, south bank terminating at about I-5), Smith Canal, and San Joaquin River.

Alternative 9b: Delta Front, Mosher Slough, less work on the Lower Calaveras River (north bank terminating at North Pershing Avenue, south bank terminating at about I-5), Smith Canal, San Joaquin River, and RD 17.

Vegetation ETL requirement: The Corps has determined that a vegetation free zone, as required by the Corps' Engineering Technical Letter 1110-2-571 (ETL), would be established for all elements of this project at the time of construction of flood features in each reach. This vegetation free zone extends from 15 feet landward of the levee to 15 feet waterward of the levee and includes the levee slopes and crown. This area may be seeded with native grasses and forbs, but no woody vegetation would be planted or allowed to grow on or within 15 feet of levees. The Corps will establish an operation and maintenance manual which will require routine measures to maintain these vegetation free zones.

Operation and Maintenance (O&M): To establish, reestablish, or maintain the required O&M and inspection road on the landside of the levee, the Corps has determined for this project, that trees

and shrubs would be removed from the landside levee from the levee toe approximately 20 feet landward on new levees and between 10 and 20 feet on existing levees, consistent with existing O&M agreements (i.e., O&M can exceed the ETL requirement). This O&M easement would be maintained clear of trees and shrubs through routine O&M (up to four times per year).

Borrow Areas: The estimated area of disturbance to obtain materials for the proposed work ranges from 132-461 acres; locations have not been specified.

Staging: Additional areas of disturbance would also be involved in construction for staging. We have no information on the locations or estimates of area at this time.

Mitigation: According to draft material provided May 30, 2014, the Corps stated that compensatory mitigation would be used to mitigate for project impacts; however, no information has yet been provided on any locations or quantities for this mitigation.

EXISTING BIOLOGICAL RESOURCES

Vegetation:

Existing resources were evaluated by conducting a site visit to representative sites in portions of the project area on May 29-30, 2013, in which the Service participated. The Corps developed an estimate of the area cover-types within the impact area of potential elements of the project using Google Earth, in which the impact boundaries were laid over satellite aerial photography. The impact area was divided into polygons of various cover-types which were summarized in tables. The Corps provided this information to the Service on April 30, 2014. Previously (March 1, 2011), the Service also participated in a more extensive site visit of RD 17, including most - but not all - of the areas included in the RD 17 element proposed in this study. Notes and photographs by Service staff from both site visits were also used to describe the resources. Below, we first describe the vegetation, then the cover-types, for the project area.

Although much of the vegetation in the project area is in a highly altered and fragmented landscape, it is a large area (~676 acres, all elements combined; ~42-53 levee miles affected by construction, depending on alternative), and varies considerably with location and even within a levee segment. For example, on Mosher Slough, there are dense trees to the west of Don Avenue, but only scattered ones to the east. On the Delta Front, there are few trees, scattered on both the land- and watersides of the impact areas. Elsewhere, on Fourteenmile Slough, levees are heavily rocked with individual trees, perhaps saved by local ordinances, and plantings associated with encroachments (e.g., gardens, boat docks). Wetland vegetation margins were seen during the site visit wherever soil and standing water occurred, even in the dryland levee area of the Delta Front, but usually not when there was a rock riprap toe, which was the much more common condition. The relatively barren appearance of the Stockton Diverting Canal, typed as ruderal, was consistent with the limited ground observations made during the site visit; although there were native and non-native trees adjacent to the canal (a Swainson's hawk was observed landside near such trees during the site visit). Here and in much of the Calaveras River sections that are under consideration, the channels are heavily maintained. However, there are often urban trees on the landside near enough to the levees that they would be affected by construction. These trees may be used by wildlife, such as hawks, which forage in the predominant dry portions of channels.

The old Mormon Channel actually has some significant vegetation in the form of sections with mature oaks and other understory riparian species, mainly between South Wilson Way and the Stockton Diverting Canal. Further west, the vegetation is sparse until Commerance Street, where the vegetation becomes thicker again, possibly due to water provided by tidal influence.

The vegetation along the San Joaquin River and French Camp Slough, including RD 17, varies considerably with location. There is more frequent woody riparian along the waterside of the levees of French Camp Slough, particularly the left (south) bank. There is also landside woody vegetation near and on the levee, either urban or associated with golf courses. Woody vegetation is much less frequent along the mainstem San Joaquin (both the San Joaquin and RD 17 elements) primarily because the levees, which are heavily rocked, form the land-water margin interface and do not provide a substrate for establishment. The vegetation which is present is limited and occurs in various forms: isolated trees or shrubs (or small groups) on the levee or at the land-water interface; shrub-scrub on levees sections that may be less vigorously maintained; limited groves of large trees on the landside (valley oak, in RD 17); and portions where the levee is set back a modest distance from the river, creating a riparian berm or oxbow (cottonwood riparian, in RD 17 and French Camp Slough). These berm areas in RD 17 are relatively infrequent and discontinuous, but could provide important fish and wildlife values due to the location. A significant quantity of this remaining vegetation is within the impact footprint, particularly within the San Joaquin River, RD 17, and Mormon Channel elements.

Wildlife:

The types of wildlife in the project area also vary with location. In urbanized areas, the impact areas are often riprapped and bordered by homes or other developments on the landside, with occasional trees at most. The adjacent waterside habitat varies with location - it can be a dry maintained floodway, open water, or open water with nearby marsh vegetation. These areas often lack ground cover or a soil layer. The most likely wildlife to occur there are those adapted to human disturbance such as house sparrow, house finch, rock pigeon, mourning dove, American crow, gulls, Norwegian rat, raccoon, and opossum. Great egret, great blue heron, and a number of species of ducks and other waterbirds would be expected in and near wetlands or other waters in the project area.

Where there is remnant forest or shrub cover, a much wider variety of wildlife can be expected, including birds such as acorn woodpecker, black phoebe, house wren, oak titmouse, western kingbird, yellow warbler, and spotted towhee, and mammals like beaver, cottontail rabbit, and (rarely) the listed riparian brush rabbit - which is known from locations of RD 17. Raptors such as the Swainson's and red-tailed hawk would be expected to be present where there are mature trees adjacent to agricultural lands (RD 17, old Mormon Channel), or urban trees adjacent to maintained dry floodways (Stockton Diverting Canal).

Fisheries:

Similarly, fish diversity and abundance would be expected to vary in the project area with urbanization, permanence of water, and tidal influence. In the nontidal urbanized waters to the east, one would expect introduced species such as mosquitofish, catfish, and carp, and perhaps a few others. In the tidal areas, including all of the sloughs and mainstem San Joaquin River, a much greater variety of fish species, both native and non-native species, are likely to be present. The San Joaquin River, its tributaries, and sloughs, are considered a major migration corridor for important

anadromous species, and can also provide rearing habitat for these species. Species of major significance include fall-run chinook salmon, delta smelt, Sacramento splittail, and white and green sturgeon. Many other native and nonnative species are also likely present in the tidal waterways, including catfish, black bass, sunfish, and minnow species.

Endangered Species:

A current list of federally-listed, endangered and threatened species is provided (Appendix A). The Service has consultation responsibility for all species other than anadromous fishes, which are the responsibility of NMFS. Of these, there have been recent sightings of the endangered riparian brush rabbit in portions of RD 17. Elderberry occurs within portions of the impact area of the project in a number of locations (often as individual shrubs within the levee cross-section), and is the host plant of the threatened valley elderberry longhorn beetle - whose range includes the project area - with nearby records on the Calaveras, Cosumnes, Middle, San Joaquin, and Stanislaus Rivers. The threatened giant garter snake is also known from the project vicinity, with nearby records on the Stockton Diverting Canal and Pixley Slough, among other locations. All of the listed fishes may be present in the mainstem San Joaquin River and adjacent waters that are part of the proposed project.

Cover-types, Resource Categories, and Mitigation Goals:

The Service's Mitigation Policy (Policy) (FR 46:15 January 23, 1981) provides general guidance in making recommendations to conserve fish and wildlife resources. Under the Policy, resources are assigned to one of four Resource Categories, with a mitigation goal consistent with the values provided to fish and wildlife and the rarity of that habitat (cover-type). A mitigation goal is assigned ranging from "no loss of existing habitat value" (Resource Category 1) for the most valuable kinds of habitat, to "minimize loss of habitat value" (Resource Category 4) for the less valuable and most common kinds of habitat. Application of the policy involves designating cover-types which may be affected, and assigning evaluation species based on the sensitivity of those species to the project action, their role in the ecosystem, or association with Service-wide resource management issues such as anadromous fish and migratory birds. We then state the Resource Category, the rationale for that selection, and the corresponding mitigation goal.

Oak woodland: This cover-type is characterized by an overwhelming dominance by oaks, usually valley oak, with other species like box elder, blue and live oak, and black walnut as associates. Understory can be grass only, or include shrubs like poison oak and wild grape. It provides important resting, nesting, cover, and forage functions for deer and squirrels, and is especially important in the project area for birds like the red-shouldered hawk, which would be an evaluation species. It is present in groves near RD 17, the old Mormon Slough channel, and in portions of French Camp Slough which could be affected by the project. Due to the importance of oak woodland to the evaluations species and limited extent in the project area, we designate it Resource Category 2, with a mitigation goal of no net loss of in-kind habitat value.

Riparian Forest: This cover-type is characterized by an overstory which is often dominated by cottonwood, and which includes other species like California sycamore, valley oak, box elder, and Oregon ash; the understory includes willow species, grape, wild rose, blackberry, poison oak, and elderberry. Riparian forest supports a relatively high diversity of bird and mammal species, including woodpeckers, squirrels, rabbits, towhees, salamanders, and others which utilize different layers and niches within the forest. It is present in the project area in the forms of sporadic patches or

individual trees throughout the project area at the levee toe, and on waterside berms or oxbows, where these exist, such as in RD 17, French Camp Slough, and elsewhere. Appropriate evaluation species reflecting this use would be the downy woodpecker. Due to the importance to the evaluation species, limited extent in the project area and regionally, we designate it Resource Category 2, with a mitigation goal of no net loss of in-kind habitat value.

Riparian Scrub-shrub: This cover-type consists of shrub species as just described for riparian forest. It also supports a wide variety of species, often is dominated by willows in the project area with a significant component of Himalayan blackberry, but does not support birds or species such as woodpeckers or hawks that use larger mature trees for forage or nesting. Individual elderberry plants are present in the project area, often within the existing levee (e.g., RD 17 south of Weston Boulevard; Dos Reis Park). The riparian scrub-shrub in the project area supports two listed species, the endangered riparian brush rabbit - which has been documented in the RD 17 element, and the threatened valley elderberry longhorn beetle - which was last documented in the region in a sighting along Middle River, near the project area. An appropriate evaluation species which uses this habitat would be the yellow warbler. Due to the importance to the evaluation species and limited extent in the project area, we designate it as Resource Category 2, with a mitigation goal of no net loss of in-kind habitat value.

Annual Grassland: This cover-type consists exclusively of annual grasses and, in the project area, is dominated by common grasses like ripgut brome, foxtail barley, weeds such as yellow starthistle and Italian thistle, and others. It is present on levee slopes and adjacent landside and water side areas throughout the project area that are not rocked, as well as within the upper portions of the Calaveras River and Stockton Diverting Canal floodways, which are dry outside of the flood season. Much of this area is subject to regular mowing as a maintenance and fire control activity. These areas do have wildlife value such as to foraging hawks, and their prey such as the California vole, which could serve as an evaluation species. However, this cover-type is relatively common in the region. Due to this abundance, we designate it Resource Category 4, with a mitigation goal to minimize loss of habitat value.

Orchard: This cover-type consists of fruit or nut trees, and is present in the impact footprint of the Mormon Channel bypass element. It does have value to some common mammals and bird species, although generally not to hawks. This cover-type is locally common in the planning area, but does provide somewhat greater values to fish and wildlife than grassland. Scrub jay would be an appropriate evaluation species. Considering its importance and abundance, we designate orchard as Resource Category 3, with a mitigation goal of no net loss of habitat value, while minimizing loss of in-kind habitat value.

Wetland: This cover-type occurs in or near permanent or temporary waters, and features wetland plants such as cattails, tules, and others. It provides cover and forage for songbirds associated with wetlands such as the tricolored and red-winged blackbirds, and western meadowlark, as well as wading birds like the great egret, which would serve as an evaluation species. It is sporadically present in the impact area of the project; in or near the margins of ditches, sloughs, and other waterways, usually as small-to-moderate sized patches or thin strips wherever there is an intersection of soil with shallow water. It is relatively uncommon in the planning area, although there are significant wetlands in at least Fourteenmile Slough, and it may be present in some abundance in French Camp Slough. Due to the importance to the evaluations species and limited extent in the

project area, we designate wetland as Resource Category 2, with a mitigation goal of no net loss of in-kind habitat value.

Shaded Riverine Aquatic Cover: Shaded Riverine Aquatic Cover (SRA cover) is defined as the zone of interface of water with the land margin, projected over the water to the maximum extent of overhead vegetation. The habitat value within the SRA cover zone varies with factors such as water depth, overhead cover from nearby riparian trees, instream cover elements such as wood, boulders, and submerged vegetation, and the type of aquatic substrate. SRA cover is considered essential habitat to a variety of fish species, and is used as cover, forage, spawning, and rearing habitat for fishes, both anadromous species and resident native and nonnative fishes. It also provides habitat for birds such as the kingfisher. An appropriate evaluation species would be the chinook salmon, for which evaluation models for SRA cover are available. SRA cover is extremely limited in the project footprint as well as the region, the result of clearing and bank protection from prior flood control, urban development, and/or navigation projects. Due to the vital importance to the evaluations species and very limited extent in the project area, we designate SRA cover as Resource Category 2, with a mitigation goal of no net loss of in-kind habitat value.

Urban landscaping: Urban landscaping is a term applied to trees which are planted in or near residences, golf courses, parks, and other developed grounds. These are typically non-native species or varieties of native species which are obtained from nurseries for shade and aesthetic values. There is urban landscaping near as well as within the project footprint in residential areas, where some plants have been placed within the maintenance zone of existing levees, including the cross-section of the levee itself (considered encroachments). Urban landscaping can have wildlife value particularly when, as here, it is in proximity to other cover-types like annual grassland or riparian forest or scrub. We do not typically designate evaluation species or a mitigation goal for urban landscaping, which is abundant in the planning area. Rather, the Service would recommend mitigation consistent with either State or local ordinances governing removal and replacement of this type of vegetation[1].

Agriculture: Agriculture exists in portions of the project footprint, in the RD 17 and Mormon Channel elements, in the form of row crops. These are harvested regularly, leaving fallow, tilled ground. This cover-type provides forage and habitat for ground-dwelling small mammals like the California vole, which are prey items for hawks; either of which can serve as evaluation species. It is common in the planning area and region, so we designate it Resource Category 4, with a mitigation goal to minimize loss of habitat value.

Disturbed Areas: This term is used to encompass other areas that lack vegetation and/or are so frequently disturbed as to have minimal or no resource value. It would include the upper rocked faces of levees (outside of any actual or potential SRA cover), roads whether paved or not, structures (homes, boat docks), and manicured lawns and shrubs. These areas do not have an evaluation species or mitigation goal.

---

[1] For example, if the State or local ordinance specified equal replacement of trees greater than 3-inches on the basis of 1:1 diameter at breast height, say a 3-inch tree is compensated by the planting of three, one-inch saplings, the Service would recommend the same. Such policies/requirements have not been researched at the time of this draft report.

FUTURE WITHOUT THE PROJECT (NO-ACTION ALTERNATIVE)

Under the no-action alternative, the various deficiencies in the project levees would remain. ETL non-compliant vegetation would probably remain, including native and non-native shrubs, trees, and other cover in and near the various levees. The future in RD 17 without the project would depend on whether or not separate action is taken to improve those levees, such as with the proposed Section 408 project for phase III. If the RD 17 phase III project were not built (by either the Section 408 project or the Feasibility Study), planned expansions of the Cities of Stockton and Lathrop would likely not occur. Under this scenario, the habitat conditions would remain as current, with relaxed maintenance of the existing levees, allowing limited shrub-scrub, oak woodland, and riparian forest, to remain. The adjacent landscape would continue as annual grassland or agriculture. If RD 17 phase III were built separately, it would have similar effects to the RD 17 element of the Feasibility Study (see Future With The Project, below).

FUTURE WITH THE PROJECT

The future with the project is considered in this report in several ways: (1) description of the effects of the project in project elements, or similar groups of elements based on examination of aerial imagery and calculations provided by the Corps; and (2) a quantitative comparison between alternatives of the amounts of habitat loss, also provided by the Corps, for those alternatives for which calculations are available (Table 1). We have not conducted any ground verification of these impacts, nor can we judge the habitat quality factors beyond gross vegetation stature as depicted on the aerial images. In all of the affected footprint areas, we assume the levee slopes and easements would be maintained, free of vegetation, as stated by the Corps in their description of the alternatives.

Mosher Slough: Levee raise and cutoff wall construction in this reach is expected to impact 6.5 acres of woody riparian on the waterside slope and easement, much of which appears to be mature from aerial imagery, and about 8 acres of landside riparian. This would be a significant loss within this particular area.

Delta Front: Effects vary considerably in these elements. A lot of the western front work within Shima Tract and along Fourteenmile Slough appears to be bare ground with sparse vegetation, which may be ruderal, but this cannot be confirmed from aerial imagery. Waterside vegetation which would be affected appears to be more prominent beginning at the Marina and south to about the Brookside development, which has much less vegetation due to the heavily rocked slope. Then portions of the work in the slough, such as the right side adjacent to West Swain Road, display much better vegetation. The work boundary also appears to intersect vegetation on the west side of the levee along Brookside Road south to March Lane; the type and quality of this vegetation cannot be identified from imagery. There would still be significant unaffected marsh and riparian vegetation remaining and unaffected by the work, in islands and shallow areas within Fourteenmile Slough and its right bank along Fourteenmile Drive[2].

[2] This area is not currently shown in Corps-provided imagery as in the footprint, however, it may be affected by maintenance requirements. This has not been resolved at the time of this draft report.

Calaveras River: The Corps has calculated a total of 36.5 acres of woody riparian impacts here on the land- and watersides including easements. The work appears to stay away from most of the vegetation along the northerly portion of Tenmile Slough Road, but along the right bank (Brookside Drive) would affect all of the waterside trees and encroachments, the only vegetation on these maintained sections, as well as possible natural vegetation (south of Pinehurst Circle). There would be significant effects on vegetation on the left (south) bank (River Road) as well, noted by the Corps on the landside; however, the project footprint appears to intersect significant waterside vegetation as well. The amount of waterside vegetation and hence the impacts, become less going east, and the effects are mostly ruderal and landside woody vegetation (probably urban landscaping), east of North Pacific Avenue. Although the losses are significant, there would be a substantial amount of unaffected habitat remaining between the levees.

Stockton Diverting Canal: As reported by the Corps, imagery does appear to confirm that the bulk of the impact of work in this reach is on ruderal vegetation (~34 acres) or disturbed lands, with occasional lost landside trees. The impacts here, would therefore be temporary in nature, and this vegetation would regrow after the work is done.

Mormon Channel: As stated above, there is some mature vegetation in this relict channel, and it is probably better described as riparian forest, oak forest and riparian scrub/shrub based on our limited ground observations during the site visit than "mixed trees and shrubs" as reported by the Corps, of which 10 acres would be impacted. These estimated impacts should be considered minimums, as the thickness of this vegetation varies, and surveys may reveal more may have to be removed for the bypass channel to convey the intended 1,200 cfs capacity. Of the impacts disclosed, the woody vegetation in these locations appears (both in satellite images and during the prior site visit) to be quite mature and of apparent high habitat quality (e.g., west of Walker Lane to Wilson Way), but of lesser quality west of Wilson Way. There could be some benefits if wetland habitat were enhanced in some way, or other restoration actions were taken.

San Joaquin River: From Burns Cutoff to French Camp Slough, there is limited vegetation on the waterside of the levee, but the project work would remove a significant part (12.5 acres on both slopes and easements) of what is left, because most of this length (a few miles) is completely rocked. There would be more riparian vegetation affected by work on French Camp Slough (35.5 acres), but some of this appears to be landside golf course landscaping and, as with the Calaveras element, there would be a significant amount of unaffected riparian vegetation remaining between the levees. Nevertheless, the effects would be significant, particularly on the left (south) bank bordering the Weston Ranch development. During the site visit, we observed trees not only adjacent to, but in some cases on the existing levee cross-section.

RD 17: This work includes a fairly long (~8+ mile) right bank section of the mainstem San Joaquin River. There are long sections with rock and only occasional waterside trees as the only vegetation, many of which are in the impact footprint of the work or O&M easement where vegetation would not be allowed. We noted some such trees or shrubs were on the margin of the impact zone or within the waterside easements, but were not marked by polygons as having been impacted, so the impacts reported are probably a minimum. Overall, the Corps estimates 34+ acres of woody riparian are on the slopes and easements that would be impacted. For the northern half of this element, from French Camp Slough to about Manila Road, this would result in removal of virtually all of the remaining woody vegetation. Most of the vegetation would be removed in the southern

Table 1. Existing vegetation within the entire potential project footprint (Alternatives 8a, 8b and 9b). The project footprint is comprised of the construction footprint and constructed features plus the easements required for operation and maintenance and for the USACE ETL no vegetation zone. Vegetation numbers are in acres except for shaded riverine aquatic habitat (SRA), which is provided in linear feet. Information provided by the Corps, unpublished, June 3, 2014.

	Mosher Creek	Delta Front[1]	Calaveras	SDC [2]	Mormon Channel	San Joaquin River downstream of French Camp Slough	French Camp Slough & Duck Creek	San Joaquin River along RD17	TOTAL Existing within project footprint and easements
SRA	6,790	9,880	9,290	0	0	7,420	7,760	23,940	56,180
Waterside Slope									
Woody Riparian	2.5	2.5	2.5	0.03		5.5	13.0	16.0	42.0
Wetlands	--	--	1.0	--		--	--	--	1.0
Irrigated Grass/Park	--	3.5	--	--		--	--	--	3.5
Ruderal	0	12.5	56.0	17.0		1.0	0	3.5	90.0
Waterside Easement									
Woody Riparian	4.0	5.5	7.5	0.03		1.0	7.0	7.0	32.0
Wetlands	--	0.5	1.0	--		--	0.5	--	2.0
Ruderal	2.0	4.5	0.5	11.5		5.0	2.5	26.0	52.0
Landside Slope									
Woody Riparian	8.0	1.0	15.5	0.5		3.0	12.0	4.5	44.5
Irrigated Grass/Park	--	2.0	3.5	--		--	--	--	5.5
Ruderal	0	20.5	30.0	17.0		12.0	8.0	54.5	142.0
Landside Easement									
Woody Riparian	7.0	3.5	11.0	1.0		3.0	3.5	7.0	36.0
Wetlands	--	--	0.2	--		0.3	--	0.01	0.5
Irrigated Grass/Park/Golf Course	--	1.0	2.0	--		1.0	--	--	4.0

Table 1. Existing vegetation within the entire potential project footprint (Alternatives 8a, 8b and 9b). The project footprint is comprised of the construction footprint and constructed features plus the easements required for operation and maintenance and for the USACE ETL no vegetation zone. Vegetation numbers are in acres except for shaded riverine aquatic habitat (SRA), which is provided in linear feet. Information provided by the Corps, unpublished, June 3, 2014.

	Mosher Creek	**Delta Front**[1]	**Calaveras**	**SDC**[2]	**Mormon Channel**	**San Joaquin River downstream of French Camp Slough**	**French Camp Slough & Duck Creek**	**San Joaquin River along RD17**	**TOTAL Existing within project footprint and easements**
Orchard/vineyard	--	--	1.5	0.5		--	--	--	2.0
Row/Field crops	--	--	--	--		--	--	4.0	4.0
Ruderal	1.5	10.5	20.0	11.0		3.0	6.0	27.5	79.5
Levee Crown									
Paved/Graveled/Scraped	2.0	11.5	25.0	14.0		1.5	3.0	33.5	90.5
Woody Riparian	3.0	--	--	--		--	4.0	--	7.0
New Levee									
Orchard/vineyard	--	--	--	--		--		8.0	8.0
Row/Field crops	--	--	--	--		--		14.0	14.0
Mormon Channel Project Construction Footprint									
Mixed Trees & Shrubs					10.0				10.0
Orchard/Vineyard					4.5				4.5
Row Crops/Field Crops					1.0				1.0
TOTALS									
SRA									**56,180**
Woody Riparian									**161.5**

Table 1. Existing vegetation within the entire potential project footprint (Alternatives 8a, 8b and 9b). The project footprint is comprised of the construction footprint and constructed features plus the easements required for operation and maintenance and for the USACE ETL no vegetation zone. Vegetation numbers are in acres except for shaded riverine aquatic habitat (SRA), which is provided in linear feet. Information provided by the Corps, unpublished, June 3, 2014.

	Mosher Creek	**Delta Front[1]**	**Calaveras**	**SDC[2]**	**Mormon Channel**	**San Joaquin River downstream of French Camp Slough**	**French Camp Slough & Duck Creek**	**San Joaquin River along RD17**	**TOTAL Existing within project footprint and easements**
Mixed Trees & Shrubs									**10.0**
Wetlands									**3.5**
Irrigated Grass/Park/Golf Course									**13.0**
Orchard/vineyard									**14.5**
Row/Field crops									**19.0**
Ruderal									**363.5**
Paved/Graveled/Scraped									**90.5**
TOTAL									**675.5**

[1] Delta Front = Fourteenmile Slough, Tenmile Slough, Fivemile Slough

[2] SDC = Stockton Diverting Canal

half of the element as well, although there would be some unaffected vegetation in the vicinity of the setback segment across from the Old River confluence, a few oxbows, and some other narrow waterside berms. In the east-west dryland portion of the levee work at the south end, impacts appear to be limited to ruderal vegetation and some agriculture (14 acres total for this element).

If the RD 17 levees were improved, as either part of this Feasibility Study or the Section 408 project (both designed with a fix-in-place approach), this would permit the near-term development of most of this adjacent land into residences and commercial/industrial structures; roughly 4,700 acres on which would be built 24,000 residences and about 800 acres of commercial property. This would include all lands up to the O&M easement of the improved levee. Habitat remaining after the RD 17 work would be limited to ETL compliant vegetation outside the O&M zones, probably very limited riparian on discontinuous waterside berms and oxbows. Wildlife would be at risk of disturbance from human activities, and movement between habitat patches would likely be impaired in that location. The outcome of formal consultation with the Service and NMFS under authority of the Endangered Species Act would ensure that any such project does not jeopardize the existence and recovery of any listed species and may include measures and/or other project alternatives to provide such assurance.

Overall impact estimates are available currently only for Alternatives 8a, 8b, and 9b, but suggest that the impacts in terms of habitat loss would be significant, reflecting the large scope of the project (43-50+ miles of levee)(Table 2). The amounts of loss, depending on alternative would be at least 300 acres ruderal (annual grassland); ~95-163 acres of native woodlands, and 10+ miles of SRA cover. However, the maximum resource effects would be associated with Alternative 9b, because it

Table 2. Vegetation and Land Type Effects by Alternatives (Corps-provided; * - information not yet available).

Land Cover-types	**Alt 7a***	**Alt 7b***	**Alt 8a**	**Alt 8b**	**Alt9a***	**Alt 9b**
Natural Lands						
SRA			37,680	56,180		56,180
Waterside Riparian Trees and Shrubs			35.5	74		74
Landside Riparian & Landscape Trees and Shrubs			59.5	80.5		79
Mixed Trees & Shrubs			0	0		10
Agricultural Lands						
Orchards/Vineyards			2	10		14.5
Row/Field Crops						19
Developed/Disturbed Areas						
Irrigated Grass			13	13		13
Ruderal			255.5	363.5		<318.5
Paved/Graveled/Scraped			57	90.5		<76.5

includes the vegetation impacts of both RD 17 and Mormon Channel elements on top of other elements common to all alternatives. The least impacts would be Alternatives 7a and 8a (the Corps tentatively selected plan), which would impact neither of these elements; these would likely be similar because the difference in elements (8a and 8b include the Stockton Diverting Canal and upstream portions of the Calaveras River) mostly impact additional ruderal vegetation. While we expect that Alternative 9a may have more impact than Alternatives 8a or 7a on woody vegetation, it may have other - as yet to be defined or quantified - possible benefits to wetlands and/or aquatic habitats as part of the bypass element in Mormon Channel.

DISCUSSION

Since issuance of our 2013 Planning Memorandum, the Corps has developed additional information on the footprint, type of work, and potential habitat impact, of the various alternatives for the Feasibility Study. However, there are significant remaining uncertainties, and information gaps, that need to be addressed. For example, the Corps' use of Google Earth in developing impact estimates has significant limitations. It does not discern the quality of the affected habitat, in terms of vegetation species, height, diameters, associated ground cover, plant number (in many cases), health, and other characteristics - such as inundation frequency. In some cases, this method probably has some error in distinguishing woody and herbaceous vegetation and/or wetland vegetation. These characteristics are of importance to determining effects of the project, and the need for and amount of mitigation. Ground-based study is warranted, at least for the alternative that is to be constructed.

At this time, there is also considerable uncertainty in the actual habitat impacts, depending in part on vegetation allowances. The current alternatives all assume adherence to the Corps' ETL and O&M management standards throughout the project, which would result in the removal of large amounts of land- and waterside woody vegetation within easements. The Corps also has guidance for obtaining a variance from these management standards, which might allow some vegetation to remain in place, or regrow after construction, although this must assure the safety, integrity, and function of the system are retained, and it can be inspected, monitored and maintained, among other requirements. The Corps would likely make its decision based on information on engineering characteristics of the site(s) for which a variance request, if any, is made. Even if a variance were approved, vegetation allowed under that variance may be limited.

The effects on fish and wildlife resources would vary with location, which vary considerably in prior work and remaining habitat. The proposed work in the North Stockton area includes already maintained slopes, but would involve removal of a significant number of individual trees; in these locations, these individual trees are often the only waterside vegetation, and their removal would eliminate all the remaining habitat. In Central Stockton, work on the Stockton Diverting Canal would be largely temporary effects on grassland. Elsewhere, the Mormon Channel bypass would impact relatively mature vegetation, but could be compensated in part by other created cover-types. More information needs to be developed about this alternative, and the kinds and amounts of other cover-types it could support.

Fish and wildlife resources would be more substantially affected by work in the RD 17 element than most others for several reasons. The location is along a section of the mainstem that provides key habitat for important fish and wildlife resources, including both listed wildlife such as the riparian brush rabbit, an endemic which has a very limited distribution that includes this area, and the valley

elderberry longhorn beetle. These habitats are also important to migratory birds such as Swainson's hawk (which likely use both land- and waterside large trees), as well as migratory fishes - including listed fishes - which use the limited SRA cover along the margin of this location. This habitat would be lost either through construction, or maintenance of the proposed project, as well as by related development once flood protection is in place. Construction in this reach using a fix-in-place approach (either as proposed in the Feasibility Study or the 408 study), would permanently foreclose any future restoration opportunity - such as a setback of any kind - that could enhance fish and wildlife generally, and specifically contribute to the recovery of these listed species. This is because the planned development to allow urban expansion would take up all of the remaining lands (now agricultural), behind the levee. Conversely, a careful consideration of setback levees in the Lower San Joaquin River portions of the Feasibility Study - including, but not limited to RD 17 - could preserve and enhance habitat, and improve the prospect of recovery of listed species.

Although we now have a rough idea of the construction footprint and quantity of habitat impacted for several - but not all - alternatives, there is no information yet on mitigation. This is an important consideration to determining the net effect of the project on fish and wildlife resources. The Service's preference would be to modify alternatives or elements of alternatives where there are significant effects on habitat. Consistent with our 2013 Planning Memorandum on this project, and our 2011 comments on the 408 project for RD 17 phase III, we recommend first avoiding impacts by developing an alternative involving setting back the levee as continuously as possible for this element. Where there are unavoidable impacts that cannot be replaced on-site, we recommend that compensatory mitigation be implemented as near as possible to the location of impacts, in a form that replaces the same habitat or habitat values (in-kind). In particular, for losses of SRA cover on the mainstem San Joaquin River, the preferred form and location of mitigation would be replacement SRA cover also on the mainstem, and within the planning area for the project. If mitigation on- or near- the impacted area is not possible, then it should be proposed in areas believed to be of high priority for conservation or restoration, and that would provide values similar to or greater than the impact area. The Corps should at least develop mitigation plans to offset losses of all natural cover-types affected by the project (SRA cover, oak woodland, riparian forest, riparian scrub-shrub, wetland). Additional mitigation for other kinds of tree loss (urban landscaping, orchard) may be appropriate if provided by local or State ordinance, but we defer any specific recommendation for mitigation for this impact pending ground-truthing of those losses, and coordination with State and Federal resource agencies.

None of the alternatives appears to address the stated planning objective of ecosystem enhancement or restoration beyond that required for mitigation of impacts. Examples of enhancement opportunities could include levee setbacks that would allow more habitat (RD 17, elsewhere on the mainstem San Joaquin River, and other locations, including Paradise Cut), protection to ensure the future of existing habitat (e.g., through the creation of conservation easements), or additional measures to facilitate restoration on otherwise protected lands, consistent with any flood control purpose (plantings, earthwork, habitat structure). We recommend the Corps review these opportunities, and include ecosystem restoration and enhancement elements in its preferred alternative that would achieve this planning objective.

RECOMMENDATIONS

For the proposed Lower San Joaquin River Feasibility Study, the Service recommends the Corps:

1. Resolve uncertainties and information gaps in the study, as follows:

   a) Determine vegetation impacts and future allowances in all project locations with certainty, prior to construction;
   b) Clarify the expected future habitat types, and locations, for the Mormon Channel bypass;
   c) Conduct ground-level assessment of vegetation losses, including but not limited to cover typing, species, height, diameter, substrate, and inundation frequency; and a habitat evaluation procedures study if deemed appropriate by the Service;
   d) Develop and propose mitigation to offset habitat losses, using the guidance provided in this report (see Discussion, above), with locations and quantities of all mitigation plantings, and plans for monitoring;
   e) Complete assessment of impacts for all alternatives; and
   f) Identify staging and borrow areas.

2. Develop a setback levee alternative for alternatives which include the RD 17 work element;

3. Initiate section 7 consultation with the Service on the effects of project construction, operation, and maintenance, on federally-listed species;

4. Conduct appropriate consultation with the CDFW on effects to State-listed species, and with NMFS, for effects to anadromous fisheries under their jurisdiction.

5. Develop enhancement and restoration opportunities for incorporation to the maximum extent possible into the preferred alternative for the project.

REFERENCES

U.S. Army Corps of Engineers and Reclamation District 17 [Corps and RD 17]. 2011. Draft Environmental Impact Statement/Environmental Impact Report for Phase 3 - RD 17 100-Year Levee Seepage Area Project. September 2011. Prepared by AECOM, Sacramento, California, for the Army Corps of Engineers, Sacramento District. ~300 pp.+appendices.

U.S. Fish and Wildlife Service [Service]. 2011. Letter from Daniel Welsh, Sacramento Fish and Wildlife Office, to John Suazo, Sacramento District. October 24, 2011. Subject: Comments on Draft Environmental Impact Statement/Environmental Impact Report for Phase 3 - RD 17 100-Year Levee Seepage Area Project. 8 pp.

_____. 2013. Planning Memorandum for the Lower San Joaquin River Feasibility Study. August 15, 2013. Sacramento Fish and Wildlife Office. Sacramento, California. Transmitted by email from Steven Schoenberg, Sacramento Fish and Wildlife Office, to Tanis Toland, Sacramento District. 5 pp + attachment.

APPENDIX A: June 9, 2014, list of endangered and threatened species that occur in or may be affected by projects in the area of the Lower San Joaquin River Feasibility Study

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140609045025

Current as of: June 9, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardi

vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris

green sturgeon (T) (NMFS)

Hypomesus transpacificus

Critical habitat, delta smelt (X)

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Mammals

Sylvilagus bachmani riparius

riparian brush rabbit (E)

Plants

Cordylanthus palmatus

palmate-bracted bird's-beak (E)

Quads Containing Listed, Proposed or Candidate Species:

STOCKTON EAST (461B)
MANTECA (461C)
STOCKTON WEST (462A)
LATHROP (462D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We

recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 07, 2014.

APPENDIX A-3

NATIONAL HISTORIC PRESERVATION ACT, SECTION 106, COMPLIANCE

(DRAFT PROGRAMMATIC AGREEMENT & CORRESPONDENCE)

LOWER SAN JOAQUIN FEASIBILITY STUDY

PROGRAMMATIC AGREEMENT
BETWEEN
THE U.S. ARMY CORPS OF ENGINEERS AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER,
REGARDING
THE LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY,
SAN JOAQUIN COUNTY, CALIFORNIA

WHEREAS, the Lower San Joaquin Project (Project) is The Lower San Joaquin River Feasibility Study (LSJRFS) is being accomplished generally in accordance with the Corps Section 905(b) Analysis (Water Resources Development Act (WRDA) 1986, Public Law (PL) 99-662) dated 23 September 2004. The Section 905(b) Analysis was approved by the Commander, South Pacific Division (SPD) on 10 June 2005. The Section 905(b) Analysis was prepared in response to House Report 105-190, which accompanied the Energy and Water Development Appropriations Act of 1998 (PL 105-62) ; and

WHEREAS, the Corps is proceeding with the Project, and has determined that the approved project alternatives constitute an Undertaking as defined in the Advisory Council on Historic Preservation Procedures, 36 CFR § 800.16(y); and

WHEREAS, purpose of the feasibility study is to determine the level of Federal interest in providing increased flood protection by 2025, to develop a flood protection system that is adaptable to future changing physical and environmental conditions, and to implement improvements in the study areas as soon as possible. The Project study area is along the San Joaquin River parallel to the City of Stockton in San Joaquin County. A map of the Project study area is included as Appendix 1 to this programmatic agreement (PA); and

WHEREAS, the Corps has determined that effects on properties that are either included in, or are eligible for inclusion in the National Register of Historic Places (NRHP) cannot be fully determined prior to final approval of the Project and selection of approved alternatives; this agreement addresses all phases and segments of the Project; and

WHEREAS, the Corps has consulted with the California State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act of 1966 (Section 106), and the implementing regulations described under 36 CRF Part 800; and

WHEREAS, the Corps has consulted with the Advisory Council on Historic Preservation (ACHP) and the ACHP has [declined/chosen] to participate in a letter dated [Insert Date]; and

WHEREAS, the Corps has consulted with the San Joaquin Area Flood Control Agency, and the Department of Water Resources and has invited them to participate as concurring parties; and

WHEREAS, the Corps has contacted, and will continue to consult with, the Buena Vista Rancheria of Me-Wuk Indians, The California Valley Miwok Tribe, the Ione Band of Miwok

DRAFT

Indians, the Nototomne/Northern Valley Yokuts, and the Wilton Rancheria and invited them to consult on this agreement and participate as concurring parties; and

NOW, THEREFORE, the Corps and the SHPO agree that the proposed Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties and to satisfy the Corps' Section 106 responsibilities for all individual aspects of the Undertaking.

I. STIPULATIONS

The Corps shall ensure that the following measures are carried out:

Stipulation I
Professional Qualifications and Definitions

A. The Corps shall ensure that historic, architectural, and archaeological work conducted pursuant to this agreement is carried out by, or under the direct supervision of, a person or persons who meet the qualifications set by the Secretary of the Interior for Archaeology and Historic Preservation, in the appropriate discipline, as required by paragraph g of 36 CFR Part 61—Procedures For State, Tribal, And Local Government Historic Preservation Programs.

B. The definitions set forth in 36 CFR § 800.16, with amendments, effective August 5, 2004, are incorporated herein by reference and apply throughout this PA;

.

Stipulation II
Area of Potential Effects

A. The Corps shall define and document the area of potential effects for all defined alternatives (APE) in consultation with SHPO. Modifications of the APE may be made by mutual agreement of the signatories without amending this Agreement.

B. The APE shall include the footprint of all construction activities, staging areas, haul roads, and mitigation sites. The APE may also include sensitive structures within range of vibratory or sonic disturbances and historic properties and districts close enough to project construction that the integrity of their setting or feeling could be affected.

C. The APE may include portions of the Recommended Study Analysis Area indicated on the map included as Appendix 1.

D. In the event that the Corps and the SHPO cannot agree on an APE, the Corps shall resolve the dispute in accordance with Stipulation XV.

Stipulation III
Identification and Evaluation

DRAFT

A. The Corps shall acquire a current and complete records and literature search from the Central California Information Center at California State University, Stanislaus, prior to conducting archaeological surveys of the APE. Records and literature searches shall be considered complete and current for a period of five years after they are conducted unless, in the professional opinion of Corps archaeologists, more frequent updates are required.

B. The Corps shall maintain ongoing consultation with Native American Tribes and individuals, as described in Stipulation VI, to identify properties that are of religious and cultural significance to them and that may be eligible for the National Register. Traditional Cultural Properties will be evaluated in accordance with the guidance presented in National Register Bulletin 38: *Guidelines for Evaluating and Documenting Traditional Cultural Properties*.

C. The Corps shall complete and report the results of all required cultural resources inventories of the Undertaking's APE in a manner consistent with the "Secretary of the Interior's Standards and Guidelines for Identification" (48 FR 44720-23) and take into account the National Park Service's publication, "The Archeological Survey: Methods and Uses" (1978: GPO stock #024-016-00091). Inventories shall include both archaeological surveys and inventories of historic buildings, structures, and districts as appropriate. The Corps shall include a geoarchaeological evaluation of the APE in its survey and shall undertake subsurface reconnaissance as appropriate. Surveys shall include areas not previously surveyed and those where the Corps, in consultation with SHPO, deems previous surveys to be inadequate, e.g. areas with changes in landscape due to fire, erosion, flooding episodes which may have exposed previously unknown cultural resources. The Corps will also include additional areas that may be affected by changes in the project design, borrow areas, haul roads, staging areas, extra work space, mitigation sites, and other ancillary areas related to the Undertaking. If identified cultural resources can be evaluated for the NRHP based on the results of survey, context statements, and historic documentation, then the Corps may request SHPO concurrence with those eligibility determinations without further study. The Corps shall submit reports produced after intensive surveys to SHPO for review. The Corps shall deliver its submissions to the SHPO by email, fax, or hand delivery, whichever is most expedient. SHPO shall have thirty (30) calendar days after receipt to provide comments to the Corps.

D. The Corps shall include in its site recordation documents all unrecorded archaeological sites, linear features, and isolates encountered in the course of the survey. The Corps shall prepare updated records of previously recorded sites as necessary. The Corps' survey shall record all prehistoric sites and all historical sites, structures, buildings, and engineering features greater than forty-five (45) years of age. Historic sites to be recorded shall include, but not be limited to: commercial, residential, and ecclesiastical buildings, roads, trails, railways, bridges, levees, culverts, and agricultural features, including ditches.

E. The Corps shall use the California Department of Parks and Recreation (DPR) Form 523 to record all newly discovered historic or prehistoric archaeological sites and isolates, previously recorded archaeological sites, and where necessary, shall create updated site records using the DPR 523 Form. Isolates shall be numbered sequentially, plotted on a map, and recorded on a single table within the report. The Corps shall examine non-linear sites that extend outside of the

DRAFT

APE in their entirety unless access to land is prohibited or the scale of the resource makes doing so prohibitive. In the event access cannot be gained, the Corps shall consult with SHPO regarding appropriate means of evaluating a given site. The Corps shall record linear resources (i.e., railway, ditch, canal, levee, etc.) that appear on General Land Office (GLO) plat maps or are known from other archival data to be potentially significant either on their own merit or as a contributing element to a larger resource, e.g., district, or which have associated features or dateable artifacts on DPR 523 site Forms. The Corps will treat linear resources not mentioned on GLO plat maps, or those that appear on GLO plat maps, but which are not associated with features or dateable artifacts, or those that do not otherwise appear to be significant on the basis of known archival data as "isolated feature segments" and shall record them in tabular form. Such records shall include, at a minimum, a ground-truthed map of the linear feature within the APE. Historic structures and buildings shall be recorded using the Office of Historic Preservation, Historic Resources Inventory form.

F. If the National Register significance of a cultural resource requires testing or another form of formal evaluation, an Evaluation Plan (EP) will be developed to provide for consistent and thorough evaluation. The Corps shall ensure that EPs prepared for previously unevaluated cultural resources identified within the APE are consistent with the "Secretary of the Interior's Standards and Guidelines for Evaluation" (48 FR 44723-26) and include a research design and historic context, as appropriate. The Corps shall develop individual EPs to address different categories of potentially eligible historic properties. The Corps shall develop a Discovery Evaluation Plan (DEP) and a Construction Monitoring Plan (CMP) as components of an EP. An EP shall be used whenever the Corps, in consultation with the SHPO, determines that a cultural resource should be evaluated and use of the EP is essential to determine the boundaries and data potential of the site. If the Corps undertakes any archaeological testing, such testing shall be sufficient to define and delineate the site clearly, and to determine the site's eligibility for inclusion in the NRHP. Archaeological excavation undertaken by the Corps under this Stipulation shall not exceed four (4) cubic meters of soil or five percent (5%) of the surface of the site without consultation with the SHPO. Should the Corps, in consultation with the SHPO, determine that a given resource is eligible for the NRHP; a Historic Property Treatment Plan, as described under Stipulation VIII, shall be produced for that property.

G. The Corps shall submit the EP for concurrent review to the SHPO and invited Native American Tribes. The Corps shall deliver its submissions by email, fax, or hand delivery, whichever is most expedient. The Corps shall allow reviewers thirty (30) calendar days after receipt to comment on the draft EP. The Corps shall ensure that any comments received within that time are taken into account and considered for incorporation into the final EP, as appropriate. If the Corps cannot concur with comments made by SHPO and/or Native American Tribes, the Corps will resolve the dispute in accordance with Stipulation XV. Failure of the SHPO to comment within the specified time shall not preclude the Corps from finalizing and implementing the draft EP. The Corps shall ensure that the SHPO is expeditiously provided with copies of the final EP.

H. The Corps and the SHPO may develop standard protection plans (SPP) for classes of resources that occur commonly in the APE and that may be encountered unexpectedly during construction. SPPs shall include a clear description of the class or classes of resources covered and the specific actions that the Corps will take to mitigate or avoid adverse effects to those resources.

I. The Corps shall submit all SPPs for concurrent review to the SHPO and appropriate Native American Tribes. Submissions shall be delivered in the most expeditious manner possible: by email, fax, or hand delivery. The Corps shall allow reviewers thirty (30) calendar days after receipt to comment on the draft SPP. The Corps shall ensure that any comments received within that time are taken into account and considered for incorporation into the final SPP, as appropriate. If the Corps cannot concur with comments made by SHPO and/or Native American Tribes, the Corps will resolve the dispute in accordance with Stipulation XV. Failure of the SHPO to comment within the specified time shall not preclude the Corps from finalizing and implementing the draft SPP. The Corps shall ensure that the SHPO is expeditiously provided with copies of the final SPP.

J. The Corps, in consultation with SHPO, shall ensure that determinations of eligibility are made in accordance with the criteria set forth in 36 CFR §60.4 for all properties not covered by an SPP. This applies to all historic properties within the APE, including additional areas that may be affected by changes in the project design, borrow areas, haul roads, staging areas, extra work space, mitigation sites, and other ancillary areas related to the Undertaking. If the Corps and the SHPO cannot agree on the eligibility of a property for the NRHP, the Corps shall obtain a determination from the Keeper of the National Register in accordance with 36 CFR Part 63. The determination of the Keeper shall be final for purposes of this PA. Any other disputes shall be settled following the procedure set forth under Stipulation XV.

Stipulation IV
Reporting

In accordance with Stipulation III(C) and Stipulation III(F), the Corps will prepare draft survey and evaluation reports. The Corps will ensure those copies of draft survey and evaluation reports are submitted concurrently to the SHPO, the SQF, and other parties to this agreement for a thirty (30) day period, from receipt, for review and comment. Documents shall be considered delivered five (5) days after deposit in the United States mail. Failure by any reviewer to comment within this time period shall not preclude the Corps from allowing draft reports to be finalized. Within thirty (30) calendar days of finalizing the reports, the Corps shall provide all reviewers named in these stipulations copies of all final reports.

Stipulation V
Determinations of Effect

The Corps shall apply the Criteria of Adverse Effect pursuant to 36 CFR §800.5(a) (1) to all historic properties within the APE that will be affected by the Project. The Corps shall make determinations of effect in consultation with the SHPO and other interested parties. If it is determined that the project will result in no adverse effects to historic properties, then the Corps may issue a notice to proceed with construction. If adverse effects are unavoidable, the Corps shall develop a Historic Properties Treatment Plan following the procedures set forth under Stipulations VII and VIII.

Stipulation VI

DRAFT

II. Tribal Consultation and Treatment of Human Remains

A. The Corps shall ensure that the Tribes identified above are invited to participate in the development and implementation of the terms of this PA. The Corps shall also invite these Tribes to participate in the identification and evaluation of historic properties. The specific manner in which this Tribal involvement will occur shall be set forth in the HPTPs.

B. The Corps shall ensure that Native American human remains, grave goods, items of cultural patrimony, and sacred objects encountered during the Undertaking that are located on state or private land are treated in accordance with the requirements of California State Health and Safety Code, Section 7050.5, NRS 383.

(i) Stipulation VII
(a) Non-Federal Stakeholder Involvement

A. In consultation with interested Native American Tribes and the Native American Heritage Commission (NAHC), the Corps will identify historic properties of traditional religious and cultural importance.

B. Following the guidance provided in National Register Bulletin 38, the Corps shall seek comments from all potentially interested Native American Tribes or other appropriate group(s) when making determinations of eligibility for any Traditional Cultural Properties.

C. The Corps has consulted with the Department of Water Resources, and the San Joaquin Area Flood Control Agency in the development of this agreement. All agencies have been invited to be concurring parties and will be given the opportunity to comment on the identification and treatment of historic properties efforts detailed in Stipulations III, V, and VII.

The Corps shall invite the interested public and Native American Tribes, to provide input on the identification, evaluation, and proposed treatment of historic properties. The Corps shall involve the interested public through letters of notification, public meetings, and/or site visits, as the Corps deems appropriate.

D. The Corps shall allow all reviewers thirty (30) calendar days after receipt to provide comments to the Corps. The Corps shall take into account all comments provided by reviewers, and incorporate them into the final survey and evaluation reports, as appropriate. The Corps shall resolve disputes in accordance with Stipulation XV.

E. Pursuant to Section 36 CFR § 800.6(c)(2-3) of the ACHP's regulations, the Corps shall consider requests by consulting parties and others to become concurring parties to this Programmatic Agreement.

III. Stipulation VIII
Preparation of Historic Property Treatment Plans

DRAFT

The Corps, in consultation with all parties to this agreement shall ensure that a HPTP is developed for the mitigation of anticipated effects on historic properties that will result from the Project and that cannot be avoided. Further, the Corps, in consultation with SHPO, will ensure the development of location and property specific Data Recovery Plans.

A. Avoidance of adverse effects on historic properties is the preferred treatment approach. The HPTP shall discuss and justify the chosen approaches to the treatment of project historic properties and those treatment options considered, but rejected. If preservation of part or all of any historic properties is proposed, the treatment plan shall include discussion of the following:

1. Description of the area or portions of the historic properties to be preserved in-place, and an explanation of why those areas or portions of sites were chosen;
2. Explanation of how the historic properties will be preserved in-place, including both legal and physical mechanism for such preservation;
3. A plan for monitoring and assessing the effectiveness of mechanisms to preserve the historic properties; and
4. A plan for minimizing or mitigating future adverse effects on the historic properties, if preservation in-place mechanisms prove to be ineffective.

B. When avoidance is not feasible, the Corps, in consultation with the SHPO, shall ensure the development of an appropriate treatment plan designed to lessen or mitigate project-related effects to historic properties. For properties eligible under National Register criteria A, B, or C, as described in 36 CFR §60.4, the Corps may consider mitigation other than data recovery in the treatment plan (e.g., HABS/HAER recordation, oral history, historic markers, exhibits, interpretive brochures, or publications, etc.). Where appropriate, the Corps shall include a provision in the treatment plans stipulating the development of a publication for the general public, the content of such a document, and the minimum number of copies to be produced.

C. When data recovery is proposed, the Corps, in consultation with the SHPO, shall ensure the development of a data recovery plan that is consistent with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and the ACHP's "Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites" (ACHP June 17, 1999 or most recent edition). Components to be included in research designs and data recovery plans are found in Appendixes 2 and 3 to this PA.

D. Each phase or segment specific treatment plan shall relate directly to the HPTP prepared for the project, providing specific direction for the execution of data recovery within any project segment. Appendix 3 lists components to be included in data recovery plans.

E. All parties to this agreement referenced in Stipulation VII shall have the opportunity to review and comment on the HPTP's.

IV. Stipulation IX
Review of Treatment Plan

DRAFT

The Corps shall ensure that draft HPTPs are submitted concurrently to the SHPO, and all parties to this agreement for review and comment. The Corps shall allow reviewers thirty (30) calendar days after receipt of the draft HPTP to provide comments. The Corps shall take into account any comments received during this time and incorporate them into the final HPTP as appropriate. In the event that disputes are not easily remedied, the Corps shall resolve them in accordance with Stipulation XV. Failure to comment within this time shall not preclude the Corps from finalizing and implementing the HPTP. The Corps shall expeditiously provide all reviewers with copies of the final HPTP.

A. If the Corps revises the HPTP, it shall allow any party, including the SHPO, 15 calendar days to review the revised HPTP. Failure of the SHPO to comment within the specified time shall not preclude the Corps from finalizing and implementing the revised HPTP in accordance with the terms of this stipulation.

B. Once the reviewing parties determine that the HPTP is adequate, the Corps shall issue permission to proceed with the implementation of the plans.

C. The Corps shall provide final copies of the HPTP to SHPO and the ACHP.

Stipulation X
Modifications of Project Scope

(1) Identification and Evaluation

1. If modification of the project scope becomes necessary or if activities are proposed in ancillary areas, such as borrow or disposal areas that have not been previously surveyed for historic properties, the Corps shall ensure that the APE, as defined and described under Stipulation II (B), of the modified project or un-surveyed ancillary area is inventoried. Any properties located within those modified APEs that may be affected by the Undertaking shall be evaluated.

2. The Corps shall identify and evaluate such properties in the manner specified in Stipulations III through IV.

3. If the Corps discovers any historic properties eligible for listing on the NRHP in the modified APE, the Corps shall develop and implement a supplemental HPTP in the manner specified in Stipulation VIII.

B. The Corps may approve construction in any area subject to the provisions of this stipulation after the Corps and the SHPO have consulted and agreed, in writing, that such construction will not affect historic properties, or that the area does not contain historic properties.

Stipulation XI
Treatment of Confidential Information

To the extent consistent with the National Historic Preservation Act, Section 304, and the Archaeological Resources Protection Act, Section 9(a), cultural resources data will be treated as

confidential by all Parties and is not to be released to any party not a Party to this agreement. In carrying out their responsibilities under this PA, the Federal Agency shall restrict disclosure of information in accordance with Section 304 of NHPA and implementing regulations, and other applicable non-disclosure provisions. Confidentiality concerns for properties that have traditional religious and cultural importance to the Tribes will be respected and will be protected to the extent allowed by law.

Stipulation XII
Notices To Proceed With Construction

The Corps may issue Notices to Proceed (NTP) for individual construction segments, defined by the Corps in its construction specifications, under any of the following conditions:

1. the Corps and SHPO have determined that there are no historic properties within the APE for a particular construction segment; or

2. the Corps and SHPO have determined that there will be no adverse effects caused to historic properties within the APE for a particular construction segment; or

3. the Corps after consultation with the SHPO and all other parties to this Agreement has implemented an adequate treatment plan for the construction segment; and

(a) the fieldwork phase of the treatment option has been completed, and

(b) the Corps has accepted and approved a summary of the fieldwork performed and a reporting schedule for that work.

V. Stipulation XIII
1. Unanticipated Discovery of Historic Properties

If properties potentially eligible for the NRHP are discovered during construction, the Corps shall cease ground disturbing activities until it has satisfied the provisions of 36 CFR §800.13(b), "discoveries without prior planning". The Corps shall contact the SHPO and all other parties to this Agreement within 48 hours of the discovery. The SHPO has 48 hours to respond following initial contact by the Corps. The Corps shall provide the SHPO an opportunity to review and comment on proposed treatment in accordance with Stipulation VIII.

VI. Stipulation XIV
Curation

The Corps shall ensure that all cultural materials and associated records resulting from identification, evaluation, and treatment efforts conducted under this PA are curated in accordance with 36 CFR Part 79, except as specified in Stipulation VI. Archaeological items and materials from privately owned lands will be returned to the land owners if so requested. Prior to their return, these items and materials should be maintained in accordance with 36 CFR Part 79 until all specified analyses are complete.

DRAFT

Stipulation XV
Dispute Resolution

A. Should any signatory to this PA object within 15 calendar days to plans provided for review pursuant to this PA or to actions proposed or carried out pursuant to this PA, with the exception of determinations of NRHP eligibility (see Stipulation III [J]), the Corps shall notify the SHPO and consult to resolve the objection. If the Corps determines that the objection cannot be resolved, the Corps shall forward all documentation relevant to the dispute to the ACHP. Within 45 days after receipt of all pertinent documentation, the ACHP shall either:

1. Provide the Corps with recommendations that the Corps shall take into account in reaching the final decision regarding the dispute; or

2. Notify the Corps that it will comment pursuant to 36 CFR §800.7, and proceed to comment. Any ACHP comment provided in response to such a request shall be taken into account by the Corps in accordance with 36 CFR §800.7 with reference to the subject of the dispute.

B. Any recommendation or comment provided by the ACHP will pertain only to the subject of the dispute. The Corps's responsibility to carry out all actions required by this PA that are not subject of the dispute shall remain unchanged.

Stipulation XVI
Amendments, Noncompliance, and Termination

A. If any signatory believes that the terms of this PA cannot be carried out or are not being met, or that an amendment to its terms should be made, that signatory shall immediately consult with the other signatories to consider and develop amendments to this PA pursuant to 36 CFR §800.6(c)(7).

B If this PA is not amended as provided for in this stipulation, the Corps, or the SHPO may terminate it. The party terminating the PA shall provide all other signatories with an explanation in writing of the reasons for termination, in accordance with 36CFR §800.6(c)(8).

C. If this PA is terminated and the Corps determines that the Undertaking authorizing the project will proceed, the Corps shall comply with 36 CFR §800.3-800.6.

VII. Stipulation XVII
1. Duration of the PA

A. Five (5) years after the execution of the PA, the signatories shall meet to discuss project progress and the efficacy of the PA. Signatories will have the option to implement modifications or revisions to the PA at this point.

B. This PA will terminate ten (10) years after the date of execution. If the project is not yet complete, the signatories shall consult not less than 90 days prior to the tenth anniversary of the

execution of this PA to reconsider its terms. Reconsideration may include continuation of the PA as originally executed, amendment, or termination. If the PA is terminated because the Undertaking no longer meets the definition of an "Undertaking" set forth in 36 CFR §800.16(y), Stipulation XVII (C) shall apply.

C. This PA shall be in effect through the Corps's implementation of the Undertaking, and shall terminate and have no further force or effect when the Corps, in consultation with the SHPO, determines that the terms of this PA have been fulfilled in a satisfactory manner and/or Corps involvement in the project has ended. The Corps shall provide the other signatories with written notice of its determination and of termination of this PA.

Stipulation XVIII
2. Effective Date

This PA shall take effect on the date that it has been fully executed by the Corps and the SHPO.

EXECUTION of this PA by the Corps and the SHPO; and its transmittal to the ACHP, and subsequent implementation of its terms, evince that the Corps has afforded the ACHP an opportunity to comment on the Undertaking and its effects on historic properties; that the Corps shall take into account the effects of the Undertaking on historic properties; and that the Corps has satisfied its responsibilities under Section 106 of the National Historic Preservation Act and applicable implementing regulations for all aspects of the Undertaking.

SIGNATORIES:

U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT

BY: _____ DATE: _____

Michael J. Farrell, Colonel, U.S. Army Corps of Engineers, District Commander

CALIFORNIA STATE HISTORIC PRESERVATION OFFICE

BY: _____ DATE: _____

Carol Roland-Nawi, Ph.D., State Historic Preservation Officer

CONCURRING PARTIES:

STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES

BY: _____ DATE: _____

DRAFT

TITLE:

THE SAN JOAQUIN AREA FLOOD CONTROL AGENCY

BY: _____ DATE: _____

TITLE:

BUENA VISTA RANCHERIA OF ME-WUK INDIANS

BY: _____ DATE: _____

TITLE:

CALIFORNIA VALLEY MIWOK TRIBE

BY: _____ DATE: _____

TITLE:

IONE BAND OF MIWOK INDIANS

BY: _____ DATE: _____

TITLE:

NOTOTOMNE/NORTHERN VALLEY YOKUTS

BY: _____ DATE: _____

TITLE:

WILTON RANCHERIA

BY: _____ DATE: _____

TITLE:

DRAFT

DRAFT

Appendix 1. Area of Potential Effects

Appendix 2
4. Standards and Guidelines for Research Designs

Research designs prepared for this Undertaking shall specify, at a minimum:

- The property, or properties, or portions of properties where data recovery is to be carried out;
- Any property, or properties or portions of properties that will be destroyed with data recovery;
- The research questions to be addressed through the data recovery, with an explanation of their relevance and importance;
- The field methods to be used, with an explanation of their relevance to the research questions;
- The methods to be used in analysis, data management, and dissemination of data, including a schedule;
- The proposed disposition of recovered materials and records;
- Proposed methods by which the parties to the Programmatic Agreement will be kept informed of the work and afforded the opportunity to participate; and
- A proposed schedule for the submission of progress reports to the California State Historic Preservation Officer.

Appendix 3
Historic Property Treatment Plans (HPTP) shall address:

- The historic properties or portions of historic properties where treatment will be implemented;
- Any historic properties or portions of historic properties that will be destroyed or altered without treatment;
- If the property or properties are eligible under criteria (A), (B), or (C), a mitigation plan other than data recovery may be considered. These may include, but are not limited to HABS/HAER recordation, oral history, historic markers, exhibits, interpretive brochures or publications.
- If the property or properties are eligible under criterion (D), a research design including the research questions and goals that the data recovery on a property could inform, an

DRAFT

explanation of the theoretical and substantive relevance and importance of the proposed research, and specifically how the proposed actions will inform those questions and goals;

- The field and analysis methods to be used, with an explanation of their relevance to the goals of the mitigation;

- The methods to be used in data management and dissemination of data, including a schedule;

- The proposed disposition of recovered materials and records;

- Proposed methods for disseminating results of work to cultural resources professionals and separately to the interested public;

- Proposed methods by which interested Native American Tribes and individuals, local governments, and other interested persons will be kept informed about implementation of the HPTP and afforded an opportunity to comment;

- A proposed schedule for submission of progress reports to the Corps, SHPO, and the Council;

- Methods and procedures for the recovery, analysis, treatment, and disposition of human remains, associated grave goods, and objects of cultural patrimony that reflect any concerns and/or conditions identified as a result of consultations between the Corps and any affected Native American Group (see Stipulation V);

- Qualifications of consultants employed to undertake the implementation of the HPTP, will meet, at minimum, those standards described in Stipulation I.

Avoidance of adverse effects on historic properties is the preferred treatment approach. The HPTP will discuss and justify the chosen approaches to the treatment of project historic properties and those treatment options considered, but rejected. If preservation of part or all of any historic properties is proposed, the treatment plan will include discussion of the following:

1. Description of the area or portions of the historic properties to be preserved in-place, and an explanation of why those areas or portions of sites were chosen;
2. Explanation of how the historic properties will be preserved in-place, including both legal and physical mechanism for such preservation;
3. A plan for monitoring and assessing the effectiveness of mechanisms to preserve the historic properties; and
4. A plan for minimizing or mitigating future adverse effects on the historic properties, if preservation in-place mechanisms prove to be ineffective.

DRAFT

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE **RareFind**

Query Summary:
Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)
AND Quad IS (Lodi South (3812113) OR Waterloo (3812112) OR Stockton West (3712183) OR Stockton East (3712182) OR Lathrop (3712173) OR Manteca (3712172))

[Print] [Close]

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	429	4	None	None	G2G3	S1S2	null	ABC_WLBCC -Watch List of Birds of Conservation Concern | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFWS_BCC -Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland
Ambystoma californiense	California tiger salamander	Amphibians	AAAAA01180	1095	2	Threatened	Threatened	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Cismontane woodland | Meadow & seep | Riparian woodland | Valley & foothill grassland | Vernal pool | Wetland
Astragalus tener var. tener	alkali milk-vetch	Dicots	PDFAB0F8R1	65	1	None	None	G2T2	S2	1B.2	null	Alkali playa | Valley & foothill grassland | Vernal pool | Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	1858	28	None	None	G4	S3	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC -Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland
Atriplex cordulata var. cordulata	heartscale	Dicots	PDCHE040B0	68	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Chenopod scrub | Meadow & seep | Valley & foothill grassland
Atriplex joaquinana	San Joaquin spearscale	Dicots	PDCHE041F3	109	1	None	None	G2	S2	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa | Chenopod scrub | Meadow & seep | Valley & foothill grassland
Blepharizonia plumosa	big tarplant	Dicots	PDAST1C011	48	1	None	None	G2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Valley & foothill grassland
		Crustaceans	ICBRA03150	102	2	None	None	G2	S2	null	null	

Branchinecta mesovallensis	midvalley fairy shrimp											Vernal pool | Wetland
Brasenia schreberi	watershield	Dicots	PDCAB01010	33	1	None	None	G5	S2	2B.3	null	Marsh & swamp | Wetland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2394	154	None	Threatened	G5	S3	null	ABC_WLBCC -Watch List of Birds of Conservation Concern | BLM_S-Sensitive | IUCN_LC-Least Concern | USFWS_BCC -Birds of Conservation Concern	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland
California macrophylla	round-leaved filaree	Dicots	PDGER01070	155	1	None	None	G2	S2	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Cismontane woodland | Valley & foothill grassland
Chloropyron palmatum	palmate-bracted salty bird's-beak	Dicots	PDSCR0J0J0	26	1	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chenopod scrub | Meadow & seep | Valley & foothill grassland | Wetland
Cirsium crassicaule	slough thistle	Dicots	PDAST2E0U0	18	1	None	None	G2	S2	1B.1	BLM_S-Sensitive	Chenopod scrub | Freshwater marsh | Marsh & swamp | Riparian scrub | Wetland
Delphinium recurvatum	recurved larkspur	Dicots	PDRAN0B1J0	96	1	None	None	G3	S3	1B.2	BLM_S-Sensitive	Chenopod scrub | Cismontane woodland | Valley & foothill grassland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	204	3	Threatened	None	G3T2	S2	null	null	Riparian scrub
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	158	1	None	None	G5	S3	null	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Cismontane woodland | Marsh & swamp | Riparian woodland | Valley & foothill grassland | Wetland
Eryngium racemosum	Delta button -celery	Dicots	PDAPI0Z0S0	26	1	None	Endangered	G1Q	S1	1B.1	null	Riparian scrub | Wetland
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Dicots	PDMAL0H0R3	173	1	None	None	G5T2	S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Freshwater marsh | Marsh & swamp | Wetland
Hypomesus transpacificus	Delta smelt	Fish	AFCHB01040	27	1	Threatened	Endangered	G1	S1	null	AFS_TH-Threatened | IUCN_EN-Endangered	Aquatic | Estuary
Lathyrus jepsonii var. jepsonii	Delta tule pea	Dicots	PDFAB250D2	131	1	None	None	G5T2	S2	1B.2	SB_BerrySB-Berry Seed Bank | SB_RSABG-Rancho Santa Ana Botanic Garden	Freshwater marsh | Marsh & swamp | Wetland
Lepidurus packardi		Crustaceans	ICBRA10010	272	1	Endangered	None	G3	S2S3	null	IUCN_EN-Endangered	Valley & foothill grassland |

	vernal pool tadpole shrimp											Vernal pool | Wetland
Lilaeopsis masonii	Mason's lilaeopsis	Dicots	PDAPI19030	197	2	None	Rare	G2	S2	1B.1	null	Freshwater marsh | Marsh & swamp | Riparian scrub | Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	416	1	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Lytta moesta	moestan blister beetle	Insects	IICOL4C020	12	1	None	None	G2	S2	null	null	Valley & foothill grassland
Melospiza melodia	song sparrow ("Modesto" population)	Birds	ABPBXA3010	92	2	None	None	G5	S3?	null	CDFW_SSC-Species of Special Concern	null
Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	Fish	AFCHA0209K	31	3	Threatened	None	G5T2	S2	null	AFS_TH-Threatened	Aquatic | Sacramento/San Joaquin flowing waters
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	93	2	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp | Wetland
Spirinchus thaleichthys	longfin smelt	Fish	AFCHB03010	45	2	Candidate	Threatened	G5	S1	null	CDFW_SSC-Species of Special Concern	Aquatic | Estuary
Sylvilagus bachmani riparius	riparian brush rabbit	Mammals	AMAEB01021	16	11	Endangered	Endangered	G5T1	S1	null	null	Riparian forest
Symphyotrichum lentum	Suisun Marsh aster	Dicots	PDASTE8470	173	2	None	None	G2	S2	1B.2	null	Brackish marsh | Freshwater marsh | Marsh & swamp | Wetland
Thamnophis gigas	giant garter snake	Reptiles	ARADB36150	271	2	Threatened	Threatened	G2	S2	null	IUCN_VU-Vulnerable	Marsh & swamp | Riparian scrub | Wetland
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	Dicots	PDAST9F031	9	1	None	None	G4T3	S1	2B.1	null	Marsh & swamp | Meadow & seep | Riparian forest | Vernal pool | Wetland
Trifolium hydrophilum	saline clover	Dicots	PDFAB400R5	49	1	None	None	G2	S2	1B.2	null	Marsh & swamp | Valley & foothill grassland | Vernal pool | Wetland
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	467	1	Endangered	Endangered	G5T2	S2	null	ABC_WLBCC-Watch List of Birds of Conservation Concern | IUCN_NT-Near Threatened	Riparian forest | Riparian scrub | Riparian woodland
Xanthocephalus xanthocephalus	yellow-headed blackbird	Birds	ABPBXB3010	11	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Marsh & swamp | Wetland

APPENDIX A-4

SECTION 404(b)(1) CLEAN WATER ACT EVALUATION

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

DRAFT
Section 404(b) (1) Clean Water Act Compliance Evaluation
Lower San Joaquin River Feasibility Study

I. Introduction

This document constitutes the Statement of Findings, and review and compliance determination according to the Section 404(b)(1) guidelines for the proposed project described in the Draft FR/EIS/EIR issued by the Sacramento District. This analysis has been prepared in accordance with 40 CFR Part 230- Section 404(b)(1) guidelines and USACE Planning Guidance Notebook, ER 1105-2-100.

The Clean Water Act sets national goals and policies to eliminate the discharge of water pollutants into navigable waters. Any discharge of dredged or fill material into Waters of the United States by the Corps requires a written evaluation that demonstrates that a proposed action complies with the guidelines published at 40 CFR Part 230. These guidelines, referred to as the Section 404(b)(1) Guidelines or "Guidelines," are the substantive criteria used in evaluating discharges of dredged or fill material under Section 404 of the Clean Water Act.

Fundamental to the Guidelines is the precept that "dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern."

The procedures for documenting compliance with the Guidelines include the following:

- Examining practicable alternatives to the proposed discharge that might have fewer adverse environmental impacts, including not discharging into a water of the U.S. or discharging into an alternative aquatic site

- Evaluating the potential short- and long-term effects, including cumulative effects, of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment.

- Identifying appropriate and practicable measures to mitigate the unavoidable adverse environmental impacts of the proposed discharge

- Making and documenting the Findings of Compliance required by §230.12 of the Guidelines.

This Clean Water Act, Section 404(b)(1) evaluation of compliance with the Guidelines is not intended to be a "stand alone" document; it relies heavily on information provided in the draft integrated Feasibility Report and joint Environmental Impact Statement/ Environmental Impact Report (FR/EIS/EIR) to which it is attached.

II. Project Description

a. Proposed Project

The Lower San Joaquin River Project (LSJR project) is a cooperative effort by the U.S. Army Corps of Engineers (USACE) and non-federal sponsors, the Central Valley Flood Protection Board and the San Joaquin Area Flood Control Association. USACE has completed a Draft integrated Feasibility Report and joint Environmental Impact Statement/ Environmental Impact Report (draft FR/EIS/EIR), dated February 2015. The Draft FR/EIS/EIR will be referenced throughout the document to describe the existing conditions near the project site, as well as some potential impacts of the proposed project and the other alternatives. Information on alternatives is taken from Chapters 3 and 4 of the Draft FR/EIS/EIR.

The primary and permanent structures consist of roughly 23.6 miles of improved levee, a segment of floodwall, and a segment of new levee surrounding the City of Stockton and two in-water closure structures. Staging areas on the landside of the levees would be cleared for construction use and temporary concrete batch plants would be constructed on the landside of existing levees as necessary to facilitate the construction of slurry walls, flood gates, and flood wall along levee reaches. Along Calaveras River, where waterside earthen benches are present, staging may also occur on the waterside on the waterside of the levee.

The proposed project would require discharge of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act and could include the following proposed elements:

Levee Cut-off Walls, Slope Reshaping, and Levee Height Fixes – These elements are proposed to address seepage and slope stability concerns and would be applied to nearly all of the 23.6 miles of levees around North and Central Stockton. Construction activities would cause a temporary disturbance to provide space to construct the footing for the floodwall. Upon completion of the levee slopes and easement areas would be seeded with native herbaceous plant species.

Floodwall – A floodwall is proposed on Dad's Point at the mouth of Smith Canal. The floodwall would be constructed of sheetpiles. Construction activities would cause a temporary disturbance to provide space to construct the footing for the floodwall. Upon completion of the floodwall the waterside slopes would be seeded with native

herbaceous species.

Erosion Protection - To reduce erosion concerns, bank protection would be placed on the landside of levee slopes, where the levees are at risk from storm surges originating from the Delta (West).

Seismic Remediation – This project element would improve seismic stability to the Delta front levees of North Stockton that are frequently loaded (due to slough water surface elevations that are tidally influenced) and that are also subject to potentially significant deformations due to a seismic event. The seismic (deep soil mixing) remediation measure would involve installation of a grid of drilled soil-cement mixed columns aligned longitudinally with, and transverse to, the alignment of the levee extending beyond the levee prism. This measure would minimize significant deformation of the levee during a seismic event.

The seismic remediation would involve degrading approximately the top half of the levee and placing the degraded material landward as shown in Figure 4-5 of the draft FR/EIS/EIR. Prior to construction, the construction area would be cleared and grubbed. The material obtained from degrading the levee would extend up to 60 feet beyond the existing levee and would be compacted such that the material forms an extension to the existing levee. The crest of the levee would then be reconstructed with suitable material to comply with the USACE levee design criteria. A determination may be made during the future design that all of the degraded material may not be necessary to extend the levee to the proposed toe shown in Figure 4-5 of the draft FR/EIS/EIR. The proposed toe could be located along an imaginary line extending from the landward face of the proposed levee to existing grade. During the current feasibility planning the maximum extent of the reconstruction berm is shown in order to show the maximum impacts which could occur.

Deep soil mixing augers would be used to construct a continuous grouping of cells spaced equally in both the longitudinal and transverse direction to the levee alignment as shown in the plan view in Figure 4-5. The deep soil mixing is a seismic strengthening feature meant to keep the levee from liquefying during seismic activity. After construction is completed, the levee crest would then be topped with a 6-inch aggregate road, and slopes would be hydroseeded for erosion control. This degrading and reconstruction effort would occur along 3 miles of Fourteenmile Slough and Tenmile Slough.

Closure Structures on Smith Canal and on Fourteenmile Slough – Two gates would be constructed in the North and Central Stockton area. One would be on Fourteenmile Slough and one would be on Smith Canal. These gates are discussed in the draft FR/EIS/EIR in Section 5.7, Wetlands and Other Waters of the United States. Construction would require dredging or draglining, construction of a temporary cofferdam, in-water excavation, and placement of some structural features in the wet. The “wing” structures supporting the operable gates would permanently block a portion of each of these waterways. The operable gates would be about 50 feet wide and

would be exercised briefly (closed and immediately opened) once or twice a year. They would close to reduce flood risk about every three years and remain closed for a day or two. One or both of these gates could also be closed as an emergency response measure if there is a levee failure eastward of the levees. The new permanent closure structure would directly affect about 0.5 acre of open water in Fourteenmile Slough and about 0.5 acre in Smith Canal. Construction would directly impact an additional 1 acre in Fourteenmile Slough and 3 acres in Smith Canal. To enable construction of a closure structure, a temporary staging area with a batch plant and graving site would be constructed adjacent to Smith Canal and adjacent to Fourteenmile Slough.

b. Location

Location information is taken from Section 1.3, Project Location and Study Area of the Draft FR/EIS/EIR.

The study area for the LSJRFS is located along the lower (northern) portion of the San Joaquin River system in the Central Valley of California (Figure 1). The San Joaquin River originates on the western slope of the Sierra Nevada and emerges from the foothills at Friant Dam (Figure 2). The river flows west to the Central Valley, where it is joined by the Fresno, Chowchilla, Merced, Tuolumne, Stanislaus and Calaveras Rivers, and smaller tributaries as it flows north to the Sacramento-San Joaquin Delta.

This proposed project area includes the flood risk management system (primarily levees) and the adjacent waterways and lands in the North and Central Stockton area. Rivers, streams, and sloughs in the project area include the San Joaquin River, Stockton Deep Water Ship Channel, French Camp Slough, Duck Creek, Lower Calaveras River, Tenmile Slough, Fivemile Slough, Fourteenmile Slough, and Mosher Creek.

c. Purpose and Need

The overall purpose of the project is to reduce flood risk to urban and urbanizing parts of the study area, including the City of Stockton. Reducing flood risk would reduce the potential for loss of life and damage to property in from flooding. The Federal objective of water resources planning is to contribute to national economic development (NEDP consistent with protecting the Nation's environment, in accordance with national environmental statutes, applicable executive orders, and other Federal planning requirements. The Non-Federal Partners' objective is to meet the requirements of California Senate Bill (SB) 5 of 2007, the Central Valley Flood Improvement Act, to achieve a 200-year level of protection for the urban and urbanizing areas within the Study Area. These areas have experienced multiple flooding events since records have been maintained. The existing levee system within the study area protects over 71,000 acres of mixed-use land with a current population estimated at 264,000 residents and an estimated $21 billion in damageable property.

d. Authority

The general authority for flood control investigations in the San Joaquin River Basin arises under the Flood Control Act of 1936 (Public Law [PL] 74-738), Sections 2 and 6 and amended by the Flood Control Act of 1938 (PL 75-761). The Flood Control Act of 1936, Section 6 explicitly permits further reports to be authorized by congressional resolutions. Further studies of this river system were directed in the 8 May 1964 resolution adopted by the Committee on Public Works of the House of Representatives.

e. Alternatives [40 CFR 230.10]. Unless otherwise noted, the information is from the February 2015 Draft FR/EIS/EIR.

(1) Alternative 1 - No action

The No Action Alternative serves as a benchmark against which the effects and benefits of the action alternatives are evaluated. The No Action Alternative assumes that current conditions and operation and maintenance practices would be expected to continue to occur in the foreseeable future if the project were not implemented, based on current plans and consistent with available infrastructure and community services. The No Action alternative would have no impacts to wetlands or other waters of the United States, however, this would not achieve improved flood risk management for the City of Stockton and enhanced public safety would not be realized. This alternative is not practicable, as it would not meet the purpose and need of the proposed project.

(2) Other project designs:

Alternative 7a, North and Central Stockton, Delta Front, Lower Calaveras River, and San Joaquin River Levee Improvements excluding RD 17. This alternative would implement levee improvements around North and Central Stockton and two closure structures; one on Fourteenmile Slough and one on Smith Canal. The alternative would combine the levee improvement measures of cutoff wall, deep soil mixing (seismic), and levee geometry improvements. In addition to the levee improvements, this alternative would address projected sea level change by including raises in levee height where needed.

This alternative is considered practicable and will be retained. An evaluation of the impacts of Alternative 7a will be discussed throughout this document in order to determine if it is the least environmentally damaging practicable alternative (LEDPA).

Alternative 7b, North and Central Stockton, Delta Front, Lower Calaveras River, and San Joaquin River Levee Improvements including RD 17.

This alternative would implement the same levee improvements and closure structures as Alternative 7a, but this alternative would also implement levee

improvements in RD17, including about 2.2 miles of new levees at the secondary levee at the Old River flow split and a tie-back levee. The new levees would also include a cutoff wall to address potential seepage issues.

This alternative is not considered practicable because it is not consistent with USACE water resources policies. Therefore Alternative 7b will not be retained in this analysis.

Alternative 8a, North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River, and Stockton Diverting Canal Levee Improvements excluding RD 17.

This alternative would implement levee improvements around North and Central Stockton and two closure structures; one on Fourteenmile Slough and one on Smith Canal. The alternative would combine the levee improvement measures of cutoff wall, deep soil mixing (seismic), and levee geometry improvements. In addition to the levee improvements, this alternative would address projected sea level change by including raises in levee height where needed. In addition to the levee improvements, this alternative would address projected sea level change by including raises in levee height where needed. This alternative differs from Alternative 7a in that it includes additional levee improvements (cutoff walls and slope re-shaping) along Lower Calaveras River and along the Stockton Diverting Canal.

This alternative is considered practicable and will be retained. An evaluation of the impacts of Alternative 8a will be discussed throughout this document in order to determine if it is the least environmentally damaging practicable alternative (LEDPA).

Alternative 8b, North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River, and Stockton Diverting Canal Levee Improvements including RD 17.

This alternative would implement levee improvements around North Stockton, Central Stockton, and RD17 and two closure structures; one on Fourteenmile Slough and one on Smith Canal. The alternative would combine the levee improvement measures of cutoff wall, deep soil mixing (seismic), and levee geometry improvements. In addition to the levee improvements, this alternative would address projected sea level change by including raises in levee height where needed. This alternative differs from Alternative 8a in that it includes levee improvements and a new levee tie back in RD17. It differs from Alternative 7b in that it includes additional levee improvements (cutoff walls and slope re-shaping) along Lower Calaveras River and along the Stockton Diverting Canal.

This alternative is not considered practicable because it is not consistent with USACE water resources policies. Therefore Alternative 8b will not be retained in this analysis.

Alternative 9a, North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River Levee Improvements and Mormon Channel Bypass excluding RD 17.

This alternative would implement levee improvements in North and Central Stockton and would construct a diversion structure on the Stockton Diverting Canal and a flood bypass through the Old Mormon Channel. The alternative would combine the levee improvement measures of cutoff wall, deep soil mixing (seismic), and levee geometry improvements. In addition to the levee improvements, this alternative would address projected sea level change by including raises in levee height where needed. The diversion control structure at the Stockton Diverting Canal would consist of pipe culverts with gates to control releases to a maximum flow of approximately 1,200 cfs about every two years. Alternative 9a differs from Alternative 7a only in the flood bypass and associated Stockton Diverting Canal structure elements.

This alternative is considered practicable and will be retained. An evaluation of the impacts of Alternative 9a will be discussed throughout this document in order to determine if it is the least environmentally damaging practicable alternative (LEDPA).

Alternative 9b, North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River Levee Improvements and Mormon Channel Bypass including RD 17.

This alternative would implement levee improvements in North and Central Stockton and would construct a diversion structure on the Stockton Diverting Canal and a flood bypass through the Old Mormon Channel. Alternative 9a would also implement levee improvements and new levee segments in RD17. The alternative would combine the levee improvement measures of cutoff wall, deep soil mixing (seismic), and levee geometry improvements. In addition to the levee improvements, this alternative would address projected sea level change by including raises in levee height where needed. The diversion control structure at the Stockton Diverting Canal would consist of pipe culverts with gates to control releases to a maximum flow of approximately 1,200 cfs about every two years. Alternative 9b differs from Alternative 9a only in the inclusion of levee improvements and new levee segments in RD17. Alternative 9b differs from Alternative 7b only in the inclusion of a flood bypass and associated Stockton Diverting Canal structure elements.

This alternative is not considered practicable because it is not consistent with USACE water resources policies. Therefore Alternative 9b will not be retained in this analysis.

<u>f. General Description of Dredged or Fill Material</u>

For each of the action alternatives (Alternatives 7a, 8a, and 9a) the following

project elements would require dredging and/or placement of fill waters of the United States:

- In-water closure structure on Fourteenmile Slough
  - 0.5 acres permanent impacts
  - 1 acre temporary construction impacts
- In-water closure structure on Smith Canal
  - 0.5 acres permanent impact
  - 3 acres temporary construction impacts
- Levee slope reshaping
- Seepage berms
  - Seepage berms and levee slope reshaping together could impact up to 33 miles of toe drains and ditches
- Vegetation clearing to establish USACE Vegetation ETL "vegetation free zones"

(1) General Characteristics of Material

Fill into waters of the United States is required for the purpose of 1) reshaping levee slopes and repairing levee heights, and 2) constructing two closure structures (flood gates). Materials for levee slope and height repairs would be suitable soils acquired from within 25 miles of the project area. Fill materials for bank protection, seepage berms, and adjacent levees would consist of large stone riprap to armor the waterside slope. Construction of Closure Structures would require excavation and dredging of fines, and the placement of the concrete and sheet pile for the control structure. The substrate is mostly fine sand and silt. The proposed fill for the alternatives would come from on-site construction or imported fill material. The No Action Alternative would result in no changes.

(2) Quantity of Material

An unknown quantity of material would be dredged for the construction of the closure structures and removed to an approved disposal areas. An unknown quantity of material would be placed into existing landside toe drains and ditches to construct seepage berms and levee slope reshaping under all action alternatives.

(3) Source of Material

Potential sources for borrow material include the existing levees and suitable lands within 25 miles of the project area. Potential locations for borrow would be based on current land use patterns, soil types from U.S. Soil Conservation Service (SCS), and USACE's criteria for material specifications. Borrow sites would be lands that are the least environmentally damaging and would be obtained from willing sellers.

Any riprap required to protect the closure structures would be imported from a licensed, permitted facility that meets all Federal and State standards and requirements. Concrete material for the sheet pile walls and flood walls would be imported from a licensed, permitted facility or made by the on-site batch plant. The material would be transported along existing roadways and construction access roads.

g. Description of the Proposed Discharge Site

(1) Location

The location of the discharge sites would be at the locations of the closure structures in Fourteenmile Slough and Smith Canal. Materials dredged to construct the closure structures would be disposed of at an approved disposal site in the vicinity

(2) Size

Construction activities associated with Alternatives 7a, 8a, and 9a would result in the loss of Waters of the United States, including wetlands, as well as upland habitat, vegetation, and the disruption of wildlife movement corridor (Table 1). The project is located along the levees and waterways surrounding North and Central Stockton. Materials would be placed into Fourteenmile Slough, Tenmile Slough, and Smith Canal. Materials would also be placed into landside levee toe drains and irrigation/drainage ditches within the project footprint. These ditches and drains would be relocated and restored on site. A wetland delineation has not been completed but wetlands and other waters are assumed to be jurisdictional under Section 404 of the Clean Water Act.

Table 1: Impacts to Waters of The United States (Alternatives 7a, 8a, 9a) [1]

Location	Feature	Habitat Type	Total Permanent Impacts	Total Temporary Impacts
Fourteenmile Slough	Closure Structure	Tidally influenced estuary slough	0.5 acres	1.0 acre
Smith Canal	Closure Structure	Tidally Influenced riverine canal	0.5 acres	3 acres
Landside toe drains and ditches	Seepage berms, levee height raises, levee slope reshaping	Open water with a freshwater marsh fringe and/or riparian shrub scrub in some places.	Up to 33 miles	Toe drains and ditches would be reestablished landward of the construction

				footprint.
TOTAL IMPACT AREA			1.0 acres	4 acres

[1] In addition to the impacts shown in this table, Alternative 9a would affect the length of Old Mormon Channel by constructing a flood bypass from the Stockton Diverting Canal through Old Mormon Channel to the Stockton Deep Water Ship Channel. Restoring flood flows to Old Mormon Channel would be expected to off-set any temporary adverse construction impacts.

Alternatives 7a, 8a, and 9a would encompass the same disposal sites. However, Alternative 9a could generate a larger amount disposal material due to excavation to construct a flood bypass within Old Mormon Channel.

The No Action Alternative would have no have impacts to disposal sites.

(3) Type of Site

The types of disposal sites are two tidally influenced sloughs, one tidally influenced canal, landside toe drains and ditches, and previously disturbed designated dredge disposal sites.

(4) Type of Habitat

The following habitat types were identified at and around the project area. This discussion is broad and focuses on all habitat types, not just those that are potentially jurisdictional. The study area consists of levees plus a 15 foot waterside easement and a 20 foot landside easement. Habitat types recorded in the study area are described in Section 5.9 of the draft FR/EIS/EIR.

The Lower San Joaquin River project area supports waters of the United States, including rivers, estuarine sloughs, and wetlands. The wetlands and other waters of the United States in the project area are highly altered as a result of flood risk management projects, reclamation for agriculture and urbanization, and navigation projects. These projects have resulted in general straightening and simplification of river, stream, and slough structure.

The National Wetland Inventory (NWI) indicates several wetlands within and adjacent to the riparian zone of the San Joaquin River and its tributaries. However, NWI maps do not show wetlands as present in the footprint of proposed new levees

Perennial Drainages

The San Joaquin River, lower Calavaras River, French Camp Slough, Duck Slough, Stockton Deepwater Ship Channel, Stockton Diverting Canal, Tenmile Slough, Fourteenmile Slough, Fivemile Slough, Smith Canal, Burns

Cutoff, Mosher Slough/Creek, Paradise Cut, Old River North, Walthall Slough, and Mormon Slough are the perennial drainages in the project area. The San Joaquin River and the lower reaches of its tributaries in the project area, the Stockton Deepwater Chip Channel, and the sloughs around north Stockton are tidally influenced.

Before construction of the Stockton Diverting Canal, Old Mormon Channel was perennial in most years. Today, the channel received local stormwater runoff and intermittently contains water in portions of the channel.

Perennial to Intermittent Drainages

Landside levee toe drains are present throughout the project area. Agricultural canals and ditches are present in agricultural lands outside urban areas. In the project area, most of these agricultural canals and ditches are located on Shima Tract, Wright Tract, and in RD 17. Levee toe drains and agricultural ditches and may contain water seasonally or year-round.

Ponds

Small ponds are located eastward of the San Joaquin River levee in RD17. Manmade ponds exist in North Stockton and in the northern part of RD 17 but are part of residential developments and will not be affected by this project and are, therefore, not treated in this impact analysis.

Emergent Wetland

Narrow bands of emergent marsh are present along some portions of the San Joaquin River, its tributaries, and along the sloughs in the vicinity of north Stockton. Greater expanses are present in areas that have a waterside bench in the canal such as the tip of RD17 that joins French Camp Slough. Some depressions that exist along the lower levees and adjacent to the waterside or landside of the levees contain wetland attributes.

Toe drains, and agricultural and roadside ditches are routinely maintained to maintain flow capacity for flood risk management or agricultural purposes and, therefore, are frequently cleared of vegetation. Nevertheless, wetland vegetation is sporadically and intermittently present in and along these waterways. Toe drains and agricultural ditches are dominated by a mix of native and nonnative aquatic and semi-aquatic plant species such as curly dock, African pricklegrass, floating water primrose, willow weed, annual beard grass and nutsedge (AECOM 2011).

The Draft EIS/EIR for the RD17 Early Implementation Project (AECOM 2011) documents the presence of freshwater marsh in a depression on the

landside of the levee between Howard Road to the north and a dirt farm road on the south. Vegetation in the marsh is reported as being dominated by narrow-leaved cattail with Fremont cottonwood and red willow trees growing on the perimeter. The draft EIS/EIR also documents a limited amount of freshwater marsh around the edges of a constructed pond that is located on a large private estate and equestrian center located east levee in RD17. A second area of freshwater marsh is located just in RD17 in an area of backwater on the San Joaquin River.

Intertidal Areas

Vegetated rocky intertidal areas are present in Fourteenmile Slough.

Channel Islands

These unique islands are present in the main channels in Fourteenmile Slough and in the Lower Calaveras River. Wetland vegetation is likely to be present around the edges of these islands.

Riparian Communities

In general, riparian communities are among the richest community types, in terms of structural and biotic diversity, of any plant community found in California. Riparian vegetation provided important ecological functions, including: wildlife habitat; migratory corridor for wildlife; filters out pollutants and shades waterways, thereby improving water quality; provides connectivity between waterways and nearby uplands; provision of biomass (nutrients, insects, large woody debris, etc.) to adjacent waterways; and, in some situations, reduces the severity of floods by stabilizing riverbanks. Riparian forests and woodlands –even remnant patches— are important wildlife resources because they continue to be used by a large variety of wildlife species and because of their regional and statewide scarcity.

<u>Shaded Riverine Aquatic (SRA) Habitat</u>

SRA habitat is the nearshore aquatic zone composed of instream woody material providing in-water cover and shoreline trees and shrubs providing overhead canopy cover. Overhanging trees and shrubs provide shade which is an element of SRA cover important to the survival of many aquatic organisms, including fish. Overhanging vegetation moderates water temperatures, which is an important factor for various life stages of native fish species. The vegetation provides food and habitat for both terrestrial and aquatic invertebrates, which in turn serve as food for several fish species. Aquatic vegetation, or in-water cover, provides a diversity of microhabitats which allows for high species diversity, abundance, and a food source for instream invertebrates, which in turn are eaten by several native fish species. Thus, a broad food base and extensive cover and

habitat niches are supported by in-water cover. These values in turn create high fish diversity and abundance (USFWS 1992). Additional discussion of SRA is provided in Section 4.11, Fisheries.

Riparian Woodland

Riparian woodlands in the project area include cottonwood riparian woodland, valley oak riparian woodland, walnut riparian woodland, and riparian scrub. Riparian habitats are considered to be among the most productive wildlife habitats in California and typically support the most diverse wildlife habitats. In addition to providing important nesting and foraging habitat, riparian habitats function as wildlife movement corridors.

Great Valley Cottonwood Riparian Forest

Larger remnant patches of Great Valley cottonwood riparian forest located within the project area are dominated by large Fremont cottonwood trees and Goodding's willow. Most of the otherwise linear or smaller patchy areas of this community lack Fremont cottonwood and are represented by Gooding's willow, red willow, arroyo willow, narrow leaved-willow, and scattered valley oak, Oregon ash, and buttonbush. Native ground cover species, mainly found in the larger remnant patches of riparian forest, include California blackberry and wild rose. Common nonnative understory species found in most elements include Himalayan blackberry and tree tobacco. Most of the Great Valley cottonwood riparian forest community could also be characterized as Great Valley riparian scrub, which does not include Fremont cottonwood and is characterized by a shorter canopy and more uniform structure; however, this habitat is part of the Great Valley cottonwood riparian forest that was extensive and connected along this entire reach of the San Joaquin River, and this document therefore describes all riparian habitat as such.

Great Valley Oak Riparian Forest

Great Valley oak riparian forest is also located within the project area, occurring only on the landside of the levees. Two significant oak groves of very large, healthy valley oak trees are present on the landside in RD17 and account for the majority of the Great Valley oak riparian forest; although several groups of smaller valley oak trees and individual valley oak trees scattered along the landside and also contribute to this community. Although not measured, several of the largest trees in these landside oak groves present are close to 100 inches dbh, which is a size that indicates they are possibly several hundred years old (Bartolome 1997, cited in AECOM, 2011).

Herbaceous Community

Nonnative Annual Grasslands

Nonnative annual grassland occurs throughout the project area on levee slopes, along roadsides, and in undeveloped parcels. These areas are dominated by nonnative annual grasses and nonnative ruderal vegetation and may support stands of noxious species. Ruderal vegetation and grassland generally occurs in disturbed areas, such as levee slopes and edges of agricultural fields and roads. Areas of pasture associated with residences are primarily annual grasses that are grazed by horses and were mapped as nonnative annual grassland. The annual grasslands in the project area contain a relatively large proportion of ruderal species, likely because of substantial disturbance from human activities.

Nonnative annual grassland is dominated by naturalized annual grasses with intermixed perennial and annual forbs. Grasses commonly observed in the project area are foxtail barley, ripgut brome, Italian ryegrass, and soft chess. Other grasses are wild oats, Bermuda grass, and rattail fescue. Forbs commonly observed in annual grasslands in the project area are yellow star-thistle, prickly lettuce, bristly ox-tongue, sweet fennel, Italian thistle, horseweed, black mustard, fireweed, broad-leaf pepper grass, common sunflower, pigweed, cheeseweed, bindweed, and telegraph weed. The annual grasslands in the project area contain a relatively large proportion of ruderal species, likely because of substantial disturbance from human activities. Elderberry shrubs occur in several areas of nonnative annual grassland.

Ruderal vegetation is characterized by nonnative weedy and sometimes invasive vegetation and nonnative annual grasses. Common weed species include yellow star-thistle, black mustard, shortpod mustard, Italian thistle, milk thistle, and Himalayan blackberry; common grass species include ripgut brome, foxtail barley, Bermuda grass, and Johnsongrass. The levee slopes are dominated by ruderal vegetation. Large open areas in RD 17 are composed primarily of ruderal vegetation as are some smaller open areas that border roads, parking lots, and agricultural land, and Old Mormon Channel.

Agricultural Communities

In the project area, agricultural lands include row and field crops, fallow and disked agricultural fields, orchards, and vineyards. General farming practices result in monotypic stands of vegetation for the growing season and bare ground in the fall and winter. Irrigation ditches are a part of most of the agricultural fields in the project area.

Cropland occurs in RD17, Shima Tract, Wright Tract, northeast of the Stockton Diverting Canal, and along the upper reaches of the Calaveras River. Ruderal species grow along the edges of fields and irrigation ditches, some of

which contain water and associated aquatic plants.

Developed Lands

Developed lands in the project area include areas in levee roads, railways, roads, buildings, and landscaped areas as well as barren areas that have been disturbed and are not vegetated. Developed areas consist of residential areas; parks; boat launching facilities; boat docks; and ranch houses and related facilities. Vegetation in residential areas and parks consists of turf grasses, landscape trees, and occasional valley oak trees. Ranch lands often contain, a variety of landscape trees and shrubs, and occasional native trees including valley oak trees. In north and central Stockton, most of the areas landside levees in the project area are "developed." This is also true of lands in the northern portion of RD17 (Weston Ranch) and in the southern RD17 near Lathrop and Manteca.

(5) Timing and Duration of Discharge

Full project construction would occur over twelve years. Fill of landside toe drains and ditches would occur at the time that each levee segment is constructed. These toe drains and ditches would be reestablished further landward at the time that each levee segment is constructed. Construction of each closure structure is expected to take two construction seasons.

h. Description of Disposal Method

The descriptions of the disposal methods within the proposed project area are excerpted below from the Draft FR/EIS/EIR.

Construction of the closure structures would take place from a barge and/or from heavy equipment on the top of the levee. Construction would disturb the aquatic environment, including nearshore marsh habitat, and would require removal of vegetation on and adjacent to the levee. Material dredged removed for the closure structures would be used in construction of other project features (floodwall, levees) where feasible. The remainder of the materials would be hauled off site and disposed of at a designated disposal site. Conservation and compensation plantings at the water's edge would be accomplished from a barge using a "stinger." These plantings may be placed into existing rip rap or riverine soils.

Alternatives 7a, 8a, and 9a would utilize similar disposal methods. However, Alternative 9a would also include excavation within the Old Mormon Channel in order to establish a flood bypass. The No Action Alternative would not require the disposal of materials.

II. Factual Determinations

a. Physical Substrate Determinations (Sections 230.11 (a) and 230.20)

(1) Comparison of Existing Substrate and Fill

The description of the current substrate within the proposed project area is taken from Sections 5.1 and 5.3 of the Draft FR/EIS/EIR. The existing levee system is located on deposits consisting of Holocene alluvium and Holocene basin deposits, as well as late Pleistocene alluvial fan and terrace deposits of the Modesto and Riverbank Formations. These Quaternary deposits are variably dissected and overlain by younger Quaternary (Historical) deposits consisting of channel, floodplain, and artificial fill (levees and spoils from dredging). Some rocky substrate is present within Fourteenmile Slough in the vicinity of the proposed closure structure.

Soils in the project area range from highly sandy to dominantly fine, with fine to extremely coarse gradations. Erosion and expansion potentials are low to moderate for the soil series. Severe erosion is not generally a concern due to the relatively level terrain; however, wind can erode exposed and recently disturbed soils. Expansive soils contain a higher content of clay and expand and shrink, depending on water content. Subsidence can occur locally as a result of seasonal changes in soil moisture content. Substantial groundwater-related subsidence has occurred throughout the San Joaquin Valley as drainage of lowlands has resulted in the decomposition of organic components in the soils.

Fill material used during project construction would come from borrow material excavated from the within 25-mile radius of the project area and from existing on-site levee materials removed to make the proposed levee improvements.

(2) Changes to Disposal Area Elevation

The description of changes to the disposal sites within the proposed project area are taken from Chapter 4 of the Draft FR/EIS/EIR. Alternatives 7a, 8a, and 9a all involve placement of permanent materials into Fourteenmile Slough and Smith Canal in order to construct closure structures. They all also include placement of fill into Fourteenmile Slough and Tenmile Slough to construct an in-water work platform for construction of seismic remediation of adjacent levees.

Alternatives 7a, 8a, and 9a primarily call for landside levee fixes that do not change in-channel geometry or characteristics; therefore, the hydraulics of the system would not change. The hydraulic analysis completed for this study considered the impacts of the two closure structures (on Fourteenmile Slough

and Smith Canal). Additional work is expected to reduce the area of impact and minimize affect to water surface elevation, except where the objective is to reduce flood risk by operating the closure structure gates when the water surface elevation reaches 8 feet. With the mitigation measures proposed to avoid and minimize impacts, the impacts of the proposed project on elevation would be minimal. The closure structures would extend from the in-water substrate to several feet above the water surface.

The closure structures were analyzed with a hydraulic model. The closure structures would operate (close) when the water surface elevation of the adjacent waters reach 8 feet in elevation. The purpose of these structures is to reduce hydraulic pressure on levees surrounding the City of Stockton by taking the peak off of flood flows about every three years. Under Alternative 9a, Old Mormon Channel would be excavated in specific locations to assure passage of 1,200 cfs. The no action/no project alternative would not modify the substrate elevation or bottom contours.

(3) Migration of Fill

The description of materials and placement are taken from Chapter 4 of the Draft FR/EIS/EIR.

Levee improvements around North and Central Stockton, including cutoff wall construction, levee height fixes, levee raises, slope reshaping, and seismic remediation would require ground disturbing activities that would potentially cause erosion and soil disturbance, subsequently resulting in sediment transport and delivery to aquatic habitats. An increase in sedimentation and turbidity could occur in adjacent water bodies during earth moving activities and could be considered significant. These indirect effects would be reduced to less than significant with the implementation of BMPs discussed in Water Quality (Section 3.5).

Alternatives 7a, 8a, and 9a would produce similar impacts on erosion and accretion patterns that would be minimized with the use of BMP's.

The no action alternative would not result in any change to erosion and accretion patterns.

(4) Duration and Extent of Substrate Change

Alternatives 7a, 8a, and 9a would cause similar impacts to substrate. The proposed action would result in the removal of some native substrate. During project design, additional opportunities to reduce impacts will be evaluated. Alternative 9a would cause additional impacts due to the construction of the flood bypass through Old Mormon Channel.

The no action/no project alternative would not modify the substrate.

(5) Changes to Environmental Quality and Value

Alternatives 7a, 8a, and 9a would each require dredging for the two closure structures. Disposal sites selected would be previously disturbed areas that are designated disposal areas. Placement of material at these locations would be consistent with current land use. Additional information on vegetation, wildlife, and fisheries is found in Chapter 5 of the Draft FR/EIS/EIR. Materials excavated from Old Mormon Channel under Alternative 9a would be disposed at approved locations on land. The no action alternative would not modify the environmental quality and value.

(6) Actions to Minimize Impacts

Construction would have minor, short-term impacts. Constructed features (closure structures) would permanently alter the affected waterways. Best management practices, like use of silt fences to reduce unintended soil movement and turbidity, would be implemented to avoid impacts. Potential impacts would be further minimized through design and operational refinements to the extent feasible. Compensatory mitigation would off-set any remaining impacts. Additional information on mitigation measures, including BMPs is in Sections 5.5 and 5.7 of the Draft FR/EIS/EIR.

<u>b. Water Circulation, Fluctuation, and Salinity Determinations</u>

(1) Alteration of Current Patterns and Water Circulation

The operation of the closure structures under Alternatives 7a, 8a, and 9a and the resultant change in stages in the waterways East of the closure structures has been analyzed with a hydraulic model to achieve the intended risk reduction for the City of Stockton. The stages and tidal prism West of the closure structures would not change; it is assumed when the closure structures are operating, the stages in the waterways to the East of the structures would remain at a non-damaging stage of 8 feet (NAVD88). The operation of the two closure structures will be further refined during the next project phase. The gate operation of the closure structure could be dependent on a number of conditions within the project area.

The no action/no project alternative assumes no action would be taken. In the no action scenario, currents, circulation and drainage patterns of system would remain unchanged.

(2) Interference with Water Level Fluctuation

Because the San Joaquin River system is regulated by upstream dams which allow a specific amount of water to be released into systems, the practicable build alternatives and the no action/no project alternative would not change water level fluctuation patterns.

(3) Salinity Gradients Alteration

Salinity gradients would not be affected.

(4) Effects on Water Quality

The description of the current water quality condition of surface waters in the project area is taken from Section 5.5 of the Draft FR/EIS/EIR.

The latest version of the Section 303(d) list for California issued by the SWRCB (approved October 26, 2006) identifies impaired status for waterways in the eastern Delta, including the upper San Joaquin River. Potential source of pollution for all of the listed constituents in the basin include agriculture, urban runoff/storm sewers, resource extraction, and unknown sources. The eastern Delta, including the upper San Joaquin River, is on the Section 303(d) list for impairment for boron, chlorpyrifos, diazinon, dichlorodiphenyltrichloroethane (DDT), electrical conductivity (EC), unknown toxicity, Group A pesticides, exotic species, and mercury. Downstream of RD17, the Stockton Deepwater Ship Channel is being addressed by a Total Maximum Daily Load (TMDL) for dissolved oxygen and is no longer on the Section 303(d) list. TMDLs have been initiated for organophosphorous pesticides (i.e., diazinon and chlorpyrifos), salinity and boron, and selenium in the upper San Joaquin River watershed and for total dissolved solids (TDS) and mercury in Delta channels, TMDLs for the other listed pollutants are scheduled to be developed at various times over the next 10 years in accordance with the priorities contained in the Section 303(d) list.

(a) Water Chemistry

Project activities involving concrete and concrete wash water have the potential to affect pH, turbidity, and hexavalent chromium in receiving waters. Concrete wash water tends to have relatively high pH (between 10 and 14). Approved BMPs for managing concrete wash water include curing / air drying, off hauling for treatment, and active treatment onsite using carbon dioxide or a stronger acid such as sulfuric or acid. Hexavalent chromium is present in Portland Cement Concrete (PCC) and PCC grindings. Active treatment systems (ATS) targeting pH and turbidity may not remove hexavalent chromium, unless they are augmented with ferrous sulfate or some other chemical agent to reduce hexavalent chromium to trivalent chromium.

Mitigation measures proposed for pH and turbidity would be development and implementation of an approved Stormwater Pollution Prevention Plan (SWPPP), including an ATS if needed to attain water quality objectives. To mitigate for hexavalent chromium risks, the ATS plan would include monitoring and treatment measures to attain no significant increase of hexavalent chromium in receiving waters.

(b) Salinity

The project would not change salinity levels.

(c) Clarity

Dredging and placement of fill materials would temporarily reduce clarity due to an increase in total suspended solids within the project area. Clarity is not expected to be substantially affected outside the immediate project area. However, the reduction of clarity caused by construction activities would be short in duration and would return to pre-construction levels upon project completion.

(d) Color

Dredging and placement of fill materials would temporarily induce a color change due to an increase in turbidity. However, conditions would return to pre-construction levels upon completion of the project.

(e) Odor

The project would not affect odor.

(f) Taste

The project would not affect taste.

(g) Dissolved Gas Levels

The proposed project would have temporary impacts on dissolved gas levels within the project vicinity. Development and implementation of an approved SWPPP would avoid significant negative effects.

(h) Temperature

Construction activities have the potential to create substantial turbidity,

thus affecting water temperature. Proposed mitigation measures, specifically, conducting work during low flow periods and installing sediment barriers to reduce sediment from entering waterways would be required to control turbidity and the mobilization of pollutants that may be present in sediments. Removal of trees and shrubs that overhang the waterways could increase water temperature in the immediate vicinity.

(i) Nutrients

Release of suspended sediments from project activities could potentially cause turbidity thresholds to be exceeded. This could concurrently cause thresholds for metals and nutrients to be exceeded. Turbidity would be controlled outside the working area using a combination of BMPS as appropriate. Development and implementation of an approved SWPPP would also prevent release of excess nutrients.

(j) Eutrophication

The project is not expected to contribute excess nutrients into the stream or promote excessive plant growth due to BMPs and design and operational refinements.

(5) Changes to Environmental Quality and Value

Alternatives 7a, 8a, and 9a could impact the water quality during construction from earth moving operations, storage and handling of construction materials on site and the operation and maintenance of construction equipment on-site. Construction and associated materials, including solvents, paints, waste materials and fuels associated with operation and maintenance of construction equipment present on-site could introduce hazardous or toxic materials and silt and debris into surrounding waters, resulting in degradation of the water quality. Although there is risk of substantial effects to water quality during project construction, these effects would be short term and localized within the project area. Effective compliance with BMPs, containment plans, and CVRWQCB water quality thresholds is expected to lower risk of changes to environmental quality and value.

Construction of the Fourteenmile Slough and Smith Canal closure structures would significantly affect water quality in adjacent waterways. Construction of the closure structures would require construction of coffer dams, dewatering the areas enclosed by the coffer dams, excavation of within the enclosed area in order to construct the closure structures. These activities could cause sediment runoff into the adjacent waterways.

(6) Actions to Minimize Impacts

Construction and excavation would be timed with low water levels when possible to minimize impacts. The impacts to water quality due to construction activities would be minimized by compliance with thresholds of the Section 401 Water Quality Certification, issued by the Central Valley Regional Water Quality Control Board (CVRWQCB).

In addition, proposed mitigation measures would reduce the potential impacts of the proposed project on water quality. These mitigation measures are located in the Water Quality Section (5.5) of the Draft FR/EIS/EIR.

The contractor would be required to produce compliance plans and implement the proposed mitigation measures during project construction; therefore, impacts to the water quality from project construction are expected to be minimal.

c. Suspended Particulate/Turbidity Determinations

(1) Alteration of Suspended Particulate Type and Concentration

During construction, risk is present for increased levels of turbidity as soils are exposed during rain events. In addition, the dredging of material and placement of fill materials could result in releases of suspended sediments and increased turbidity into the water. Exposed material could be eroded by wave action or storm runoff. The use of best management practices (BMP's), such as utilizing erosion control devices (silt fencing) within the project area, and side slope stabilization of exposed fills would minimize increases in suspended sediments or turbidity associated with the proposed project. Additional information on water quality is found in Section 5.5 of the Draft FR/EIS/EIR.

The no action/no project alternative would result in the project not being completed, which would result in no impacts to suspended sediment and turbidity.

(2) Particulate Plumes Associated with Discharge

Earthwork would be performed during low flow periods to minimize particulate plumes. However, particulate plumes could occur from the placement of fill materials but are expected to be contained. Plumes would dissipate after construction activity is completed.

(3) Changes to Environmental Quality and Value

Particulate plumes resulting from any construction activity under Alternatives 7a, 8a, and 9a would not persist after project completion. Particulates suspended

within the disposal area are not expected to differ in type from particulates currently within the project area.

There could also be long term effects to water quality as the closure structures begin to deteriorate over time. Increased turbidity and metal contamination in the water column as iron or other metals in the closure structures corrode would also impact water quality. In addition, maintenance activities would disturb the channel bottom during repairs.

(4) *Actions to Minimize Impacts*

Effects would be minimized by performing work during low water level periods when possible. A Stormwater Pollution Protection Plan (SWPPP) would be prepared for project construction, which would describe and identify BMPs that would minimize impacts during on-site and off-site construction activities. As a result of contractor compliance with the CVRWQCB certification, consistent water quality monitoring, and mitigation measures listed in Section 5.5 of the Draft FR/EIS/EIR, increases in sedimentation and turbidity are expected to be minimized and temporary.

d. Contaminant Determinations

Construction activities for Alternatives 7a, 8a, and 9a would involve the use of hazardous materials such as fuels and lubricants to operate construction equipment and vehicles such as excavators, compactors, haul trucks, and loaders. Bentonite (a non- hazardous material) would be transported to sites where slurry cutoff wall construction would occur.

Construction of closure structures in Fourteenmile Slough and Smith Canal could result in the release of different types of contaminants that exist in the soil into the environment, significantly affecting water quality. These contaminants include pesticides, fertilizers, organic litter, and debris containing hazardous substances. In addition, contaminated dredge material could be exposed during excavation of the Fourteenmile Slough and Smith Canal for placement of the closure structures.

Alternatives 7a, 8a, and 9a involve the use of borrow material. In order to ensure that there are no contaminants within the proposed borrow or fill material, BMPs listed in the Water Quality Section (Section 5.5) of the Draft FR/EIS/EIR would be implemented. Provided these mitigation measures are implemented by the contractor, there would be minimal impacts to aquatic resources from contaminants. The no action alternative would result in no impacts from potential contaminants.

e. Aquatic Ecosystem and Organism Determinations

(1) Effects on Plankton

Plankton are drifting organisms that inhabit the pelagic zone of oceans, seas, or bodies of fresh water. Construction of the project would be temporary and short term and would include temporary displacement due to in-water construction and decreased plankton density due to increased turbidity. With implementation of mitigation measures and BMPS, the effects would be temporary and not significant.

(2) Effects on Benthos

Benthic organisms are found in the benthic zone which is the ecological region at the lowest level of a body of water such as an ocean or a lake, including the sediment surface and some sub-surface layers. Native benthic species could be affected by the dredging and excavation required to construct the closure structures. Dredging would result in the complete removal of benthic organisms from the control structure site.

(3) Effects on Nekton

Nekton are actively swimming aquatic organisms that range in size and complexity from plankton to marine mammals. Descriptions of fish and other aquatic resources below are from Sections 5.11 and 5.12 of the Draft FR/EIS/EIR.

Native fish present in the Lower San Joaquin River study area can be separated into anadromous species and resident species. Native anadromous species include four runs of Chinook salmon, steelhead trout, and green sturgeon. All of these anadromous species are expected to use habitat in parts of the study area. Native resident species include but are not limited to pikeminnow (*Ptychocheilus grandis*), Sacramento splittail (*Pogonichthys macrolepidotus*), Sacramento sucker (*Catostomus occidentalis*), hardhead (*Mylopharodon conocephalus*), San Joaquin roach (*Lavinia symmetricus*), and steelhead/rainbow trout (*O. mykiss*) and can be found throughout the study area in various aquatic habitats. Additional native and nonnative fish species potentially present in the study area can be seen in Table 5.11-1 of the Draft FR/EIS/EIR.

Project construction may disturb soils and the nearshore environment, leading to increases in sediment in the nearshore aquatic habitat. This in turn may increase sedimentation (i.e., deposition of sediment on the substrate), suspended sediments, and turbidity. Increases in suspended solids and turbidity will generally be short-term in nature and not result in a substantial reduction in population abundance, movement, and distribution.

Due to the common footprints of the action alternatives, the impacts to fish and other aquatic organisms would be similar as for the proposed project.

The no-action alternative would result in no losses of habitat for fish and other aquatic organisms.

(4) Effects on Aquatic Food Web

Description of ecological effects is taken from Sections 5.11 and 5.19 of the Draft FR/EIS/EIR.

Under Alternatives 7a, 8a, and 9a, levee improvements, construction of a floodwall at Smith Canal, and construction of the two closure structures would produce vibration from construction equipment would most likely disturb the native resident fish by increasing noise, water turbulence, and turbidity, causing them to move away from the area of placement. For some pelagic native juvenile species utilizing the near shore habitat for cover, moving away from that cover could put them at a slight increased risk of predation. Other measures for the San Joaquin River levees, including cutoff wall construction, levee height and slope reshaping, would be constructed outside of the natural river channel with no direct significant effects to native fish species.

Additional indirect effects from the permanent closure structures on Fourteenmile Slough and Smith Canal could have potentially significant effects. During non-operational conditions overwater and in-water structures can alter underwater light conditions and provide potentially favorable holding conditions for adult fish, including species that prey on juvenile fishes. Permanent shading from the installation of piles and other structures could increase the number of predatory fish (e.g., striped bass, largemouth bass) holding in the study area and their ability to prey on resident native fish species.

Implementation of BMP's and other mitigation measures proposed (Section 5.11) would result in minimal impacts on fish and aquatic wildlife habitat outside the immediate work area. The no-action alternative would result in no effect to fish and other aquatic organisms.

(5) Effects on Special Aquatic Sites

(a) Sanctuaries and Refuges

No sanctuaries and refuges are within the project area.

(b) Wetlands

Seasonal and permanent wetlands likely occur along portions of all of the waterways that would be affected by the project. During the next project phase a qualified wetlands biologist will identify and evaluate all wetlands potentially affected by the project.

(c) Mud Flats

No mud flats are within the project area.

(d) Vegetated Shallows

No vegetated shallows are within the project area.

(e) Coral Reefs

No coral reefs are within the project area.

(f) Riffle and Pool Complexes

No riffle and pool complexes are within the project area.

(6) Threatened and Endangered Species

Implementation of Alternatives 7a, 8a, and 9a could result in direct effects to the listed valley elderberry longhorn beetle (VELB) if elderberry shrubs are incidentally damaged by construction personnel or equipment. Impacts may also occur if elderberry shrubs need to be transplanted because they are located in areas that cannot be avoided by construction activities. Potential impacts due to damage or transplantation include direct mortality of beetles and/or disruption of their lifecycle.

The potential to affect giant garter snake and its habitat exists in the Stockton Diverting Canal. Alternative 8a would include levee improvements on the Stockton Diverting Canal. These improvements are not expected to impact waters of the United States, including wetlands. Construction activities would temporarily affect potential upland habitat. The canal provides low to moderate food, cover, and water values for GGS.

Special-status birds protected under the Migratory Bird Treaty Act (MBTA) including Swainson's hawk and tricolored blackbird have potential to nest in or adjacent to the study area based on reported occurrences within a 1-mile radius.

In the study area, burrowing owls could nest in areas with non-native grasslands

intermixed with barren ground and in unvegetated areas at farmland areas having berms or levees nearby. Construction activities, including grading and clearing activities within and adjacent to these lands cover types, could result in nesting failure, death of nestlings, or loss of eggs.

Construction activities such as tree removal and trimming or construction noise could result in significant impacts on roosting hoary, Western red, and pallid bats, including the destruction of active roosts, the loss of individuals, or roost failure and the disruption of the wildlife movement corridor. In addition, nighttime construction activities, if needed, could disturb bats emerging from nearby roosts resulting in the disruption of foraging activities.

Direct and indirect significant effects to Chinook salmon, Central Valley steelhead, green sturgeon, and delta smelt due to loss of SRA and riparian habitat from construction of project features and clearing to establish the USACE Levee Vegetation ETL vegetation free zones. Long-term effects on fish habitat include loss of aquatic vegetation and SRA cover. Water quality effects, such as impacts from fuel leaks or contaminants, are detailed in the water quality analysis (Section 5.5).

Alternative 9a has the same project footprint as Alternative 7a, except that it includes construction of a diversion structure in the Stockton Diverting Canal levee, utility relocations, and excavation in Old Mormon Channel in order to divert 1,200 cfs of flood flows into Old Mormon Channel about every two years. This may result in changes to fish migration. Renewed floodflows may also improve wetland habitat and water quality in portions of Old Mormon Channel and in the Stockton Deep Water Ship Channel.

All terms and conditions of Incidental Take Statements accompanying Biological Opinions issued by the USFWS and NMFS will be fully implemented, as appropriate.

The no action alternative would not result in direct impacts to endangered and/or threatened species.

(7) Other Wildlife

Alternatives 7a, 8a, and 9a would have short-term and long-term effects on resident mammals, birds, reptiles, and amphibians. Noise from construction equipment and increased human presence could temporarily displace some wildlife, and temporary alteration of riparian and aquatic habitat would occur. Removal of trees and shrubs would eliminate habitat and interrupt movement corridors.

To ensure that there would be no effect to migratory birds, preconstruction

surveys would be conducted, if needed, in and around the project area. If any migratory birds are found, a protective buffer would be delineated, and USFWS and CDFG would be consulted for further actions. Recommendations proposed by the USFWS in their June 24, 2014, Fish and Wildlife Coordination Act Report and USACE responses are provided below:

USFWS Recommendation 1: Resolve uncertainties and information gaps in the study, as follows:

a) Determine vegetation impacts and future allowances in all project locations with certainty, prior to construction;
b) Clarify the expected future habitat types, and locations, for the Mormon Channel bypass;
c) Conduct ground-level assessment of vegetation losses, including but not limited to cover typing, species, height, diameter, substrate, and inundation frequency; and a habitat evaluation procedures study if deemed appropriate by the Service;
d) Develop and propose mitigation to offset habitat losses, using the guidance provided in this report (see Discussion, above), with locations and quantities of all mitigation plantings, and plans for monitoring;
e) Complete assessment of impacts for all alternatives; and
f) Identify staging and borrow areas.

Response: Concur in part. As part of USACE Planning Modernization, some of the specific information previously developed during the feasibility phase of a project is either not developed or is developed during later project phases only for the preferred alternative (TSP). The simplifying assumptions and analytical methods that were used to quantify impacts are likely to overestimate actual environmental impacts to fish and wildlife habitat. However, the level of information developed at this feasibility stage is sufficient to discern the relative differences in the impacts between alternatives to inform the decision making process and satisfy NEPA and CEQA requirements.

a) Concur. Prior to construction, vegetation impacts and future approved vegetation allowances would specifically determined for all project locations. This would include on site vegetation surveys.

b) Concur in part. Alternatives 9a and 9b include restoring floodflows to the Old Mormon Channel (new flood bypass). The Lower San Joaquin River Project would not include ecosystem restoration. However, portions of the channel may be suitable for inclusion in the mitigation plan. SJAFCA may have an interest in restoring habitat within the flood bypass as a separate project.

c) Concur. During PED, field surveys would be completed to specifically assess vegetation losses. The scope of these surveys would be coordinated with

USFWS, NMFS, and CDFW. If appropriate, a habitat evaluation procedure study would also be completed.

d) Concur. Mitigation that would avoid, minimize, rectify or compensate for potential adverse impacts that have been identified in this draft report. A full mitigation and monitoring plan related to habitat elements will be developed for the recommended plan (preferred alternative). The plan will be coordinated with USFWS, NMFS, and CDFW, and will be included as an appendix to the final report.

e) Concur. Chapter 5 of this draft report includes a complete assessment of impacts for all alternatives.

f) Concur. Chapter 4, Section 4.1.4, generally describes staging and borrow areas needed to implement the alternatives included in the final array of alternatives. Staging and borrow areas would be specifically identified and evaluated during PED.

USFWS Recommendation 2: Develop a setback levee alternative for alternatives which include the RD 17 work element;

Response: Concur, in part. Setback levee measures were considered during the plan formulation process. One modest setback is included in RD 17 in all of the “b” alternatives. The costs vs benefits of constructing an extensive setback levee caused these measures to be screened out of more detailed analysis during the plan formulation process. For this reason, extensive setback levees are not part of any of the final array of alternatives.

USFWS Recommendation 3: Initiate section 7 consultation with the Service on the effects of project construction, operation, and maintenance, on federally-listed species;

Response: Concur. As part of this Feasibility Study, USACE will request to initiate Section 7 consultation with the Service on the potential effects of project construction, operation, and maintenance, on federally-listed species.

USFWS Recommendation 4: Conduct appropriate consultation with the CDFW on effects to State-listed species, and with NMFS, for effects to anadromous fisheries under their jurisdiction.

Response: Concur. SJAFCA and CVFPB as CEQA lead agencies will consult with CDFW, as appropriate, on potential project effects to State-listed species. As part of this Feasibility Study, USACE will request to initiate Section 7 consultation with NMFS on the potential effects of project on federally-listed species.

USFWS Recommendation 5: Develop enhancement and restoration opportunities for incorporation to the maximum extent possible into the preferred alternative for the project.

Response: Concur. Opportunities for restoration were considered during the plan formulation process, however, opportunities to incorporate ecosystem restoration into the preferred alternative (Tentatively Selected Plan) are severely constrained due to the proximity of the levee system to both the waterways and the highly urbanized Stockton area. Therefore, restoration actions are not included in the proposed action.

The no action alternative would not directly impact endangered and/or hreatened species.

(8) Actions to Minimize Impacts

Many mitigation measures to avoid and minimize impacts to the aquatic environment, as well as, compensatory mitigation measures in order to compensate for unavoidable impacts are proposed. Mitigation measures are listed in Sections 5.5, 5.10, 5.11, and 5.12 of the Draft FR/EIS/EIR.

f. Proposed Disposal Site Determinations

(1) Mixing Zone Size Determination

Not applicable.

(2) Determination of Compliance with Applicable Water Quality Standards

The fill material would not violate Environmental Protection Agency or State water quality standards or violate the primary drinking water standards of the Safe Drinking Water Act (42 USC 300f - 300j). Project design, compliance with State water quality thresholds and standard construction and erosion practices would preclude the introduction of substances into surrounding waters.

The proposed project would not affect existing or potential water supplies, nor would the other alternatives, including the no-action alternative.

(3) Potential Effects on Human Use Characteristics

a) Municipal and Private Water Supplies

The fill material would not violate Environmental Protection Agency or State water quality standards or violate the primary drinking water

standards of the Safe Drinking Water Act (42 USC 300f – 300j).

Project design, compliance with State water quality thresholds and standard construction and erosion practices would preclude the introduction of substances into surrounding waters. Materials removed for disposal off-site would be disposed of in an appropriate landfill or other upland area.

b) Recreation and Commercial Fisheries

The study area is heavily used for recreational fishing. A description of these game fish is provided in the FR/EIS/EIR Fisheries, Section 5.11.

Temporary disruption of these activities would occur during construction when the levee crown and adjacent construction and staging areas are closed to public access. Even if the recreation areas themselves are not closed, proximity to construction equipment and activities may degrade recreational experiences. However, this effect is temporary and there are alternative locations for these types of recreation activities in the city.

Alternatives 7a, 8a, and 9a would result in similar impacts to recreational fisheries. The no-action alternative would result in no impacts to recreational fisheries.

c) Water-related recreation

In addition to recreational fishing, the study area is used for picnicking, walking and boating.

All action alternatives (Alternatives 7a, 8a, and 9a) are similar in their potential impacts to recreation. All alternatives include construction of in-water gated closure structures in Fourteenmile Slough and Smith Canal. These could temporarily disrupt recreational boating and personal watercraft use. Temporary disruption of recreational boating would result from the presence of construction vehicles, equipment, and personnel in and adjacent to the Smith Canal, Fourteenmile Slough, and Tenmile Slough, as well as temporary construction effects on water quality (i.e., increased turbidity from suspended materials) in the canal, sloughs, and in the Stockton Deepwater Ship Channel near Smith Canal.

The boat launch, just inside Smith Canal, provides a vehicle-accessible boat ramp. Temporary closure of the boat launch facility during construction of the closure structure at Smith Canal and the floodwall on Dad's Point would affect recreational boaters as well as general passive recreation at Dad's Point. Coordination with the City of Stockton and the facility manager would occur prior to closing the facility to any recreational vehicle and

reducing access to recreational boating and other recreational opportunities in the project vicinity. Implementation of the avoidance, minimization, and other mitigation measures would reduce impacts to less than significant.

The impacts on recreation for Alternative 8a would be the same as those for Alternative 7a, with the addition of impacts associated with the levee improvements along additional portions of Lower Calaveras river and the Stockton Diverting Canal. Impacts on recreation for Alternative 9a would be the same as those for Alternative 7a except that there would be additional impacts associated with construction of the diversion structure on the Stockton Diverting Canal and construction of a flood bypass through Old Mormon Channel.

The no-action alternative would result in no impacts to other water related recreation.

d) Aesthetics

Construction activities under Alternatives 7a, 8a, and 9a would introduce considerable heavy equipment and associated vehicles, including dozers, graders, cranes, scrapers, and trucks into the views of adjacent residents, recreationists, motorists, and businesses. The equipment would be visible throughout the construction season. Presence of the equipment would temporarily degrade the visual quality of the study area. The construction impacts on aesthetics would be temporary, and would primarily affect local residents or recreationists in the immediate vicinity.

Construction has the potential to substantially degrade the existing visual character or quality of the levee reaches and surroundings for viewer groups for two other reasons: 1) a new levee embankment or flood structure (e.g., flood wall, adjacent levee raise, setback levee) would be present, and 2) construction would require the removal of all vegetation the levee surfaces where improvements are to be made and all woody vegetation from the all levee surfaces and fifteen feet water-ward of the levee toe and ten to twenty feet landward of the levee toe. This would degrade the visual character of the area and obstruct views. For example, the flood wall constructed on Dad's Point at the mouth of Smith Canal could obstruct views of the Stockton Deepwater Ship Channel and the Port of Stockton and change the quality of the visual character of these areas.

The impacts on recreation for Alternative 8a would be the same as those for Alternative 7a, with the addition of impacts associated with the levee improvements along additional portions of Lower Calaveras river and the Stockton Diverting Canal. Impacts on recreation for Alternative 9a would be the same as those for Alternative 7a except that there would be additional impacts

associated with construction of the diversion structure on the Stockton Diverting Canal and construction of a flood bypass through Old Mormon Channel.

The no-action alternative would not alter the aesthetics and therefore would have no impacts.

e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves.

Not applicable.

g. Determination of Cumulative Effects on the Aquatic Ecosystem

Effects of the proposed action include reductions in nearshore aquatic and riparian habitat that is used by aquatic and terrestrial species.

Public and private in-water gates exist throughout the San Francisco Estuary. They are designed to manage water quality and to reduce flood risk.

A number of other commercial and private activities, including recreation, as well as urban and rural development, could potentially affect listed species in the San Joaquin River basin. Levee maintenance activities by state agencies and local reclamation districts are likely to continue, although any effects on listed species will be addressed through Section 10 or Section 7 (in cases where a federal permit is required) of the ESA. Ongoing non-federal activities that affect listed salmonids, green sturgeon, delta smelt, valley elderberry longhorn beetle, giant garter snake and their habitat, will likely continue in the short-term, at intensities similar to those of recent years.

Potential cumulative effects on fish may include any continuing or future non-federal diversions of water that may entrain adult or larval fish or that may incrementally decrease outflows, thus changing the position of habitat for these species. Water diversions through intakes serving numerous small, private agricultural lands and duck clubs in the San Francisco Estuary and upstream of the estuary contribute to these cumulative effects. These diversions also include municipal and industrial uses and power production. The introduction of exotic species may also occur under numerous circumstances. Exotic species can displace native species that provide food for larval fish. Beneficial impacts on fish accrue from the Federal, state and local efforts to restore fisheries habitat in the upper San Joaquin River watershed, and remove fish passage barriers along the Lower Calaveras River and Mormon Channel. Reintroduction of Spring-run Chinook salmon may restore this fishery to the San Joaquin River system.

Potential cumulative effects on all species discussed above could include: wave action in the channels and sloughs caused by boats that may degrade riparian and

wetland habitat and erode banks; dumping of domestic and industrial garbage; land uses that result in increased discharges of pesticides, herbicides, oil, and other contaminants; and conversion of riparian areas for urban development. In addition, routine vegetation clearing and mowing associated with agricultural practices may affect or remove habitat for the valley elderberry longhorn beetle and giant garter snake.

h. Determination of Secondary Effects on the Aquatic Ecosystem

Under Alternatives 7a, 8a, and 9a all trees and shrubs would be removed from the levee crown and slopes, and from within fifteen feet water-ward of the levee toe and from within twenty feet of the landside levee toe. Vegetation would be removed in order to construct the levee improvements and to establish a Vegetation ETL-compliant no vegetation zone and landside operations, maintenance, and emergency access corridor. At the end of each construction season, disturbed area would be seeded with native herbaceous plants. Compensatory mitigation would be accomplished through a combination of on-site plantings where feasible, mitigation bank credits, and off-site plantings.

Risk exists for the unintentional placement of dredge and/or fill outside of the proposed project area. Unintentional placement could result in additional adverse impacts to water quality, aquatic and other wildlife habitat, recreation, aesthetics and air quality. To reduce the risk of such impacts, contract specifications would require the contractor to mark the project boundaries, and that the contractor install erosion control (i.e. silt fencing, silt curtains) where possible within any standing waters.

III. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

(1) No significant adaptations of the guidelines were made relative to this evaluation.

(2) No practicable alternative exists which meets the study objectives that does not involve discharge of fill into waters of the United States.

(3) The discharges of fill materials would not cause or contribute to, after consideration of disposal site dilution and dispersion, violation of any applicable State water quality standards for waters. The discharge operations would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

(4) The placement of fill materials would not result in significant adverse effects on human health and welfare, including municipal and private water supplies; recreational and commercial fishing; fish, shellfish, and wildlife populations and habitat, and special aquatic sites. The life stages of aquatic species and other wildlife would not be adversely affected in the San Joaquin River system.

Temporary inhibition of life stages would occur within a localized project area. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values would not occur.

(5) The placement of fill materials in the project area(s) would not jeopardize the continued existence of any species listed as threatened or endangered or result in the likelihood of destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973.

(6) Appropriate steps to minimize potential adverse effects of the discharge on aquatic systems will be implemented.

(7) On the basis of the guidelines the proposed disposal site for the discharge of dredged material is specified as complying with the requirements of the guidelines with the inclusion of appropriate and practicable conditions to minimize pollution or adverse effects to the aquatic ecosystem.

APPENDIX A-5

SPECIAL STATUS SPECIES LISTS

LOWER SAN JOAQUIN FEASIBILITY STUDY

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

June 3, 2014

Document Number: 140603040032

Brad Johnson
U.S. Army Corps of Engineers
1325 J Street
Sacramento, CA 95630

Subject: Species List for Lower San Joaquin River Feasibility Study

Dear: Interested party

We are sending this official species list in response to your June 3, 2014 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 01, 2014.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found http://www.fws.gov/sacramento/es/Branch-Contacts/es_branch-contacts.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the LODI SOUTH (479D) U.S.G.S. 7 1/2 Minute Quad

Report Date: April 24, 2014

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Plants

Castilleja campestris ssp. succulenta
succulent (=fleshy) owl's-clover (T)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the WATERLOO (478C) U.S.G.S. 7 1/2 Minute Quad

Report Date: April 24, 2014

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Plants

Castilleja campestris ssp. succulenta
succulent (=fleshy) owl's-clover (T)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the STOCKTON WEST (462A) U.S.G.S. 7 1/2 Minute Quad

Report Date: April 24, 2014

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Plants

Cordylanthus palmatus
palmate-bracted bird's-beak (E)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the STOCKTON EAST (461B) U.S.G.S. 7 1/2 Minute Quad

Report Date: April 24, 2014

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the LATHROP (462D) U.S.G.S. 7 1/2 Minute Quad

Report Date: April 24, 2014

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the MANTECA (461C) U.S.G.S. 7 1/2 Minute Quad

Report Date: April 24, 2014

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

September 12, 2014

Document Number: 140912125652

David Colby
US Army Corps of Engineers
1325 J Street
Sacramento, CA 95814

Subject: Species List for Lower San Joaquin

Dear: Mr. Colby

We are sending this official species list in response to your September 12, 2014 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 11, 2014.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found http://www.fws.gov/sacramento/es/Branch-Contacts/es_branch-contacts.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140912122518

Current as of: September 12, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Plants

Castilleja campestris ssp. succulenta
succulent (=fleshy) owl's-clover (T)

Quads Containing Listed, Proposed or Candidate Species:

LODI SOUTH (479D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140912123306

Current as of: September 12, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Plants

Castilleja campestris ssp. succulenta
succulent (=fleshy) owl's-clover (T)

Quads Containing Listed, Proposed or Candidate Species:

WATERLOO (478C)

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140912123349

Current as of: September 12, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Plants

Cordylanthus palmatus
palmate-bracted bird's-beak (E)

Quads Containing Listed, Proposed or Candidate Species:

STOCKTON WEST (462A)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140912123422

Current as of: September 12, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Quads Containing Listed, Proposed or Candidate Species:

STOCKTON EAST (461B)

County Lists

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140912123453

Current as of: September 12, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Quads Containing Listed, Proposed or Candidate Species:

LATHROP (462D)

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140912123525

Current as of: September 12, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Quads Containing Listed, Proposed or Candidate Species:

MANTECA (461C)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE

Quad is (Stockton East (3712182) or Stockton West (3712183) or Lodi South (3812113) or Lathrop (3712173) or Waterloo (3812112) or Manteca (3712172))

CNDDB Element Query Results

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
Agelaius tricolor	tricolored blackbird	ABPBXB0020	429	G2G3	S2	None	None		ABC_WLBCC-Watch List of Birds of Conservation Concern | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland
Ambystoma californiense	California tiger salamander	AAAAA01180	1094	G2G3	S2S3	Threatened	Threatened		CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Cismontane woodland | Meadow & seep | Riparian woodland | Valley & foothill grassland | Vernal pool | Wetland
Astragalus tener var. tener	alkali milk-vetch	PDFAB0F8R1	65	G2T2	S2	None	None	1B.2		Alkali playa | Valley & foothill grassland | Vernal pool | Wetland
Athene cunicularia	burrowing owl	ABNSB10010	1850	G4	S2	None	None		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland
Atriplex cordulata var. cordulata	heartscale	PDCHE040B0	68	G3T2	S2	None	None	1B.2	BLM_S-Sensitive	Chenopod scrub | Meadow & seep | Valley & foothill grassland
Atriplex joaquinana	San Joaquin spearscale	PDCHE041F3	109	G2	S2	None	None	1B.2	BLM_S-Sensitive	Alkali playa | Chenopod scrub | Meadow & seep | Valley & foothill grassland
Blepharizonia plumosa	big tarplant	PDAST1C011	48	G2	S2	None	None	1B.1		Valley & foothill grassland
Branchinecta mesovallensis	midvalley fairy shrimp	ICBRA03150	101	G2	S2	None	None			Vernal pool | Wetland
Brasenia schreberi	watershield	PDCAB01010	33	G5	S2	None	None	2B.3		Marsh & swamp | Wetland
Buteo swainsoni	Swainson's hawk	ABNKC19070	2394	G5	S2	None	Threatened		ABC_WLBCC-Watch List of Birds of Conservation Concern | BLM_S-Sensitive | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland
California macrophylla	round-leaved filaree	PDGER01070	155	G2	S2	None	None	1B.1	BLM_S-Sensitive	Cismontane woodland | Valley & foothill grassland

Chloropyron palmatum	palmate-bracted salty bird's-beak	PDSCR0J0J0	26	G1	S1	Endangered	Endangered	1B.1		Chenopod scrub | Meadow & seep | Valley & foothill grassland | Wetland
Cirsium crassicaule	slough thistle	PDAST2E0U0	19	G2	S2	None	None	1B.1	BLM_S-Sensitive	Chenopod scrub | Freshwater marsh | Marsh & swamp | Riparian scrub | Wetland
Delphinium recurvatum	recurved larkspur	PDRAN0B1J0	96	G3	S3	None	None	1B.2	BLM_S-Sensitive	Chenopod scrub | Cismontane woodland | Valley & foothill grassland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	201	G3T2	S2	Threatened	None			Riparian scrub
Elanus leucurus	white-tailed kite	ABNKC06010	158	G5	S3	None	None		BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Cismontane woodland | Marsh & swamp | Riparian woodland | Valley & foothill grassland | Wetland
Eryngium racemosum	Delta button-celery	PDAPI0Z0S0	26	G1Q	S1	None	Endangered	1B.1		Riparian scrub | Wetland
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	PDMAL0H0R3	173	G5T2	S2	None	None	1B.2		Freshwater marsh | Marsh & swamp | Wetland
Hypomesus transpacificus	Delta smelt	AFCHB01040	27	G1	S1	Threatened	Endangered		AFS_TH-Threatened | IUCN_EN-Endangered	Aquatic | Estuary
Lathyrus jepsonii var. jepsonii	Delta tule pea	PDFAB250D2	130	G5T2	S2.2	None	None	1B.2		Freshwater marsh | Marsh & swamp | Wetland
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	274	G3	S2S3	Endangered	None		IUCN_EN-Endangered	Valley & foothill grassland | Vernal pool | Wetland
Lilaeopsis masonii	Mason's lilaeopsis	PDAPI19030	196	G2	S2	None	Rare	1B.1		Freshwater marsh | Marsh & swamp | Riparian scrub | Wetland
Lytta moesta	moestan blister beetle	IICOL4C020	12	G2	S2	None	None			Valley & foothill grassland
Melospiza melodia	song sparrow ("Modesto" population)	ABPBXA3010	92	G5	S3?	None	None		CDFW_SSC-Species of Special Concern	
Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	31	G5T2	S2	Threatened	None		AFS_TH-Threatened	Aquatic | Sacramento/San Joaquin flowing waters
Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	93	G3	S3	None	None	1B.2	BLM_S-Sensitive	Marsh & swamp | Wetland
Spirinchus thaleichthys	longfin smelt	AFCHB03010	45	G5	S1	Candidate	Threatened		CDFW_SSC-Species of Special Concern	Aquatic | Estuary
Sylvilagus bachmani riparius	riparian brush rabbit	AMAEB01021	16	G5T1	S1	Endangered	Endangered			Riparian forest
Symphyotrichum lentum	Suisun Marsh aster	PDASTE8470	172	G2	S2	None	None	1B.2		Brackish marsh | Freshwater marsh | Marsh & swamp | Wetland
Thamnophis gigas	giant garter snake	ARADB36150	271	G2G3	S2S3	Threatened	Threatened		IUCN_VU-Vulnerable	Marsh & swamp | Riparian scrub | Wetland
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	PDAST9F031	9	G4T3	S1	None	None	2B.1		Marsh & swamp | Meadow & seep | Riparian forest | Vernal pool | Wetland
Trifolium hydrophilum	saline clover	PDFAB400R5	49	G2	S2	None	None	1B.2		Marsh & swamp | Valley & foothill grassland | Vernal pool | Wetland

Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	91	G3	S2.1	None	None			Cismontane woodland
Vireo bellii pusillus	least Bell's vireo	ABPBW01114	410	G5T2	S2	Endangered	Endangered		ABC_WLBCC-Watch List of Birds of Conservation Concern | IUCN_NT-Near Threatened	Riparian forest | Riparian scrub | Riparian woodland
Xanthocephalus xanthocephalus	yellow-headed blackbird	ABPBXB3010	11	G5	S3S4	None	None		CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Marsh & swamp | Wetland

Copyright © 2014 State of California

PLATES

LOWER SAN JOAQUIN RIVER INTERIM FEASIBILITY STUDY

LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- Erosion Protection
- 200 Year + 3' Raise

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

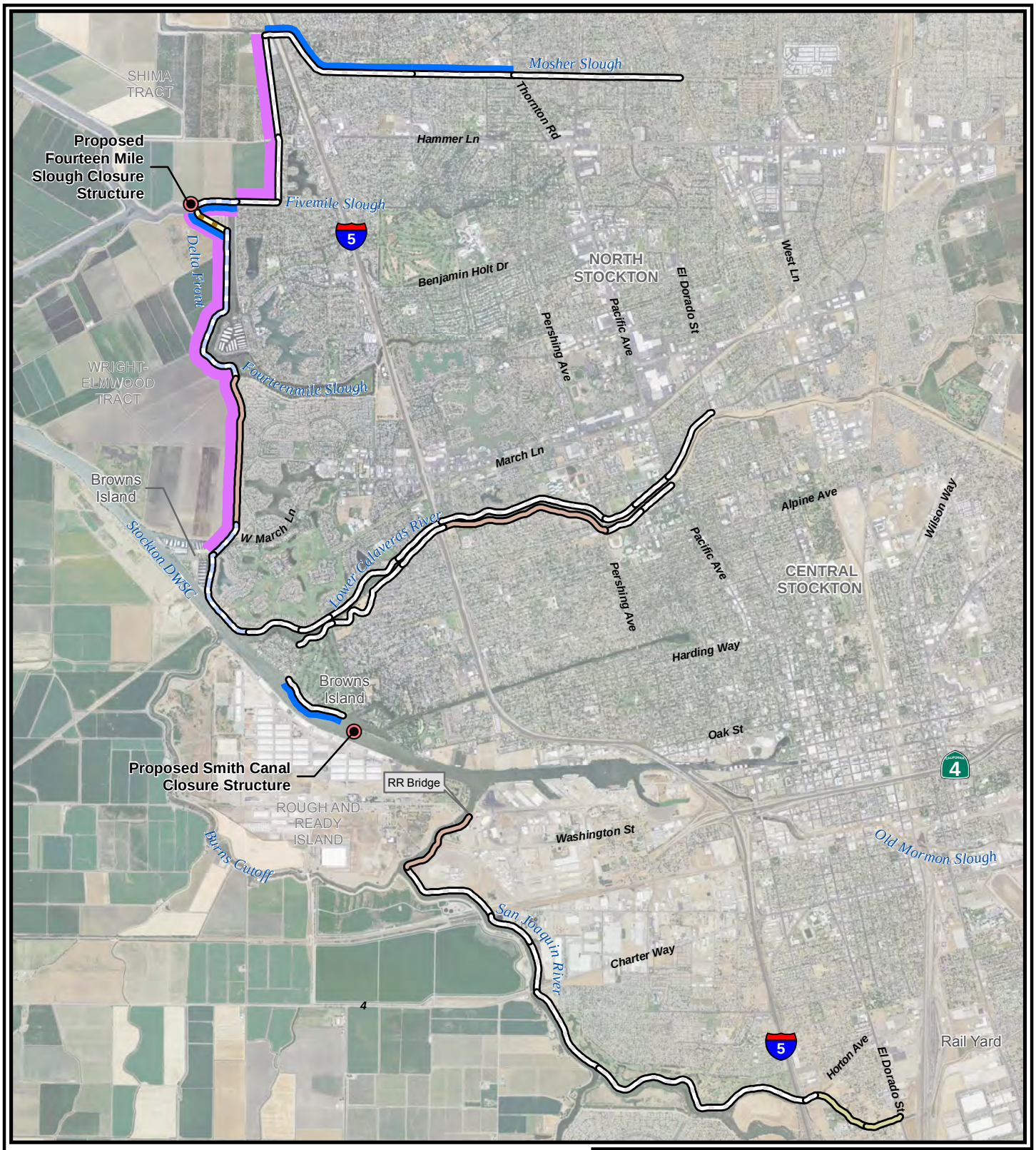
LSJ LEVEE REACHES
ALTERNATIVE 7a
NORTH STOCKTON - EAST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 1



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

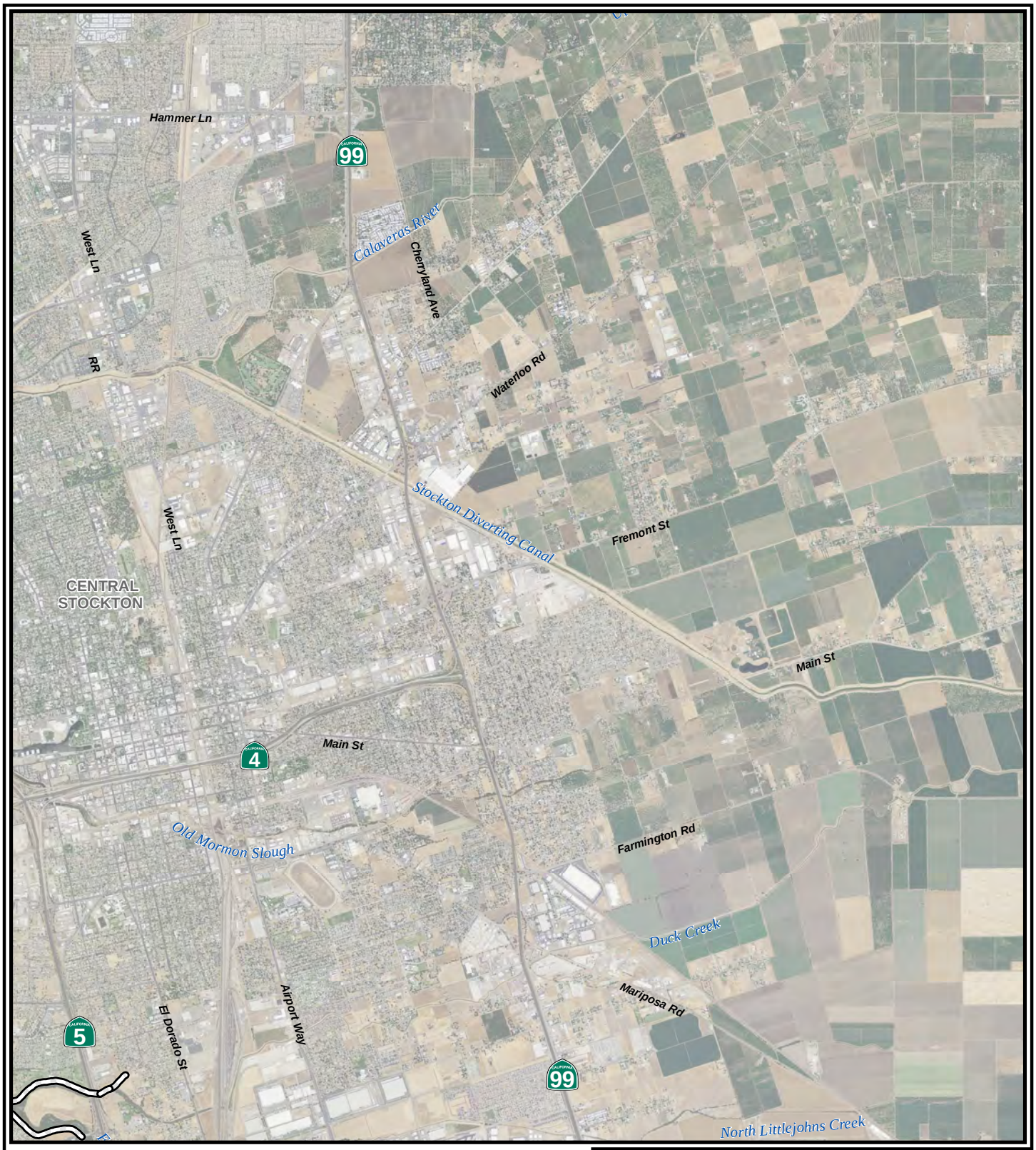
LSJ LEVEE REACHES ALTERNATIVE 7a NORTH STOCKTON - WEST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 2



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

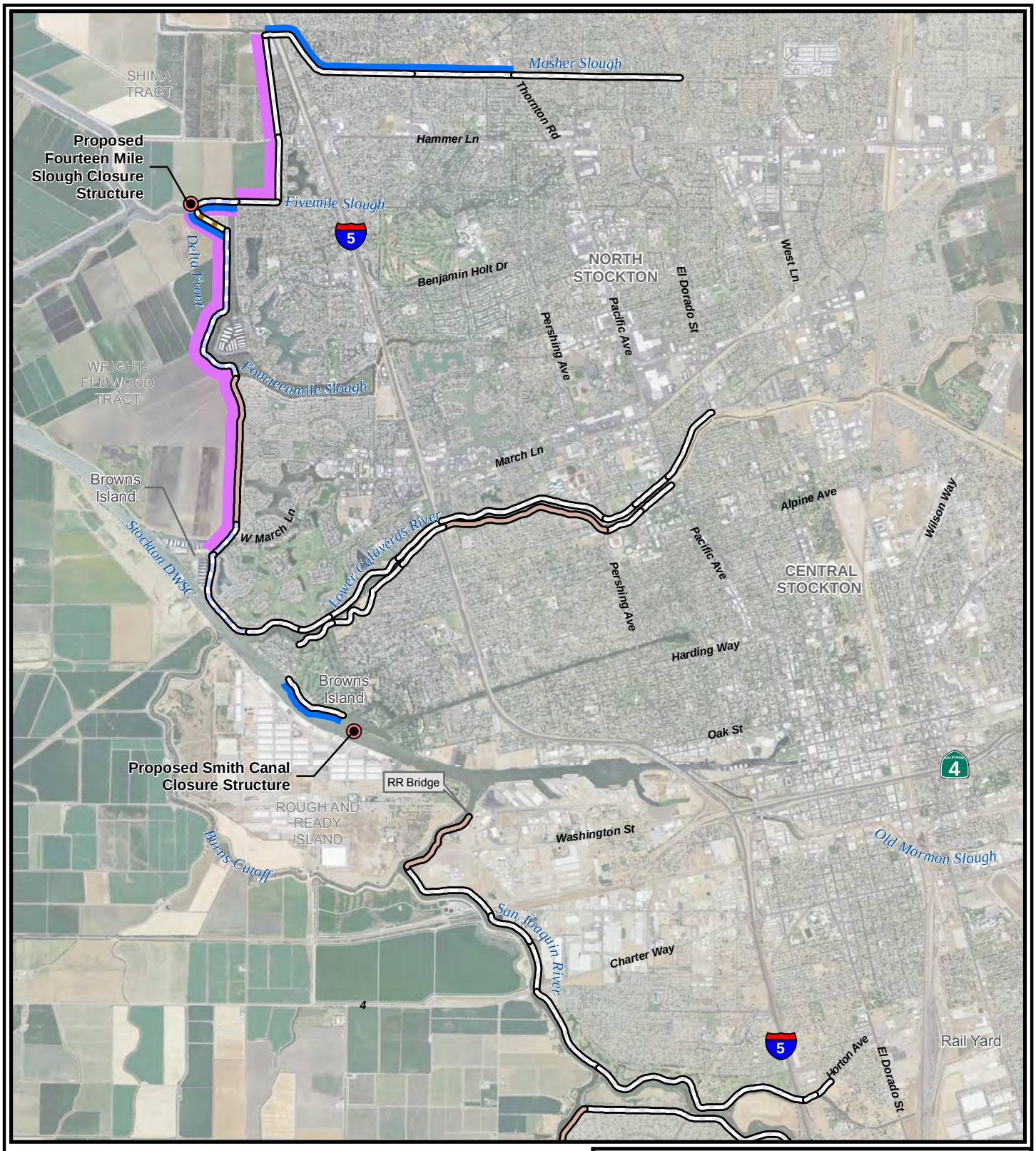
LSJ LEVEE REACHES
ALTERNATIVE 7b
NORTH STOCKTON - EAST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 3



Control Structure

LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Sea Level Rise Protection
- Erosion Protection
- 200 Year + 3' Raise

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

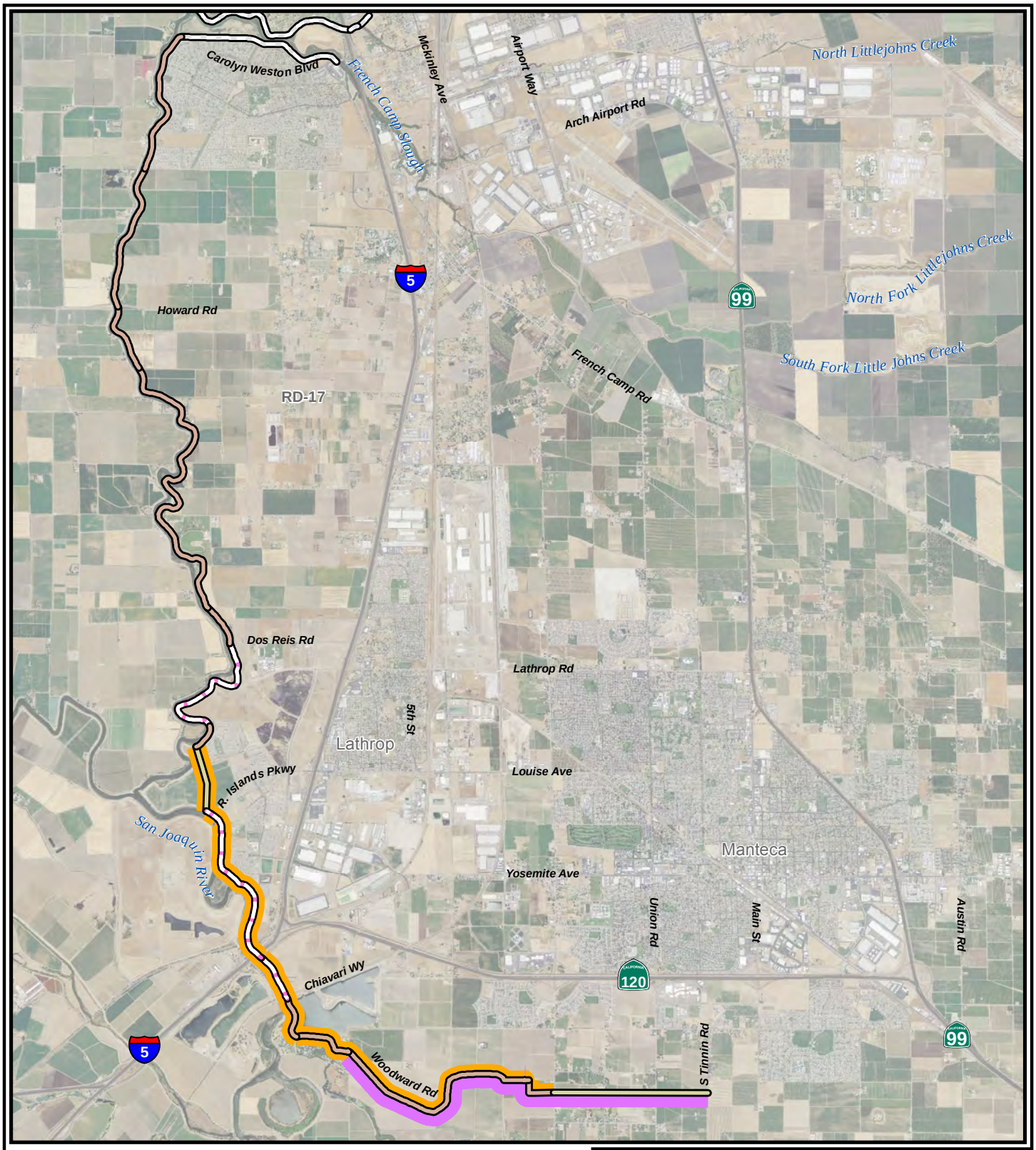
LSJ LEVEE REACHES ALTERNATIVE 7b NORTH STOCKTON - WEST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 4



Control Structure

LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

Sea Level Rise Protection

Erosion Protection

200 Year + 3' Raise

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

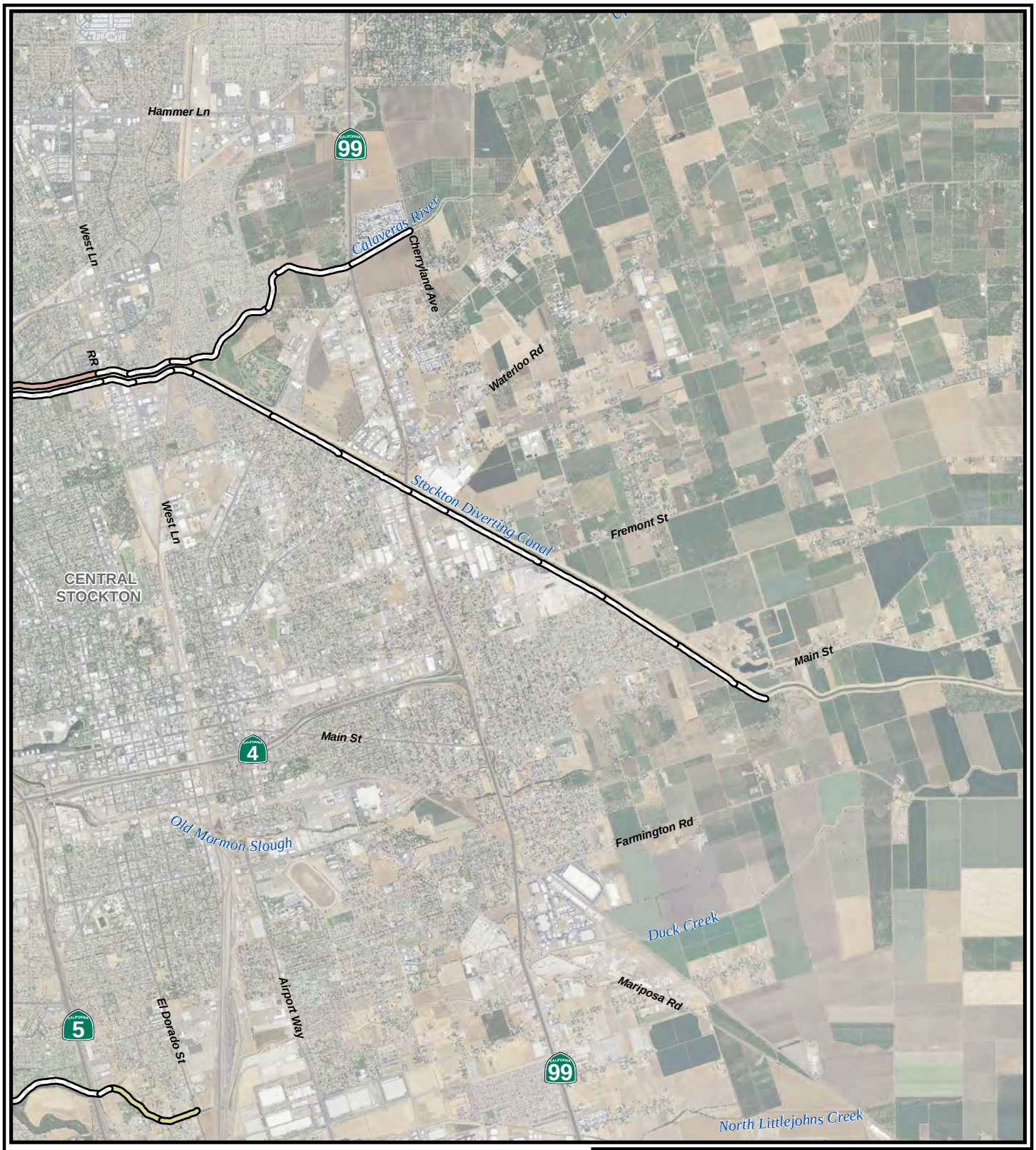
LSJ LEVEE REACHES ALTERNATIVE 7b RD-17

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 5



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

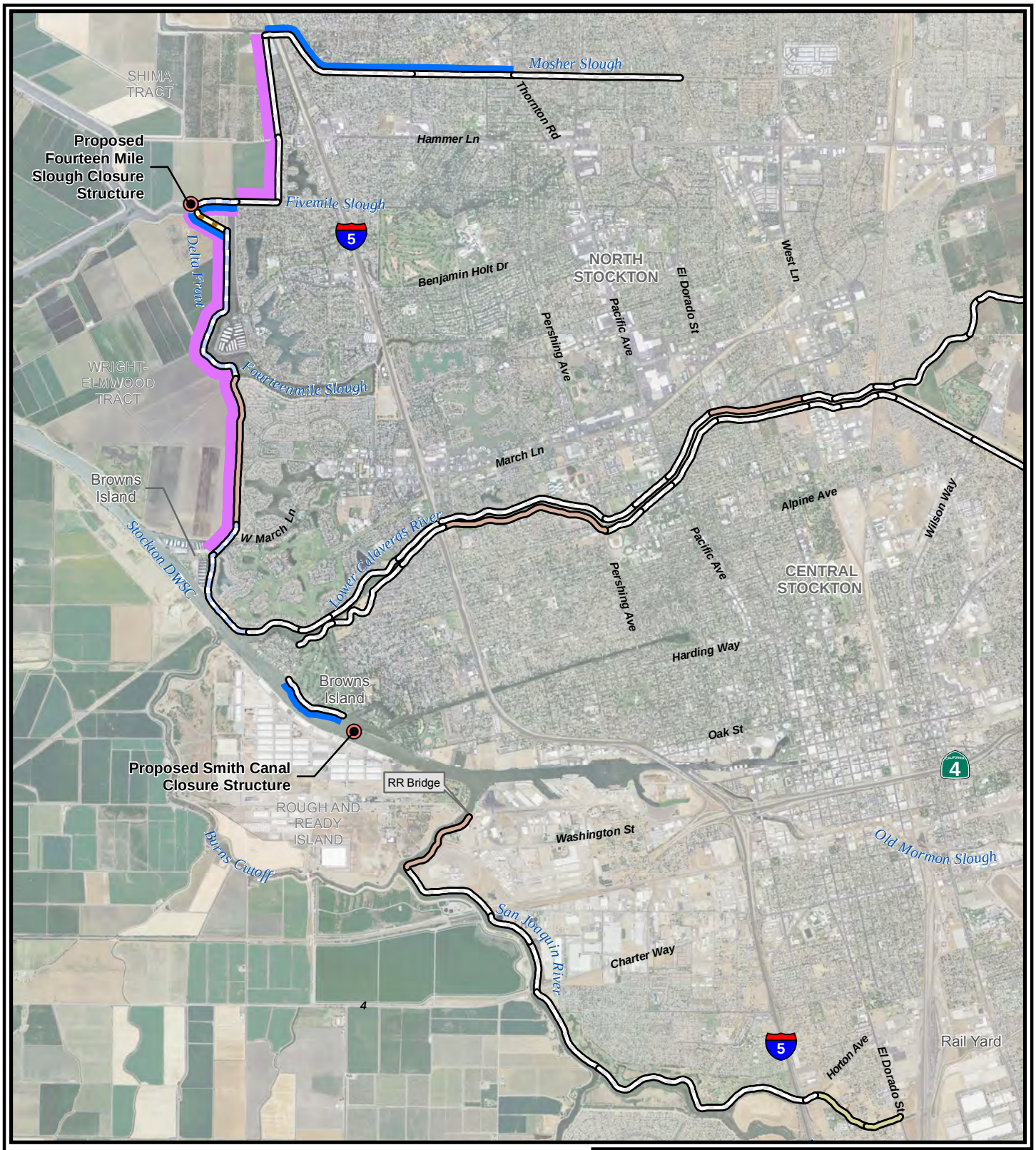
LSJ LEVEE REACHES
ALTERNATIVE 8a
NORTH STOCKTON - EAST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 6



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

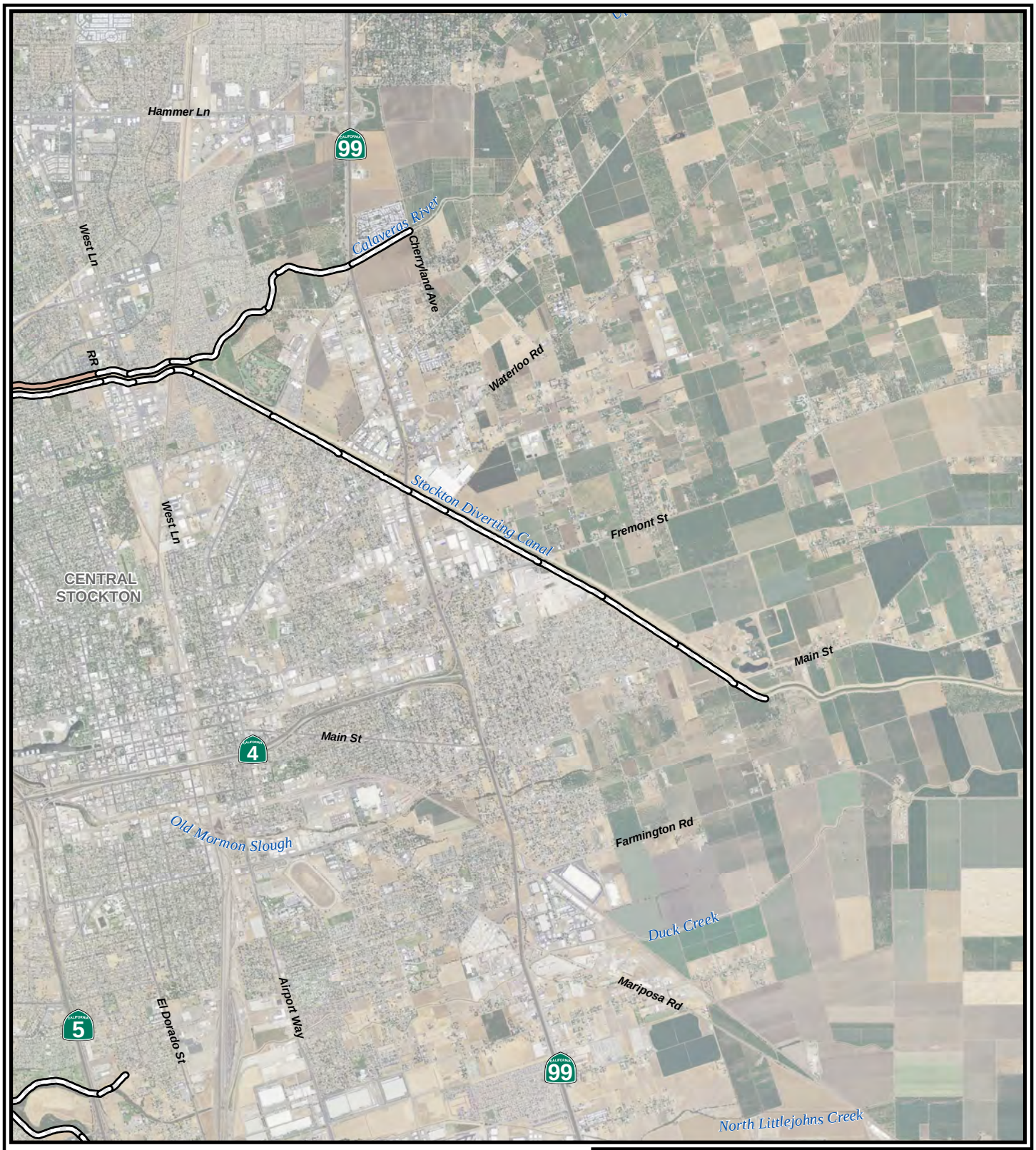
LSJ LEVEE REACHES ALTERNATIVE 8a NORTH STOCKTON - WEST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 7



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

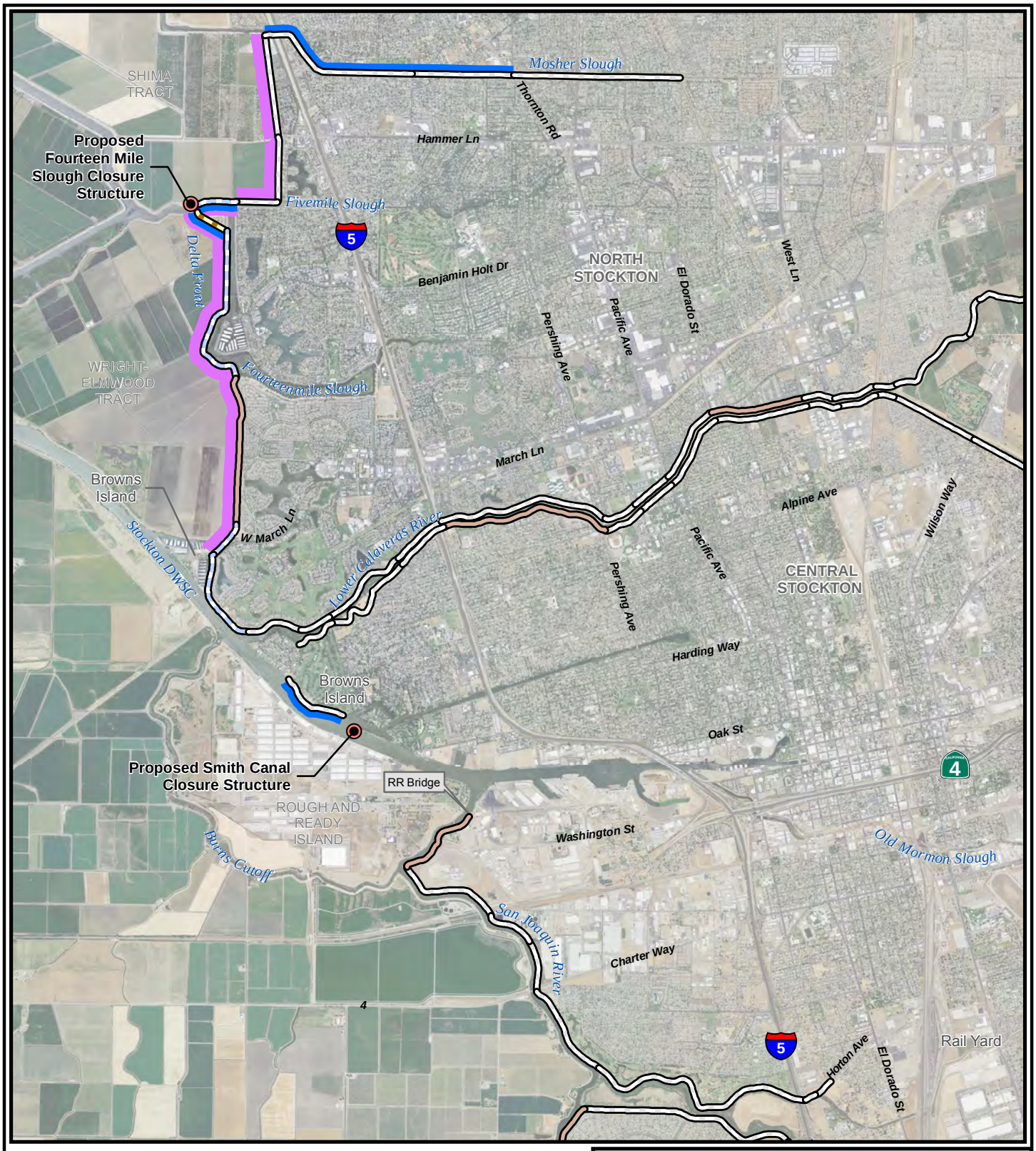
LSJ LEVEE REACHES
ALTERNATIVE 8b
NORTH STOCKTON - EAST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 8



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

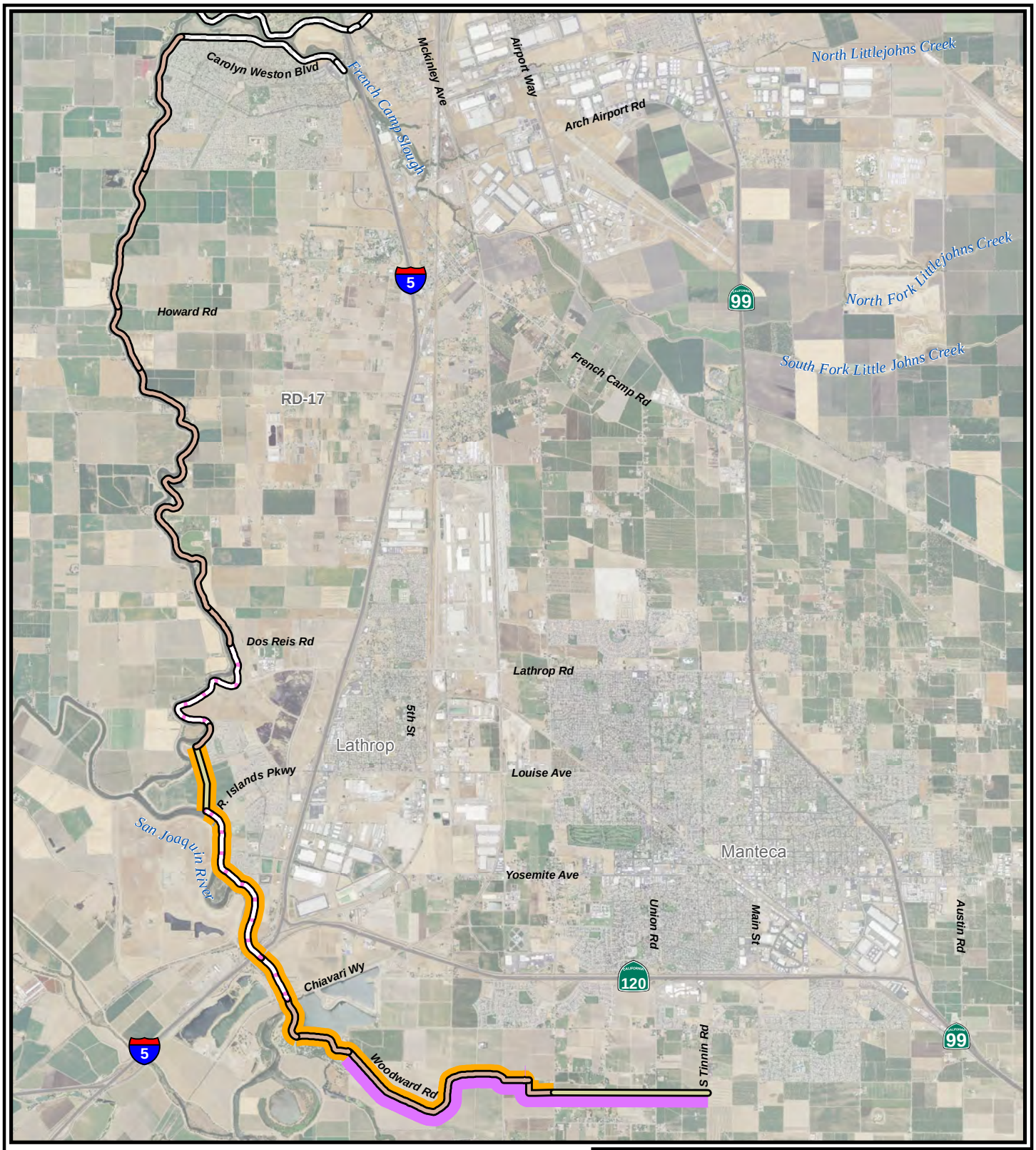
LSJ LEVEE REACHES ALTERNATIVE 8b NORTH STOCKTON - WEST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 9



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

Miles
0 1 2 3

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

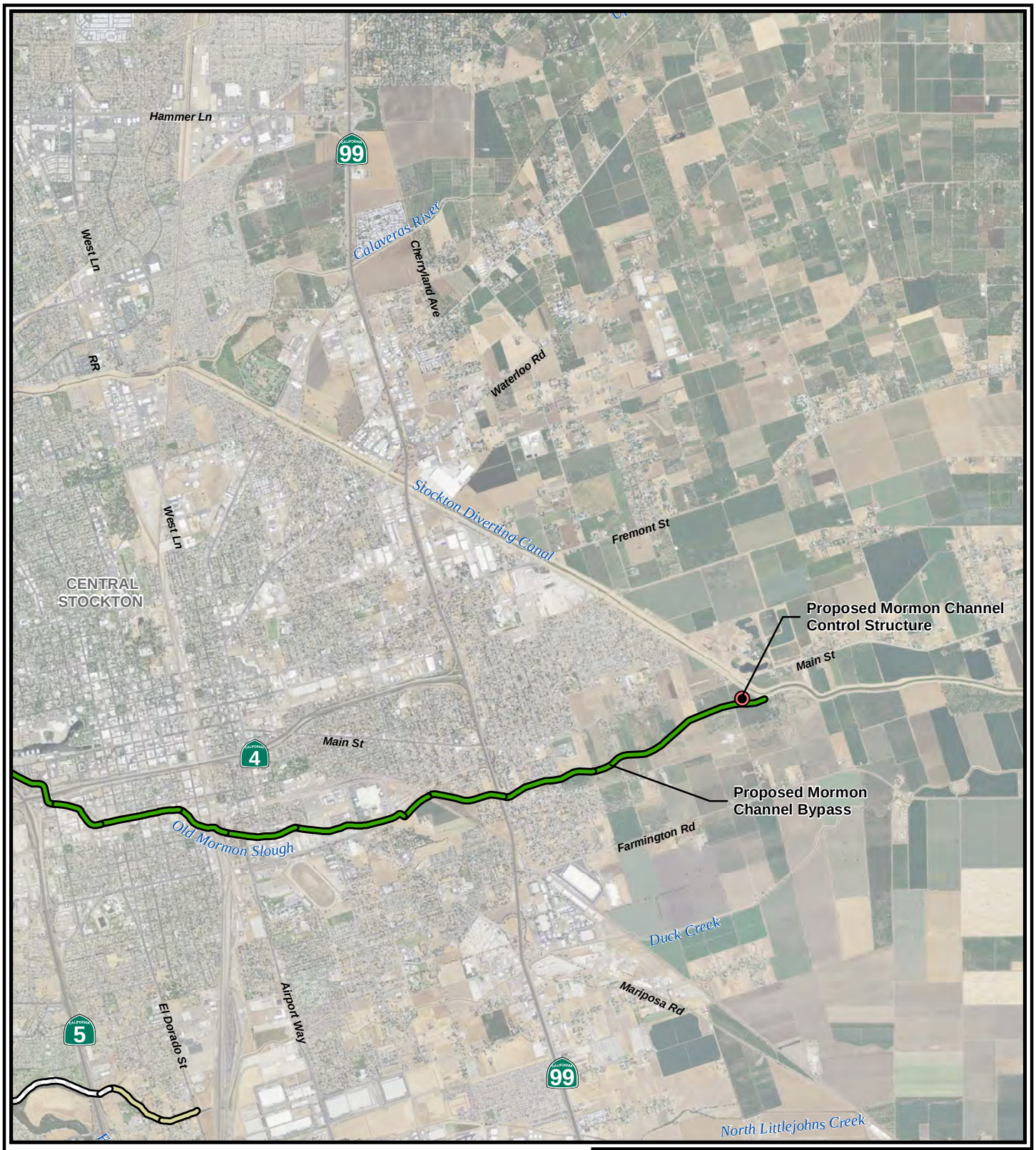
LSJ LEVEE REACHES
ALTERNATIVE 8b
RD-17

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 10



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix
- Mormon Channel Improvements

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

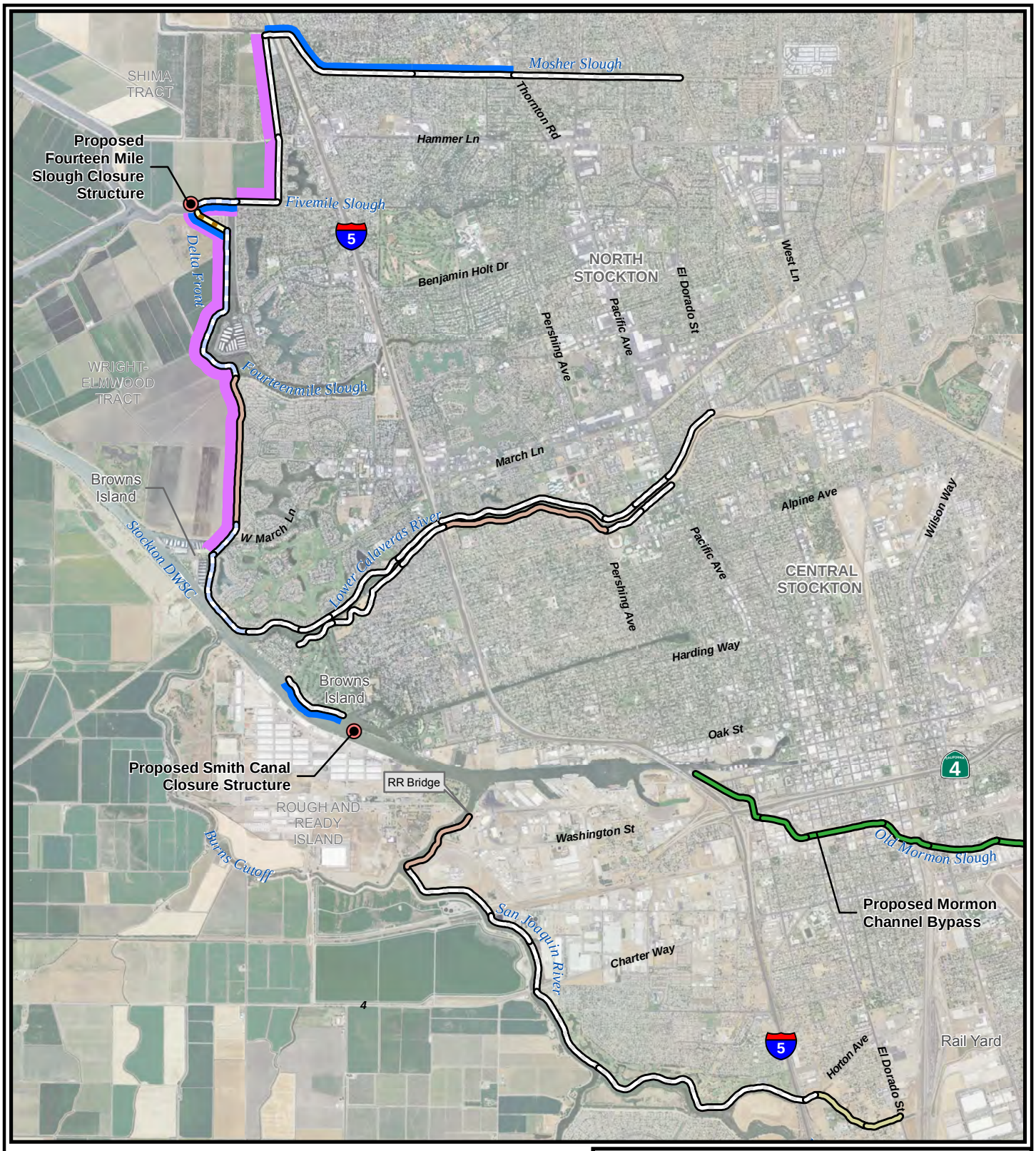
LSJ LEVEE REACHES ALTERNATIVE 9a NORTH STOCKTON - EAST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 11



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix
- Mormon Channel Improvement

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

LSJ LEVEE REACHES ALTERNATIVE 9a NORTH STOCKTON - WEST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 12

LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix
- Mormon Channel Improvements

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

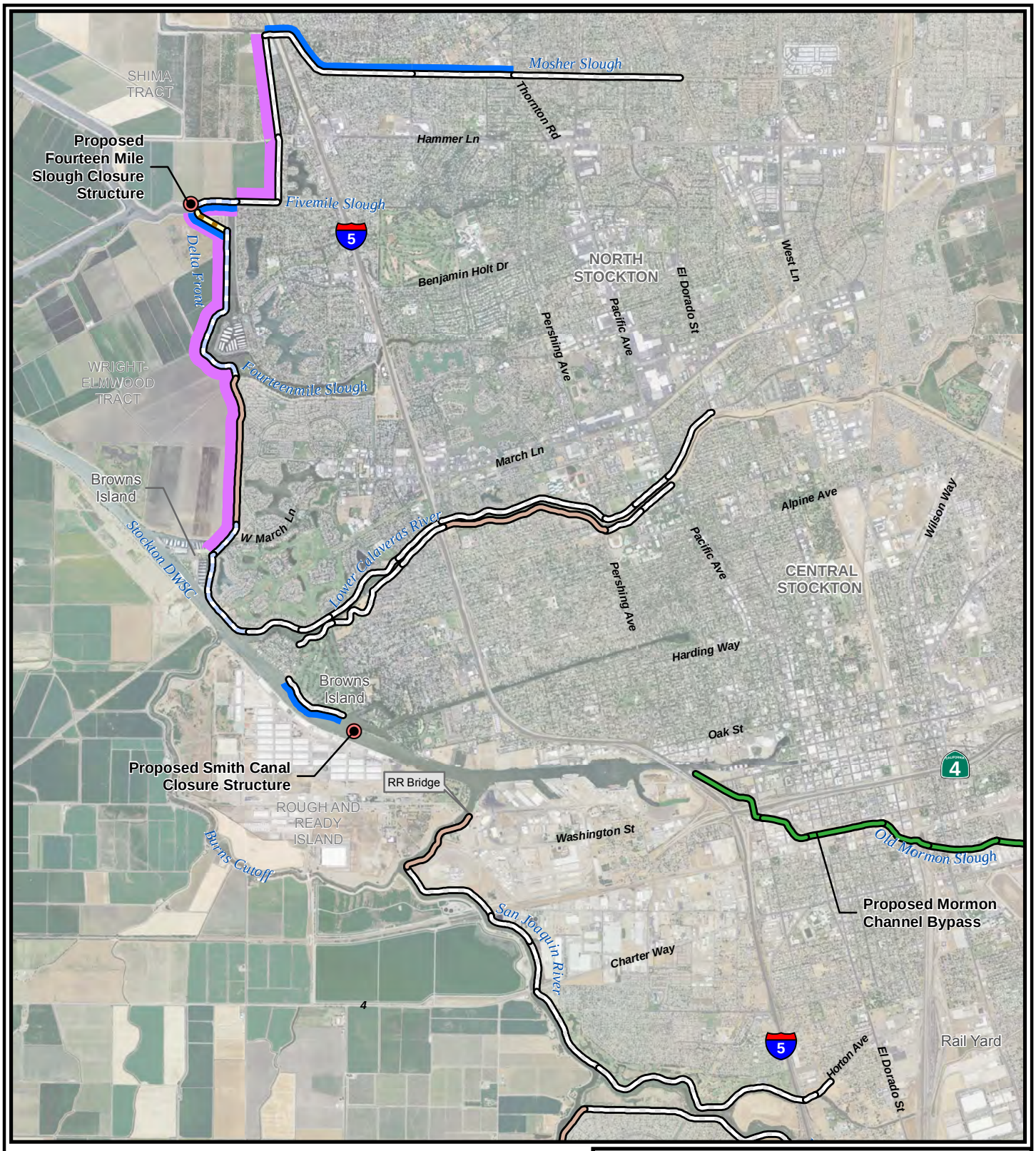
LSJ LEVEE REACHES ALTERNATIVE 9b NORTH STOCKTON - EAST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 13



LSJ Segements

- No Geotech Fix
- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix
- Mormon Channel Improvement

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

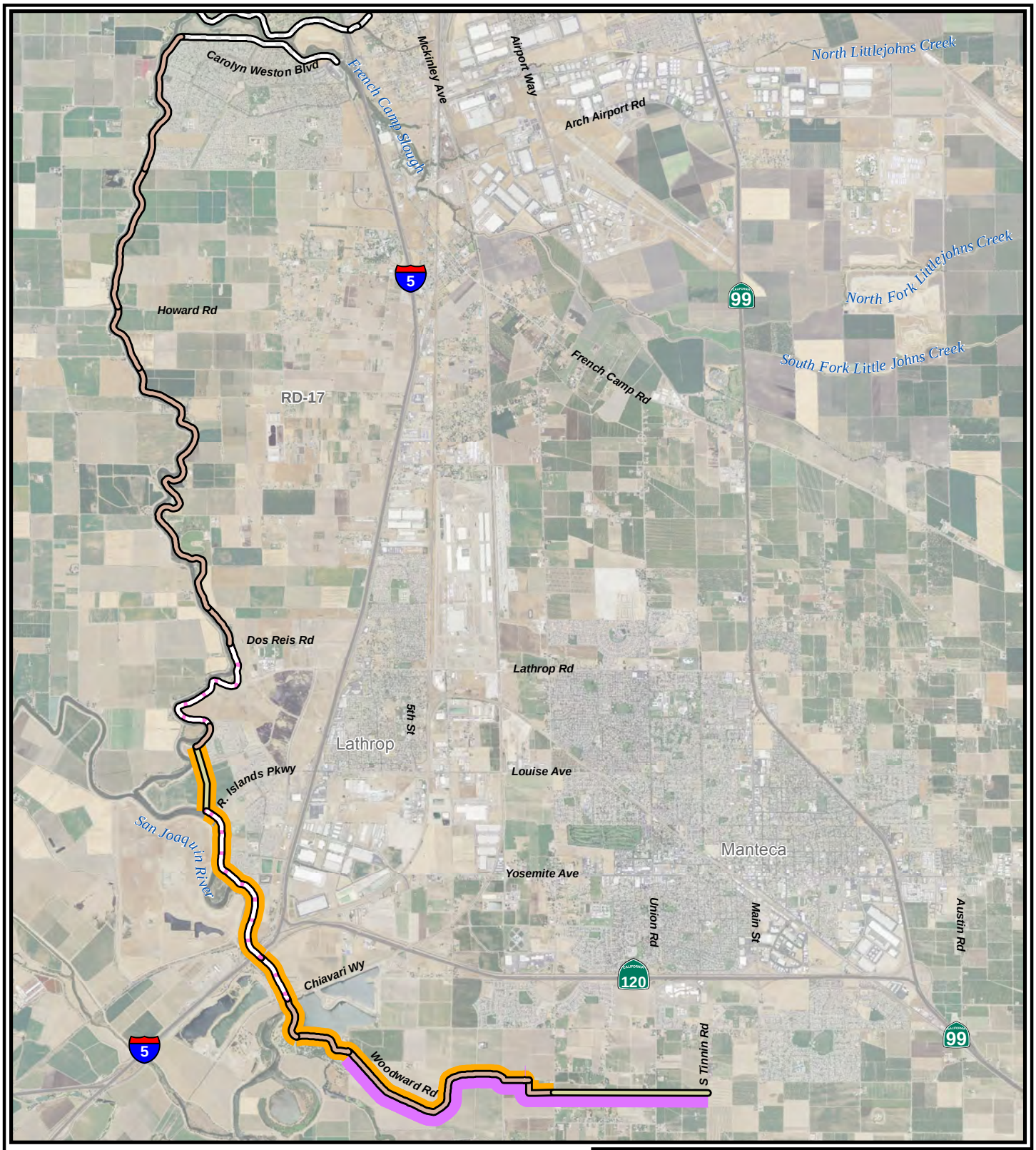
LSJ LEVEE REACHES ALTERNATIVE 9b NORTH STOCKTON - WEST

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 14



LSJ Segements

- Seepage Berm, Geometric/Ht Fix
- Centerline Cut-Off Wall
- Centerline Cut-Off Wall, Geometric/Ht. Fix
- New Levee
- Seismic Fix
- Seismic Fix/Geometric Fix
- Mormon Channel Improvements

- Control Structure
- Sea Level Rise Protection
- 200 Year + 3' Raise
- Erosion Protection

Aerial Imagery: 2012, NAIP, 1m

0 1 2 3 Miles

N

SAN JOAQUIN RIVER BASIN
LOWER SAN JOAQUIN RIVER, CA
INTERIM FEASIBILITY STUDY

LSJ LEVEE REACHES
ALTERNATIVE 9b
RD-17

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

Prepared by C. Young

AUGUST 2014

PLATE 15