REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE FLORIN RESOURCE CONSERVATION DISTRICT

Agenda

Wednesday, September 30, 2015

6:30 PM

9257 Elk Grove Blvd.
Elk Grove, CA 95624

Compliance with Government Code Section 54957.5

Public records, including writings related to an agenda item for an open session of a regular meeting of the Florin Resources Conservation District that are distributed less than 72 hours before the meeting, are available for public inspection during normal business hours at the Administration building of Elk Grove Water District, located at 9257 Elk Grove Blvd. Elk Grove, California. In addition, such writings may be posted, whenever possible, on the Elk Grove Water District website at www.egwd.org.

The Board will discuss all items on the agenda, and may take action on any item listed as an "Action" item. The Board may discuss items that do not appear on the agenda, but will not act on those items unless there is a need to take immediate action and the Board determines by a two-thirds (2/3) vote that the need for action arose after posting of the agenda.

If necessary, the Meeting will be adjourned to Closed Session to discuss items on the agenda listed under "Closed Session." At the conclusion of the Closed Session, the meeting will reconvene to "Open Session."

CALL TO ORDER, ROLL CALL AND PLEDGE OF ALLEGIANCE

Public Comment – Please complete a Request to Speak Form if you wish to address the Board. Members of the audience may comment on matters that are not included on the agenda. Each person will be allowed three (3) minutes, or less if a large number of requests are received on a particular subject. No action may be taken on a matter raised under "Public Comment" until the matter has been specifically included on an agenda as an action item. Items listed on the agenda will be opened for public comment as they are considered by the Board of Directors.

1. Proclamations and Announcements

Associate Director Comment

Public Comment

2. Consent Calendar (Stefani Phillips, Secretary and Jim Malberg, Treasurer)

a. Regular Board Meeting Minutes - August 26, 2015
b. Special Board Meeting Minutes – August 31, 2015
c. FRCD Cash Flow Worksheet – August, 2015
d. Warrants Paid – August, 2015
e. Active Accounts – August, 2015
f. Bond Covenant Status for FY 2015-16 – August, 2015
g. Revenues and Expenses – Actual vs Budget FY 2015-16 – August, 2015
h. Cash Accounts – August, 2015
i. Consultants Expenses – August, 2015

Associate Director Comment

Public Comment

Recommended Action: Approve Florin Resource Conservation District Consent Calendar

3. California Water Fix (Mark J. Madison, PE, General Manager)

Associate Director Comment

Public Comment

Recommended Action: Consider taking a position on California WaterFix and direct the General Manager to submit comments on the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement to the California Department of Water Resources by October 30, 2015

4. Committee Meetings (Stefani Phillips, Board Secretary)

Associate Director Comment

Public Comment

5. Florin Resource Conservation District Conservation Activities – September 2015 (Ellen Carlson, Management Analyst)

Associate Director Comment

Public Comment

6. Elk Grove Water District Conservation Activities – September 2015
(Ellen Carlson, Management Analyst)

Associate Director Comment

Public Comment

7. Elk Grove Water District Operations Report – August 2015
(Mark J. Madison, PE, General Manager)

Associate Director Comment

Public Comment

8. Appointment of Lisa Medina as Associate Director to the Florin Resource Conservation District (Stefani Phillips, Secretary)

Associate Director Comment

Public Comment

Recommended Action: Consider the appointment of Lisa Medina as Associate Director to the Florin Resource Conservation District Board of Directors

9. Association of California Water Agencies Committee Appointment Nominations for the 2016-2017 Term (Stefani Phillips, Board Secretary)

Associate Director Comment

Public Comment

Recommended Action: Consider nominating directors or salaried staff members to the Association of California Water Agencies committees

10. Legislative Update (Ellen Carlson, Management Analyst)

Associate Director Comment

Public Comment

11. Directors Comments

12. Closed Session

a. CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION
   Gov. Code Sec. 54956.9(d)(1)
   Florin Resource Conservation District v. Bank of New York Mellon Trust Company, Sacramento County Superior Court Case No. 34-2015-00179868-CU-MC-GDS
b. CONFERENCE WITH REAL PROPERTY NEGOTIATORS
   Gov. Code Sec. 54956.8
   Property: 134-0050-079-0000
   Agency negotiator: Mark J. Madison
   Negotiating parties: FRCD and Wilton Rancheria
   Under negotiation: price and terms of payment
c. CONFERENCE WITH LABOR NEGOTIATORS (Gov't. Code Section 54957.6)
   Agency designated representatives: Mark J. Madison, General Manager
   Unrepresented employees: All

Adjourn to Regular Meeting – October 28, 2015.

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Stefani Phillips, Secretary and Jim Malberg, Treasurer

SUBJECT: **CONSENT CALENDAR**

RECOMMENDATION

It is recommended that the Board of Directors of the Florin Resource Conservation District approve the FRCD Consent Calendar.

Summary

By this action, the Board will approve the FRCD Consent Calendar items a-i.

DISCUSSION

Background

Consent Calendar items a-i are standing items on the Regular Board Meeting agenda.

FINANCIAL SUMMARY

N/A

Respectfully Submitted,

STEFANI PHILLIPS, SECRETARY AND
JIM MALBERG, TREASURER

SP

Attachments

Consent
Calendar Item# a

MINUTES OF THE REGULAR MEETING OF THE FLORIN RESOURCE CONSERVATION DISTRICT BOARD OF DIRECTORS

Wednesday, August 26, 2015

The regular meeting of the Board of Directors of the Florin Resource Conservation District was called to order at 6:30 p.m. by Chuck Dawson, Chair, at 9257 Elk Grove Blvd, Elk Grove CA.

Call to Order, Roll Call, and Pledge of Allegiance.

Directors Present:	Chuck Dawson, Bob Gray, Elliot Mulberg, Tom Nelson, and Jeanne Sabin
Directors Absent:	None
Staff Present:	Mark J. Madison, General Manager; Jim Malberg, Finance Manager; Donella Murrillo, Finance Supervisor; Stefani Phillips, Secretary; Bruce Kamilos, Associate Civil Engineer; Ellen Carlson, Management
Associate Directors Present:	Mike Schmitz
General Counsel Present:	Ann Siprelle, Best Best & Krieger (BB&K)
Consultants Present:	None

Public Comment

No comments were made.

1. Proclamations and Announcements

No comments were made.

2. Consent Calendar

a. Minutes of the Regular Board Meeting of July 29, 2015
b. FRCD Cash Flow Worksheet – July, 2015
c. Warrants Paid – July, 2015
d. Active Accounts – July, 2015
e. Bond Covenant Status for FY 2015-16 – July, 2015
f. Revenues and Expenses – Actual vs Budget FY 2015-16 – July, 2015
g. Cash Accounts – July, 2015
h. Consultants Expenses – July, 2015

Tom Nelson, Vice- Chairman, pulled item f.

MSC (Sabin/Nelson) to approve Consent Calendar items a-e and g-h 5/0: Ayes: Dawson, Gray, Mulberg, Nelson, and Sabin.

Mr. Nelson inquired why the District is over budget in the expense categories, Salaries & Benefits and Office & Operational. Jim Malberg, Finance Manager, responded stating under Salaries & Benefits there was a pre-payment of $110,000 towards CalPERS for the year. He stated that under Office & Operational there was a payment for General Liability for the year and also paid Special District Risk Management Authority for worker's compensation.

MSC (Nelson/Mulberg) to approve Consent Calendar item f 5/0: Ayes: Dawson, Gray, Mulberg, Nelson, and Sabin.

3. Committee Meetings

No committee meetings were held between the months of July and August 2015.

4. Natural Resources Conservation Services Report

Ellen Carlson, Management Analyst, introduced Dwane Coffey, District Conservationist from the Natural Resources Conservation Services (NRCS) to present the NRCS Report to the Florin Resource Conservation District Board of Directors (Board). Mr. Coffey informed the Board there was a personnel change and the NRCS hired Carol Pellegri as the new Farm Bill Assistant/Secretary for the Elk Grove office.

Other comments and inquires include:

- The Sloughhouse Resource Conservation District (Sloughhouse RCD) applied for a grant targeted towards small farms to help those who don't have control of land for three years and cannot participate in federal programs. The Sloughhouse RCD received a grant for $25,000 from the NRCS.

Director Elliot Mulberg inquired if there were any grant opportunities for the Florin Resource Conservation District (FRCD). Mr. Coffey responded stating all grant opportunities would apply to the FRCD.

Director Bob Gray inquired what the 2080 linear feet of irrigation pipeline is used for. Mr. Coffey responded stating that depending on the project, irrigation or PVC pipe could be used. He stated, the pipe is meant to make the water delivery to the croplands more efficient than how it was in the past.

Director Jeanne Sabin inquired if Sloughhouse RCD has any requirements for the use of the grant they received. Mr. Coffey responded stating that Sloughhouse RCD has to submit record of the use of the grant money to the NRCS. Mr. Coffey stated he will get back to Ms. Sabin with a time frame that these documents will need to be submitted.

5. Florin Resource Conservation District Conservation Activities – August 2015

Ellen Carlson, Management Analyst, introduced the Florin Resource Conservation District Conservation Activities – August 2015 to the Board and passed this item to Mark Madison, General Manager.

Mr. Madison, General Manager, commented that he along with Director Elliot Mulberg and Vice-Chairman Tom Nelson, have been working to solicit consultant proposals to perform a Needs Assessment for the FRCD and four proposals have been received.

6. Elk Grove Water District Conservation Activities – August 2015

Ellen Carlson, Management Analyst, presented the Elk Grove Water District Conservation Activities to the Board. In summary, Elk Grove Water District (EGWD) achieved a water savings of 40.5% in the month of July in comparison to July 2013. Ms. Carlson stated the savings that were achieved for the month were due primarily to a combination of reduction in system pressure and continued conservation efforts from EGWD customers. Ms. Carlson, proceeded to tell the Board that EGWD has contracted with Airborne Security to provide additional water conservation patrols. She stated that Airborne Security is patrolling from 6:00 p.m. until 2:00 a.m. seven days a week and from 4:00 a.m. until noon on the weekends. EGWD employees are still patrolling week days from 4:00 a.m. to 1:30 p.m.

Chuck Dawson, Chairman, commented on how proud he is of the customers and their participation in reducing their water usage.

7. Elk Grove Water District Operations Report – July 2015

Mark J. Madison, General Manager, presented the highlights of the Operations Report – July, 2015:

- 476 Door Hangers – higher than last month
- 30 Shut Offs – are down from the previous month due to the 10 day requirement
- No customer complaints
- Distribution Work Orders
    - 56 Hydrant Maintenance
    - 159 Valve Exercising – one full cycle has been completed and the second cycle has started
- Utility Work Orders
    - 26 Service Line Replacements
- Well Production
    - Well 1D – ran for sounding and sampling
    - Well 4D – way up and in the lead for the month
    - Well 11D – down from the last month
    - Well 14D – ran a fair amount
    - Well 3 – no relative change from the past month
    - Well 8 – hardly ran and is offline
    - Well 9 – same as last month and is now offline
    - Well 13 – good producer and is up and running
- Combined Total Production – production is down from 2013
- Total Demand/Production – numbers are down from 2013
- Static and Pumping levels – water table is higher now than it was in 2013. Conservation efforts appear to be making a difference
- Samples were normal for the month of July
- No discharge for the month of July
- All preventative maintenance activities were performed on time and per the standard operating procedure (SOP)
- Backflow Prevention Program
    - 37 outstanding delinquent notices
- 5 Safety Meeting for the month
- 26 Service Line Replacements
- Leaks
    - 3 Service Line leaks due to pinholes
    - 5 Main Line leak due to shear break
- Pressure – same as the previous month

Bob Gray, Director, inquired why the amount of hours claimed for service line replacements is so high for only having 26 service line replacements completed for the month. Bruce Kamilos, Associate Civil Engineer responded stating that some of the hours claimed could be due to the Capital Improvement Project (CIP) on Colton Avenue and Orton Street. Mr. Madison agreed with Mr. Kamilos's response.

Mr. Gray inquired if the District has a lot of shear breaks that the District does not know about or is the District catching the shear breaks as they occur. Mr. Madison confirmed the latter because of the conditions of the soil in the District.

8. Amended and Restated Associate Director Policy

Stefani Phillips, Board Secretary, presented the Amended and Restated Associate Director Policy to the Board. In summary, the Board requested staff to amend the

Associate Director Policy, to permit the Board to fill Associate Director vacancies when there is a viable candidate.

Lisa Medina spoke voicing her interests in becoming an Associate Director for the District.

Jeanne Sabin, Director, inquired if the policy's open recruitment announcement was published in the Sacramento Bee. Ms. Phillips responded stating it is not stated in the Associate Director Policy and informed the Board that by practice, the announcement has always been published every May in the Sacramento Bee and the Elk Grove Citizen. Ms. Sabin would like the District to publicize the vacancies in a local newspaper of general circulation throughout the FRCD boundaries during the month of May.

MSC (Mulberg/Sabin) to adopt Resolution No. 08.26.15.01 adopting an amended and restated policy regarding Associate Directors 5/0: Ayes: Dawson, Gray, Mulberg, Nelson, and Sabin.

9. Support of Nomination of Director Kathleen Tiegs as the Association of California Water Agencies President

Stefani Phillips, Board Secretary presented the Support of Nomination of Director Kathleen Tiegs as the Association of California Water Agencies President to the Board. In summary, the Association of California Water Agencies (ACWA) is calling for candidate nominations for President for the 2016-2017 term beginning January 1, 2016. EGWD was solicited to support Director Kathleen Tiegs in her bid for ACWA President. Ms. Tiegs is the only individual bidding for ACWA President at this time and has served as ACWA Vice-President over the past two years. Ms. Tiegs has over 30 years of career experience in the water industry. Nominations must be received to ACWA by September 1, 2015 and elections will be held on December 2, 2015 at the ACWA Fall Conference in Indian Wells, CA.

Elliot Mulberg, Director, inquired how the election process works. Mark Madison, General Manager, responded stating there is a ballet and there are designating voting delegates who vote. He stated Tom Nelson, Vice-Chairman, is the District's delegate.

MSC (Nelson/Sabin) to adopt Resolution No. 08.26.15.02 supporting the nomination of Director Kathleen Tiegs as the Association of California Water Agencies President 5/0: Ayes: Dawson, Gray, Mulberg, Nelson, and Sabin.

10. Legislative Update

Ellen Carlson, Management Analyst, presented the Legislative Update to the Board. In summary, California legislators reconvened on August 17, 2015, however, Federal legislators will not return to Washington D.C. from their Districts until September 8, 2015.

Comments and inquires include:

- AB 1531 and SB 385 – bills are in the engrossing and enrolling phase, waiting for the governor's signature
- The following bills are sitting in the appropriation suspense file:
    - AB 33, AB 88, AB 259, AB 585, AB 761, AB 935, AB 937, AB 954, AB 1164, AB 1251, AB 1390, SB 3, SB 7, SB 32, SB 208, SB 239, SB 246, SB 555, SB 664
- AB 453 – this bill was ordered to inactive file by Senator Berry Hill
- SB 3 – Elk Grove Chambers of Commerce is in opposition to minimum wage

Elliot Mulberg, Director, thanked Ms. Carlson for cutting down the list of bills.

Mark Madison, General Manager, commented that AB 647 will be an important bill for the District to watch since ground water recharge is of beneficial use.

11. Method of Election for the Florin Resource Conservation District Board of Directors

Mark Madison, General Manager, introduced the Method of Election for the Florin Resource Conservation District Board of Directors to the Board. Stefani Phillips, Board Secretary explained the process of establishing District-Based Elections to the Board.

Bob Gray, Director, inquired who would pay the cost for the change. Jeanne Sabin, Director, inquired if it would cost money to change or would it be the cost of the election. Ms. Phillips will inquire if there is a cost.

Mr. Gray inquired if the district divisions have to be contiguous. Ann Spirelle, General Counsel, responded yes.

Lisa Medina, Public, commented that an analysis should be completed to have more information before splitting the District into divisions.

Mr. Madison commented stating there is a possibility of saving $27,000.00 per year by converting to a District election vs. an at-large election.

Much discussion occurred between the Board of Directors and concluded that the Board is not interested in continuing with a change of election method.

12. Director Comments

Tom Nelson, Director, gave the Board an update on Sacramento Central Groundwater Authority (SCGA) revisiting a joint powers agreement (JPA) from a planning agency to an active working agency. Mark Madison, General Manager, recommended bringing this back to the Board on a quarterly basis as it develops.

Chuck Dawson, Chairman, informed the Board the Cosumnes Community Services District letter was delivered thanking them for their efforts of conservation.

13. Closed Session

PUBLIC EMPLOYEE PERFORMANCE EVALUATION (Section 54957)
Title: General Manager

No reportable action taken.

Adjourn to Regular Meeting on Wednesday, September 23, 2015 at 6:30 p.m.

Respectfully submitted,

Stefani Phillips

Stefani Phillips, Secretary
SP/CR

Consent
Calendar Item# 9

MINUTES OF THE SPECIAL BOARD MEETING OF THE FLORIN RESOURCE CONSERVATION DISTRICT BOARD OF DIRECTORS

Monday, August 31, 2015

The regular meeting of the Board of Directors of the Florin Resource Conservation District was called to order at 6:00 p.m. by Chuck Dawson, Chair, at 9257 Elk Grove Blvd, Elk Grove CA.

Call to Order, Roll Call, and Pledge of Allegiance.

Directors Present:	Chuck Dawson, Bob Gray, Elliot Mulberg, Tom Nelson, and Jeanne Sabin
Directors Absent:	None
Staff Present:	Mark J. Madison, General Manager; Stefani Phillips, Secretary
Associate Directors Present:	None
General Counsel Present:	Ann Siprelle, Best Best & Krieger (BB&K)

Public Comment
No comments were made.

1. **Closed Session**
   CONFERENCE WITH LABOR NEGOTIATORS (Gov't. Code Section 54957.6)
   Agency designated representatives: Mark J. Madison, General Manager
   Unrepresented employees: All

   No reportable action taken.

Adjourn to Regular Meeting on Wednesday, September 30, 2015 at 6:30 p.m.

Respectfully submitted,

Stefani Phillips

Stefani Phillips, Secretary
SP/CR

Consent
Calender Item# C

Florin Resource Conservation District

FRCD Cash Flow
For the Month Ended August 31, 2015

Cash in Bank – Beginning	**$ 125,535.57**
Receipts:	
Interest Earned	**$ 8.50**
Disbursements:	
Check # 1024- BBK -Legal	**-$ 1,004.85**
Cash in Bank – Ending	**$ 124,539.22**

9257 Elk Grove Blvd. Elk Grove, CA 95624 (916) 685-3556 Fax (916) 685-5376

Check History Report

8/1/2015 to 8/31/2015
Elk Grove Water District

Check Number	Check Date	Vendor Number	Name	Check	Explanation
039026	8/5/2015	CR FID	FIDELITY NATIONAL TITLE	130.62	
039027	8/5/2015	JAN PRO	JAN-PRO CLEANING SYSTEMS	515.00	Janitorial-MOC/ADMIN
039028	8/5/2015	MALBERG	JIM MALBERG	84.00	Conference-GASB 68 Training
039029	8/5/2015	MATT M	MATTHEW MATTIES	402.56	Clothing Reimbursement
039030	8/5/2015	OUELLET	DONELLA MURILLO	116.62	Conference-GASB 68 Training
039031	8/5/2015	RADIAL	RADIAL TIRE OF ELK GROVE	189.60	
039032	8/5/2015	REPUBLI	REPUBLIC SERVICES #922	780.59	
039033	8/5/2015	SIERRA	SIERRA OFFICE SUPPLIES	623.44	
039034	8/5/2015	TOSHIBA	TOSHIBA FINANCIAL SERVICES	528.93	Copier-ADMIN
039035	8/5/2015	VALL MO	VALLEY MOTOR PARTS	42.37	
039036	8/5/2015	WEST SA	WESTERN SAFETY INSTITUTE, INC	1,320.00	AED/CPR-Staff Training
039037	8/12/2015	A. TEIC	A. TEICHERT & SON, INC	511.24	
039038	8/12/2015	ACWAJPI	CB&T/ ACWA-JPIA	51,175.83	
039039	8/12/2015	AFLAC	AFLAC	1,853.32	
039040	8/12/2015	BEST	BEST, BEST & KRIEGER	6,480.59	Legal
039041	8/12/2015	BSK4	BSK ASSOCIATES	649.00	Sampling-Treatment
039042	8/12/2015	DATAPRO	DATAPROSE LLC	14,578.86	Monthly Billing/Customer info Inserts
039043	8/12/2015	EFFECT	EFFECTIVE PHONE SOLUTIONS INC.	1,265.85	Disaster Recovery
039044	8/12/2015	ENGINER	ENGINEERING SUPPLY COMPANY INC	1,200.00	GPS Data Collector
039045	8/12/2015	FASTENA	FASTENAL COMPANY	19.34	
039046	8/12/2015	GOLDEN	GOLDEN STATE FLOW MEASUREMENT	773.93	
039047	8/12/2015	GTRI	GTRI	2,203.04	VMware-Support
039048	8/12/2015	HANFORD	HANDFORD READY MIX INC.	180.51	
039049	8/12/2015	JAYS	JAY'S TRUCKING SERVICE	1,053.92	
039050	8/12/2015	KOCH	KOCH & KOCH, INC	23,085.00	SCADA Improvements
039051	8/12/2015	MONTIEL	MICHAEL MONTIEL	27.23	Clothing Reimbursement
039052	8/12/2015	PACE	PACE SUPPLY CORP	645.18	
039053	8/12/2015	PACTECH	PACIFIC TEK	367.94	
039054	8/12/2015	RADIAL	RADIAL TIRE OF ELK GROVE	473.70	
039055	8/12/2015	RCB DO	CARD SERVICE CENTER	3.99	Employee Recognition
039056	8/12/2015	RCB EC	CARD SERVICE CENTER	629.39	Safety, Materials, Supplies-Public Outreach
039057	8/12/2015	RCB MM	CARD SERVICE CENTER	941.38	Parking, Hotel, meals and Training
039058	8/12/2015	RCB RS	CARD SERVICE CENTER	294.86	Materials, Supplies-Utility Crew
039059	8/12/2015	RCB SH	CARD SERVICE CENTER	490.02	Materials, Supplies and Training- Treatment
039060	8/12/2015	RCB SP	CARD SERVICE CENTER	1,670.90	Employee Recognition BBQ, Materials, Supplies, Training
039061	8/12/2015	RCBJC	CARD SERVICE CENTER	308.99	Materials, Supplies-Distribution
039062	8/12/2015	SAC TAX	SACRAMENT COUNTY	92.77	

Consent Calendar Item# 2

039063	8/12/2015	SIERRA	SIERRA OFFICE SUPPLIES	232.09	
039064	8/12/2015	SUMMIT	AIR WORKS INC	136.20	
039065	8/12/2015	SWRCB2	SWRCB-DWOCP	90.00	
039066	8/12/2015	SWT	SUREWEST	239.47	Ethernet Service
039067	8/12/2015	SWT	SUREWEST	1,261.48	Phones-MOC/ADMIN
039068	8/12/2015	UNDER	UNDERGROUND SERVICE ALERT	540.96	
039069	8/12/2015	VALL MO	VALLEY MOTOR PARTS	73.92	
039070	8/12/2015	VERIZON	VERIZON WIRELESS	653.70	Aircards-Laptops
039071	8/12/2015	W SADLE	WILLIAM SADLER	377.81	Clothing Reimbursement
039072	8/12/2015	ZOOM	ZOOM IMAGING SOLUTIONS, INC	10.99	
039073	8/20/2015	AWWA3	AWWA	3,377.00	Staff Membership
039074	8/20/2015	BG SOLU	SOLUTIONS BY BG INC.	4,930.50	Daily Tasks/Help Tickets
039075	8/20/2015	BRINKS	BRINK'S INCORPORATED	266.83	Security-Bank Courier
039076	8/20/2015	CARSON	CARSON UNDERGROUND, INC	125.00	
039077	8/20/2015	CDW	CDW GOVERNMENT	46.08	
039078	8/20/2015	COUNTY4	SACRAMENTO COUNTY UTILITIES	103.71	
039079	8/20/2015	DITCH	DITCH WITCH EQUIPMENT CO., INC	958.31	
039080	8/20/2015	DOWNEY	DOWNEYBRAND	562.50	Legal
039081	8/20/2015	EG FORD	ELK GROVE FORD	83.44	
039082	8/20/2015	EVO	EMERGENCY VEHICLE OUTFITTERS	104.80	
039083	8/20/2015	FASTENA	FASTENAL COMPANY	135.09	
039084	8/20/2015	FTB	FRANCHISE TAX BOARD	441.16	Confidential
039085	8/20/2015	HANFORD	HANDFORD READY MIX INC.	180.51	
039086	8/20/2015	INT STA	INTERSTATE OIL COMPANY	1,728.80	Fuel
039087	8/20/2015	PACE	PACE SUPPLY CORP	1,459.72	
039088	8/20/2015	PAULA M	PAULA MAITA & COMPANY	203.95	
039089	8/20/2015	PG&E	PACIFIC GAS & ELECTRIC COMPANY	8.66	
039090	8/20/2015	PIT 4	PURCHASE POWER	587.19	Postage-ADMIN
039091	8/20/2015	RADIAL	RADIAL TIRE OF ELK GROVE	42.93	
039092	8/20/2015	RYAN	RYAN HERCO PRODUCTS CORP	415.03	
039093	8/20/2015	SAC LAF	SACRAMENTO LAFCO	2,708.00	2015-2016- Membership
039094	8/20/2015	SIERR C	SIERRA CHEMICAL COMPANY	819.93	
039095	8/20/2015	SIERRA	SIERRA OFFICE SUPPLIES	369.94	
039096	8/20/2015	SUMMIT	AIR WORKS INC	165.00	
039097	8/20/2015	VALL MO	VALLEY MOTOR PARTS	57.31	
039098	8/20/2015	WHITE	HDS WHITE CAP CONST SUPPLY	766.59	
039099	8/31/2015	AFLAC	AFLAC	1,853.32	
039100	8/31/2015	AQUA	AQUA SIERRA CONTROLS, INC	206.36	
039101	8/31/2015	BAY ALA	BAY ALARM COMPANY	35.00	
039102	8/31/2015	BEST	BEST, BEST & KRIEGER	4,600.00	Legal
039103	8/31/2015	BSK4	BSK ASSOCIATES	115.00	Sampling-Treatment
039104	8/31/2015	CAP RUB	CAPITAL RUBBER	134.87	Supplies-Distribution
039105	8/31/2015	COUNTY	COUNTY OF SACRAMENTO	103.70	
039106	8/31/2015	CRF CKD	CABLE & KIKPATRICK DEV INC	1,405.86	Account Closed- Customer Refund
039107	8/31/2015	DITCH	DITCH WITCH EQUIPMENT CO., INC	418.67	Materials-Distribution
039108	8/31/2015	DMV 2	DMV RENEWAL	10.00	
039109	8/31/2015	DMV 2	DMV RENEWAL	10.00	
039110	8/31/2015	GTRI	GTRI	1,633.50	

039111	8/31/2015	HANFORD	HANDFORD READY MIX INC.	361.02	Materials-Bullheads
039112	8/31/2015	JAYS	JAY'S TRUCKING SERVICE	844.64	Vector Dump fees, Dirt Dump Fees
039113	8/31/2015	KAISER2	KAISER FOUNDATION HEALTH PLAN	310.00	
039114	8/31/2015	PAC BEN	PACIFIC BENEFIT IFLEX, INC	75.00	
039115	8/31/2015	PAC BEN	PACIFIC BENEFIT IFLEX, INC	16.00	
039116	8/31/2015	PACE	PACE SUPPLY CORP	4,188.82	(4) Invoices-Bullheads, Materials, Supplies
039117	8/31/2015	PEST	PEST CONTROL CENTER INC	160.00	
039118	8/31/2015	PRE ALL	PREFERRED ALLIANCE, INC	43.00	
039119	8/31/2015	RDO 1	RDO TRUST # 80-5800	267.80	
039120	8/31/2015	SAC BEE	THE SACRAMENTO BEE	175.00	
039121	8/31/2015	SIERRA	SIERRA OFFICE SUPPLIES	226.30	
039122	8/31/2015	SWRCB2	SWRCB-DWOCP	60.00	Water Treatment Cert Renewal
039123	8/31/2015	UNITED	UNITED SITE SERVICES	234.91	
039124	8/31/2015	XC2	XC2 SOFTWARE, LLC	450.00	Software Upgrade-Treatment
039125	8/31/2015	ZOOM	ZOOM IMAGING SOLUTIONS, INC	399.52	
039126	8/31/2015	CR ANJ	ANGEL JACKSON	44.75	Account Closed- Customer Refund
039127	8/31/2015	CR ARG	ARJUN GARG	61.01	Account Closed- Customer Refund
039128	8/31/2015	CR LM	LILLIAN MORALES	21.23	Account Closed- Customer Refund
039129	8/31/2015	CR MAF	MARGE FAUCI	79.46	Account Closed- Customer Refund
039130	8/31/2015	CR MR	MICHELLE RAVENCROFT	72.13	Account Closed- Customer Refund
039131	8/31/2015	CR MRS	MICHELLE R SAVANA	40.13	Account Closed- Customer Refund
039132	8/31/2015	CR REB	REBECCA BUSH	20.98	Account Closed- Customer Refund
039133	8/31/2015	CRF ANL	ANDREA LUNA	231.00	Account Closed- Customer Refund
039134	8/31/2015	CRF CHM	CHRISTOPHER MOORE	61.01	Account Closed- Customer Refund
039135	8/31/2015	CRF CJC	CHRIS J COWGILL	24.04	Account Closed- Customer Refund
039136	8/31/2015	CRF CSS	CHRISTINA S SCHULZ	89.36	Account Closed- Customer Refund
039137	8/31/2015	CRF DAM	DAVID MURAOKA	191.73	Account Closed- Customer Refund
039138	8/31/2015	CRF DHN	DUC H NGUYEN	5.17	Account Closed- Customer Refund
039139	8/31/2015	CRF DSR	DEAN S RINKER	55.10	Account Closed- Customer Refund
039140	8/31/2015	CRF DVR	K DAVID VON RODENSTEIN	95.51	Account Closed- Customer Refund
039141	8/31/2015	CRF EAL	ELIZABETH A LEWIS	19.60	Account Closed- Customer Refund
039142	8/31/2015	CRF GFC	GERALDINE F CHILCOTT	147.47	Account Closed- Customer Refund
039143	8/31/2015	CRF HM	HOWARD MORROW	46.71	Account Closed- Customer Refund
039144	8/31/2015	CRF JBR	JULIANNE BOULDT-RODRIGUEZ	89.04	Account Closed- Customer Refund
039145	8/31/2015	CRF JLB	JANICE L BAILEY	13.23	Account Closed- Customer Refund
039146	8/31/2015	CRF JTE	JOHANNES & TAWNI ESCUDERO	72.68	Account Closed- Customer Refund
039147	8/31/2015	CRF KMD	KIMBERLY M DORMAN	15.26	Account Closed- Customer Refund
039148	8/31/2015	CRF LBN	LYNN B NGUYEN	34.13	Account Closed- Customer Refund
039149	8/31/2015	CRF MAZ	MARY ANN ZOPFI	76.62	Account Closed- Customer Refund
039150	8/31/2015	CRF MIC	MICHAEL LEE	190.02	Account Closed- Customer Refund
039151	8/31/2015	CRF MSG	MANPREET S GILL	4.86	Account Closed- Customer Refund
039152	8/31/2015	CRF NW	NORMAN WOMACK	36.61	Account Closed- Customer Refund
039153	8/31/2015	CRF PAU	PAUL RIMOLA	21.04	Account Closed- Customer Refund
039154	8/31/2015	CRF PCK	PAUL & CAROLINA KRUSE	31.23	Account Closed- Customer Refund
039155	8/31/2015	CRF RM	RONALD MORRIS	40.70	Account Closed- Customer Refund
039156	8/31/2015	CRF SHW	SANDRA L HEMLING WARMINSKI	66.77	Account Closed- Customer Refund
039157	8/31/2015	CRF WID	WILLIAM DELBONTA	2.03	Account Closed- Customer Refund
039158	8/31/2015	CRFSR	SANDY RUSSELL	17.06	Account Closed- Customer Refund
039159	8/31/2015	CR FID	FIDELITY NATIONAL TITLE	131.23	Account Closed- Customer Refund
039160	8/31/2015	CRF LEN	LENNAR HOMES CA, INC	61.01	Account Closed- Customer Refund

039161	8/31/2015	CRF LEN	LENNAR HOMES CA, INC	68.21	Account Closed- Customer Refund
039162	8/31/2015	CRF LEN	LENNAR HOMES CA, INC	30.51	Account Closed- Customer Refund
039163	8/31/2015	CRF LEN	LENNAR HOMES CA, INC	79.69	Account Closed- Customer Refund
039164	8/31/2015	CRF LEN	LENNAR HOMES CA, INC	82.01	Account Closed- Customer Refund
039165	8/31/2015	CRF NT	NORTH AMERICAN TITLE COMPANY	32.53	Account Closed- Customer Refund
039166	8/31/2015	CRF OCT	ORANGE COAST TITLE COMPANY	106.28	Account Closed- Customer Refund
039167	8/31/2015	CRF OGA	OAK GROVE APARTMENTS, LLC	389.84	Account Closed- Customer Refund
039168	8/31/2015	CRF PLA	PLACER TITLE COMPANY	66.71	Account Closed- Customer Refund
039169	8/31/2015	CRF R R	REALTY ROUNDUP	67.10	Account Closed- Customer Refund
039170	8/31/2015	CRF R R	REALTY ROUNDUP	73.78	Account Closed- Customer Refund
039171	8/31/2015	CRF SRE	SAC REAL ESTATE MANAGEMENT	60.39	Account Closed- Customer Refund
039172	8/31/2015	CRFFNC	FIDELITY NATIONAL TITLE COMP	124.26	Account Closed- Customer Refund
039173	8/31/2015	CRFID	FIDELITY NATIONAL TITLE CO	47.16	Account Closed- Customer Refund
039174	8/31/2015	CRFID	FIDELITY NATIONAL TITLE CO	7.93	Account Closed- Customer Refund
039175	8/31/2015	CRFNA	NORTH AMERICAN TITLE COMPANY	127.21	Account Closed- Customer Refund
039176	8/31/2015	CRFPLA7	PLACER TITLE COMPANY	30.25	Account Closed- Customer Refund
039177	8/31/2015	CRFSTST	STEWART TITLE OF SACRAMENTO	99.99	Account Closed- Customer Refund
039178	8/31/2015	ABIDE	ABIDE BUILDERS, INC	12,475.40	RRWTF-Parking Lot
039179	8/31/2015	ATT&T	AT&T MOBILITY	296.96	
039180	8/31/2015	BG SOLU	SOLUTIONS BY BG INC.	5,386.50	Daily Tasks/Help Tickets
039181	8/31/2015	CDW	CDW GOVERNMENT	328.52	
039182	8/31/2015	CDW	CDW GOVERNMENT	66.80	
039183	8/31/2015	CONSOLI	CONSOLIDATED COMMUNICATIONS	239.47	Ethernet Service
039184	8/31/2015	CONSOLI	CONSOLIDATED COMMUNICATIONS	1,261.49	Phones-MOC/ADMIN
039185	8/31/2015	COUNTY4	SACRAMENTO COUNTY UTILITIES	59.73	
039186	8/31/2015	COUNTY6	COUNTY OF SACRAMENTO	562.00	Hazardous Materials Permit-Well #3
039187	8/31/2015	COUNTY6	COUNTY OF SACRAMENTO	562.00	Hazardous Materials Permit-Well #8
039188	8/31/2015	COUNTY6	COUNTY OF SACRAMENTO	562.00	Hazardous Materials Permit- RR
039189	8/31/2015	CRF ALW	ALENNA WEISS	69.17	
039190	8/31/2015	EBERHAR	EBERHART SOFTWARE CONSULTING	237.50	
039191	8/31/2015	FASTENA	FASTENAL COMPANY	51.99	
039192	8/31/2015	FERRELL	FERRELLGAS	7.42	
039193	8/31/2015	FRONT C	FRONTIER COMMUNICATIONS	219.62	Well site communications
039194	8/31/2015	FRONT C	FRONTIER COMMUNICATIONS	168.29	Well site communications
039195	8/31/2015	FRONT C	FRONTIER COMMUNICATIONS	354.00	Well site communications
039196	8/31/2015	GOLDEN	GOLDEN STATE FLOW MEASUREMENT	529.20	
039197	8/31/2015	INT STA	INTERSTATE OIL COMPANY	1,590.70	Fuel
039198	8/31/2015	MAXWELL	DENISE MAXWELL	3,910.00	Education Reimbursement
039199	8/31/2015	PACE	PACE SUPPLY CORP	2,064.24	(4) Invoices-Bullheads, Materials, Supplies
039200	8/31/2015	PETTY	PETTY CASH	235.61	
039201	8/31/2015	PLACER	RIVER CITY RENTALS	60.00	
039202	8/31/2015	RADIAL	RADIAL TIRE OF ELK GROVE	1,493.44	Repairs & Maintenance-(2) Vehicles
039203	8/31/2015	RDO 1	RDO TRUST # 80-5800	364.07	Vactor Repairs
039204	8/31/2015	SIERR C	SIERRA CHEMICAL COMPANY	1,639.87	Supplies-Treatment
039205	8/31/2015	SIERRA	SIERRA OFFICE SUPPLIES	370.26	
039206	8/31/2015	SMUD	SMUD	901.82	
039207	8/31/2015	SMUD	SMUD	8,400.31	
039208	8/31/2015	SMUD	SMUD	3,947.78	
039209	8/31/2015	SMUD	SMUD	94.21	

039210	8/31/2015	SMUD	SMUD		9,222.68
039211	8/31/2015	SMUD	SMUD		1,465.39
039212	8/31/2015	SMUD	SMUD		477.88
039213	8/31/2015	SMUD	SMUD		2,236.89
039214	8/31/2015	VALL MO	VALLEY MOTOR PARTS		163.95
				Total:	**224,094.32**

Elk Grove Water District
Active Account Information
8/31/2015

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Water Accounts:												
Metered												
Residential	11,669	11,658										
Commercial	513	517										
Fire Service	121	122										
Total Accounts	12,303	12,297	-	-	-	-	-	-	-	-	-	-

Elk Grove Water District
Active Account Information
FY 2014/2015

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Water Accounts:												
Non-metered												
Residential	135	133	134	133	107	80	65	21	20	-	-	-
Commercial	47	33	33	35	21	10	10	4	4	-	-	-
Metered												
Residential	11,494	11,484	11,490	11,473	11,479	11,513	11,525	11,579	11,607	11,632	11,651	11,658
Commercial	457	458	459	457	479	492	502	509	512	514	511	512
Fire Service	123	121	121	121	121	121	121	121	121	121	121	121
Total Accounts	12,256	12,229	12,237	12,219	12,207	12,216	12,223	12,234	12,264	12,267	12,283	12,291

Consent Calendar Item# 2

Consent
Calendar Item# f

Elk Grove Water District

Bond Covenant Status

For Fiscal Year 2015-16

As of August 31, 2015

Operating Revenues:		
Charges for Services	$	2,403,327
Operating Expenses:		
Salaries & Benefits		602,672
Seminars, Conventions and Travel		3,203
Office & Operational		195,013
Purchased Water		489,088
Outside Services		81,278
Equipment Rent, Taxes, an Utilities		64,428
Depreciation & Amortization		258,333
Total Operating Expenses		1,694,015
Income From Operations	$	709,312

Covenant Number 2

Income From Operations	709,312	
Add: Depreciation & Amortization Expenses	258,333	*
Total	967,645	
Interest & Principal Payments		
2,225,240 interest + 1,430,000 principal	609,207	*
Coverage Ratio:		
Actual	**1.59**	
Required	**1.15**	

* Note: The calculation for the period = the percentage of the year completed.

Elk Grove Water District
Revenues and Expenses Actual to Budget
August 31, 2015

	General Ledger Reference	August Activity	August Budget	Variance	%	YTD Activity	Annual Budget	2/12=16.67% Variance	%
Revenues	4100 - 4900	1,215,748	1,115,496	100,252	8.99%	$2,403,327	$13,385,949	($10,982,622)	17.95%
Salaries & Benefits (1)	5100 - 5280	253,434	300,015	(46,580)	-15.53%	$602,672	$3,600,175	($2,997,503)	16.74%
Seminars, Conventions and Travel	5300 - 5350	2,803	3,679	(876)	-23.81%	$3,203	$44,150	($40,947)	7.25%
Office & Operational	5410 - 5494	58,282	82,767	(24,484)	-29.58%	$195,013	$993,202	($798,189)	19.63%
Purchased Water (2)	5495 - 5495	247,385	240,976	6,409	2.66%	$489,088	$2,891,709	($2,402,621)	16.91%
Outside Services	5505 - 5580	35,653	67,665	(32,013)	-47.31%	$81,278	$811,983	($730,705)	10.01%
Equipment Rent, Taxes, Utilities	5620 - 5760	29,285	36,950	(7,665)	-20.75%	$64,428	$443,400	($378,972)	14.53%
Total Operational Expenses		626,842	732,052	(105,210)	-14.37%	$1,435,682	$8,784,619	($7,348,937)	16.34%
Net Operations		588,906				$967,646			
Non-Operating Activity									
Capital Equipment & Expenditures	1705 - 1760	129,167	129,167	0	0.00%	258,333	1,550,000	(1,291,667)	16.67%
Bond Interest Accrued	7300 - 7300	185,437	185,437	0	0.00%	370,873	2,225,240	(1,854,367)	16.67%
Interest Earned	9910 - 9910	1,164	1,667	(502)	-30.14%	2,383	20,000	(17,617)	11.92%
Other Income	9920 - 9973	701	0	701		39,710	0	39,710	
Revenues in Excess of Expenditures (Net Revenues)		276,168				380,532			
Capital Expenses									
Capital Improvements						54,094			
Capital Replacements						1,222			
Equipment						0			
Bond Retirement: $1,430,000						238,333			
Total Capital And Debt Retirement Expenditures						293,649			
Net Position after Capital and Debt Retirement Expenditures						86,883			

(1) Approximately of $509,238 of salary & benefit expenses will be capitalized to various capital projects, which will reduce the final operating expenditures.
(2) Estimated Expenditures: Purchased Water $241,703 in July and $247,385 in August.

Consent Calendar Item# 5

Florin Resource Conservation District
CASH - Detail Schedule of Investments
8/31/2015

		Account number / name	Investment Name	Investment Type			Restrictions	Market Value
HELD BY BOND TRUSTEE:								
G/L Account #	**Money Market Fund**							
1130-000-30	Building	BNY 113518 FRCD OB 2003 A/B Rev Fd	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	$ 110,267.17
	Building	BNY 113522 FRCD OB 2003 B SUB IPF	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
	Building	BNY 113591 FRCD OB 03 A/B O/M RES FD	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	35,960.80
1132-000-30	Building	BNY 113594 FRCD OB 03 A/B RES FD	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	460,000.00
	Building	BNY 113598 FRCD 03 A INST PMT FD	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
	Building	BNY 113599 FRCD OB 03 A SR IPF	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
1133-000-30	Building	BNY 113601 FRCD 2003 A/B CAR/PAINT EXP	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	3,774.72
1134-000-30	Building	BNY 113602 FRCD 2003 A/B ADMIN EXP FD	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	95.11
1103-000-20	Water	BNY 113757 FRCD 2002 INST PMT SER B	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	2.00
	Water	BNY 113759 FRCD 2002 INST PMT SER B	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	1.01
1102-000-20	Water	BNY 113756 FRCD INST PMT SER A	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	2,585,123.37
1107-000-20	Water	BNY 113576 FRCD 2003 A CONST FUND	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
1122-000-20	Water	BNY 113584 FRCD 2005 A CONST FUND	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
1123-000-20	Water	BNY 113585 FRCD 2005 A INST PM	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	192,418.68
1121-000-20	Water	BNY 113586 FRCD 2005 A RATE STAB	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
	Water	BNY 113587 FRCD 2005 A RES FD	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	1.00
1101-000-20	Water	BNY 113764 FRCD 2002 A/B RATE STABILIZATION	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
1108-000-20	Water	BNY 892747 FRCD 2014A COI	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
1109-000-20	Water	BNY 892745 FRCD 2014A REDEMPTION	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	0.00
1110-000-20	Water	BNY 892744 FRCD 2014A DEBT SERVICE	Dreyfus Inst Treasury	MM Mutual Fund			Restricted	9,145.84
							Subtotal	**$ 3,396,789.70**
1001-000-20	Water	CASH ON HAND					Unrestricted	**$ 300.00**
	HELD BY RIVER CITY BANK:							
1010-000-10	FRCD	RCB 1111057982 CHECKING ACCOUNT					Unrestricted	124,539.22
1010-000-20	Water	RCB 1111063486 GENERAL CHECKING					Unrestricted	342,597.50
1020-000-20	Water	RCB 1111028001 MONEY MARKET					Unrestricted	4,755,824.25
1030-000-20	Water	RCB 1111025851 CHARGE CARD ACCOUNT					Unrestricted	403,698.25
1040-000-20	Water	RCB 1111096589 HIGH YIELD MONEY MARKET					Unrestricted	1,381,814.01
1050-000-20	Water	RCB 1111099502 DEBT SERVICE ACCOUNT					Unrestricted	4.21
1060-000-20	Water	RCB 1111097844 PAYROLL ACCOUNT					Unrestricted	300,797.94
1070-000-20	Water	RCB 1111097933 WEB PAYMENT RECEIPTS					Unrestricted	1,088,884.57
							Subtotal	**$ 8,398,159.95**
1080-000-20	Water	Office of the Treasurer - Sacramento California	LAIF	Investment Pool	Unrated	N/A	Unrestricted	**$ 2,836,262.20**
							Total	**$ 14,631,511.85**
							Total Restricted	**$ 3,396,789.70**
							Total Unrestricted	**$ 11,234,722.15**

Consent Calendar Item# 5b

Consultant Expenses
August 31, 2015

Fiscal Retainer Contracts

Consultant	Description	Current Month	Paid to date	Budget/Contract Amount	Percent of year (17%)
Best Best, & Krieger**	Task orders	11,081	18,821	130,000	14.48%
Solutions by BG, Inc.	Task orders	10,317	21,546	124,636	17.29%

Project Specific Contracts

Consultant	Description	Current Month	Paid to date	Budget/Contract Amount	Percent of Contract Amount
AECOM	ERP		18,923	74,720	25.33%
MC Engineering, Inc	AMI Study		14,780	23,680	62.42%

*Capital Projects

**Legal Cost detail - FY 14/15

Operations	
FRCD/EDC	$ 22,592
Litigation	
Other	
TOTAL	22,592

Consent Calendar Item# L

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Mark J. Madison, General Manager

SUBJECT: **BAY DELTA CONSERVATION PLAN / CALIFORNIA WATERFIX**

RECOMMENDATION

It is recommended that the Florin Resources Conservation District Board of Directors consider taking a position on California WaterFix and direct the General Manager to submit comments on the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement to the California Department of Water Resources by October 30, 2015.

Summary

At the July board meeting, the Florin Resource Conservation District Board of Directors requested a briefing on the Bay Delta Conservation Plan, which is now referred to as the "California WaterFix." This staff report and the associated attachments are provided in response to that request.

The California WaterFix includes a controversial tunnel and intake system which would redirect flows around the California Delta. A Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement has been issued by the California Department of Water Resources and other lead agencies, and comments on this document are due by October 30, 2015.

This item is presented to the Board for its consideration that the Florin Resource Conservation District take a position on this project. If the Board decides to take a position, the Board would direct the General Manager to submit comments on its behalf by the required due date.

DISCUSSION

Background

In 2006, the California Department of Water Resources (DWR), along with the United

States Bureau of Reclamation (Bureau) and selected State and Federal Water Contractors initiated efforts to construct a "conservation" plan, which became known as the Bay Delta Conservation Plan (BDCP). This plan was purportedly designed to restore habitat for Delta fisheries in a way that reliably delivers water to various users south of the California Delta (Delta). This plan, in accordance with the concept of maintaining co-equal goals, was intended to balance the needs of water users with that of the environment. It should be noted that the list of State and Federal Water Contractors includes many water agencies and cities that divert water from the Delta, some of which have contributed major funding to this effort.

In December 2013, the DWR, Bureau, United States Fish & Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS), serving as joint lead agencies, issued the Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) for the BDCP. This DEIR/DEIS contained 15 different action plans, including Alternative 4 (Alt 4) which was identified as the preferred alternative. Alt 4 proposed a tunnel and intake system, along with operational rules and certain amounts of proposed habitat restoration. More specifically, Alt 4 included three water intakes on the Sacramento River (near the Hood/Clarksburg area) and a twin set of tunnels 40 feet in diameter and approximately 35 miles long, extending south to the Clifton Court Forebay, which would deliver water from the North Delta to the existing export facilities in the South Delta.

In July 2014, thousands of comments had been received on the DEIR/DEIS and the DWR and other lead agencies set about to revise the DEIR/DEIS.

In April 2015, the Governor announced that the BDCP would be bifurcated into two projects – California WaterFix and California EcoRestore. This action was taken to "accelerate the restoration of the Delta's ecosystem and fix the state's aging water infrastructure". The California WaterFix project focuses exclusively on the tunnel/intake project, albeit with certain alterations and is now referred to as Alternative 4A (Alt 4A).

A diversion around the Delta has been contemplated for many years before, but has never gained traction due to the contentiousness of issues. In 1982, Californians voted down a ballot measure to construct the Peripheral Canal, which was essentially designed to function in the same manner as the tunnels. In more recent years, other concepts have surfaced including the Isolated Bypass Facility, a reinforced in-Delta solution, and the tunnel concept identified in the BDCP which is now included in the California WaterFix project.

In July 2015, a Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) was issued by the DWR and other lead agencies for public review and comments. The Executive Summary of this document is attached to this report (Attachment 1) for the Board's information. Again, this RDEIR/SDEIS reflects only a revision to Alt 4 and no other environmental or habitat features contained in the DEIR/DEIS. Public comments on this document are due by October 30, 2015.

Present Situation

Alt 4A of the California WaterFix plan predominantly includes three intake structures along the Sacramento River, and two 40-foot diameter tunnels, approximately 35 miles long, and is designed to divert up to 9,000 cubic feet per second (cfs) from the North Delta. As shown on the schematic drawing attached to this report (Attachment 2), this diversion would be routed through the tunnels to the Clifton Court Forebay, south of Tracy, where it would be exported from the Delta through the State Water Project (SWP) and the Central Valley Project (CVP). To present a sense of magnitude, 9,000 cfs would fill up a football field to a height of 94 feet in 10 minutes.

There are two primary objectives behind the California WaterFix project and these are summarized as follows:

1. To address adverse effects on state and federally endangered species presently caused by the SWP and CVP pumping facilities south of Tracy. This notably includes the protection of Delta Smelt which have incurred significant declines in the last several decades.

2. To restore and protect the SWP and the CVP so that deliveries to State and Federal Water Contractors, respectively, can be made up to their full contract amounts when hydrologic conditions result in the availability of water.

   It has been purported that the project is not designed to increase the *amount* of exports, but rather increase the *reliability* of the exports. This is a debatable topic, however, considering that it is reasonable to assume that the more reliable a supply is, the more that will be taken.

Relative to objective 1, the proposed Alt 4A intakes are located in place where Delta Smelt are not usually present. This location also yields higher water quality and thus is desirable

to those exporters, such as the Metropolitan Water District of Southern California (Met) who use water for municipal and industrial purposes.
Relative to objective 2, the current California drought has heightened this quest and, in fact, the deliveries of water (south of the Delta) through the SWP and CVP have been reduced to zero during the past two years. Many Central Valley farmers have been forced to fallow their fields or remove their orchards and there have been many headlines about the impact to California's agriculture and its associated economy.

In addition, many proponents express that the project is essential to safeguard against export water quality disruptions potentially resulting from a seismic event causing damage to Delta levees. This reason is highly debated considering that the Delta is not located in a high, threat seismic location and that an intake/tunnel project might experience the same disruptions.

The RDEIR/SDEIS also includes other alternatives which are identified as Alternatives 4, 2D, and 5A. These alternatives basically include variations on the number of intakes and the diversion capacity and these are listed in Table ES.2.3-1, on page ES-21 of the attached RDEIR/SDEIS Executive Summary. Again, Alt 4A is the preferred alternative of the California WaterFix plan.

Most water agencies in Northern California, and the environmental community in general, have serious concerns about a north-south Delta Diversion. In particular, water agencies in the Delta, and the Delta community itself, are fearful of the effects on water quality and their way of life.

Notable arguments against a north-south Delta Diversion, like Alt 4A, are as follows:

1. Diversions of up to 9,000 cfs (or more) out of the North Delta will disrupt the flow regimes in the Delta creating water quality problems in many locations. These problems could increase salinity and organic problems which could affect drinking supplies to many communities such as Stockton, Contra Costa, and others. A decline in Delta water quality also could have a significant detrimental effect on Delta farming operations which is a major activity in the Delta.

2. Such a large diversion(s) through the intakes on the Sacramento River would create a hole in the river, such that the natural flows would be disrupted, or even reversed, creating problems for migrating fish.

3. To compensate for environmental disruptions to the Delta, Northern California water agencies and communities may be required to release stored supplies to

maintain balanced conditions in the Delta. This is a major issue as it relates to Area of Origin rights and potentially impacts the yields of Folsom Lake, Lake Shasta, and Lake Oroville.

4. The construction of facilities in the Delta, such as the intakes and other above ground facilities will result in the loss of farm land and/or habitat, and cause irreversible harm to the quality of life in the Delta.

With these concerns, the funding of California WaterFix is likely to be a major hurdle. At present, Alt 4a is estimated to cost $14.9 billion in present dollars and is unclear who would pay for it. Debate has occurred on the question of whether it should be paid for by the direct beneficiaries, or should the entire State pay for something that purportedly yields State-wide benefits. Several large Southern California water agencies, such as Met and the Westlands Water District (Westlands) have already funded millions into the planning efforts and it is expected that they will continue to fund some of these efforts.

In this respect, it is interesting to note that just last week a story surfaced about discussions occurring with Met and Westlands to purchase the Delta Wetlands Project. The Delta Wetlands Project is a conceptual project to convert two Delta islands (Bouldin and Bacon) and two Delta Tracts (Webb and Holland) into a water supply and habitat restoration project. Specifically, Webb and Bacon would be flooded and converted in to surface storage reservoirs and Bouldin and Holland would be developed as habitat. This project has been proposed for a long time, but fraught with environmental and financing problems. It has been reported that Met and Westlands' interest may be to gain a better foothold, although at this point their motive is unclear.

In terms of the next steps and timing of the California WaterFix, comments on the RDEIR/SDEIS are due to the DWR by October 30, 2015. It is anticipated that numerous comments and concerns will once again be submitted and that a final EIR/EIS would not be considered for approval until sometime in 2016. Design and construction would be at least several years from now, and this would largely be dictated by litigation and funding.

STRATEGIC PLAN CONFORMITY

The Strategic Plan has identified as a core value the importance of providing a clear vision for the future of the District and its community. The Strategic Plan states that decisions The District makes today impact the future of the District and its community. The recommendation of this staff report conforms to this principle of the Strategic Plan.

FINANCIAL SUMMARY

There is no direct financial impact associated with this item at this time.
Respectfully Submitted,

MARK J. MADISON
GENERAL MANAGER

Attachments

Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft EIR/ Supplemental Draft EIS Executive Summary

ES.1 Introduction

ES.1.1 Background and Context

The Sacramento-San Joaquin Delta (the Delta) is a vitally important ecosystem that supports hundreds of aquatic and terrestrial species, many of which are threatened or endangered. Located at the crux of two major watersheds that capture runoff from approximately 40 percent of the land in California, the Delta is also at the core of the state's most important water system, which serves millions of Californians throughout the San Francisco Bay Area, the Central Valley, the Central Coast, and southern California. This water supports agricultural, municipal, and industrial land uses that, taken together, are the source of much of California's financial stability and prosperity. The benefitting areas include farms and ranches from the north Delta to the Mexican border, as well as Silicon Valley, portions of the East Bay, and most of urban southern California.

Unfortunately, the Delta is in a state of crisis. Several threatened and endangered fish species, including Delta smelt and winter-run Chinook salmon, have recently experienced the lowest population numbers in their recorded history. Meanwhile, Delta levees and the infrastructure they protect are at risk from earthquake damage, continuing land subsidence, and rising sea level. A major seismic event causing levee failure could cause an interruption of water exports for as long as several months or even years. And the amounts of water available for human use south of the Delta have already decreased significantly in recent years, independent of the drought, due to regulatory actions by the United States Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW). Applying federal and state endangered species laws, these entities have required the Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation) to substantially alter the manner in which they jointly operate the State Water Project (SWP) and the federal Central Valley Project (CVP).

For both environmental and economic reasons, there is an urgent need to improve and modernize the existing SWP/CVP conveyance system, which was designed and built long before the "environmental era." Many of the current systemic problems stem from the fact that both the SWP and the CVP export water from intake facilities, including pumps, that are located at the far southern edge of the Delta, near the City of Tracy. Because of their far southerly location and their elevation above sea level, these pumps create "reverse flows" that pull river water southward (upstream, in effect) towards the intakes, rather than allowing it to flow downstream towards San Pablo Bay, San Francisco Bay, and, ultimately, the Pacific Ocean. Not surprisingly, these reverse flows cause, or contribute to, direct and indirect impacts on fish species such as Delta smelt, which are pulled towards the pumps, where adverse conditions, including the presence of predator species, await them. The reverse flows also adversely affect salmon migration patterns. To try to reduce these adverse effects on fisheries, regulators have substantially reduced water exports to SWP and CVP service areas, to the economic detriment of those areas. The recent historic drought has only made matters worse.

The ecological problems with the current system could be greatly reduced by the construction and use of new north Delta intake structures with state-of-the-art fish screens. With this future vision in mind, DWR and several state and federal water contractors, in coordination with Reclamation, have proposed a strategy for restoring ecological functions in the Delta while improving water supply reliability in California. These agencies' initial approach, going back as far as 2006, focused on the development of an extensive conservation plan known as the Bay Delta Conservation Plan, or BDCP, which would add new intakes in the north Delta while at the same time pursuing a very large-scale long-term habitat restoration program within the greater Delta. Under this potential approach, DWR would achieve compliance with the federal Endangered Species Act (ESA) through a habitat conservation plan (HCP) approved by both USFWS and NMFS under Section 10 of the ESA, and would achieve compliance with state endangered species laws through approval by CDFW of a natural community conservation plan (NCCP) prepared under the California Natural Community Conservation Plan Act (NCCPA). Both the HCP and NCCP would provide incidental take authorization for a period of 50 years. Reclamation would achieve compliance with ESA through Section 7 of that Act.

In December 2013, after several years of preparation, DWR, Reclamation, USFWS, and NMFS, acting as joint Lead Agencies, published a Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) on the proposed BDCP. This document contained a total of 15 action alternatives, including Alternative 4, which was identified as DWR's preferred alternative. The 14 other action alternatives varied from Alternative 4 with respect to factors such as the number of proposed North Delta intakes, the types of conveyance facilities (e.g., surface canals versus underground pipelines), operational rules, and amounts of proposed habitat restoration. Alternative 4 included three new intakes located in the North Delta and two parallel underground pipelines conveying diverted water to the existing export facilities in the South Delta. The proposed operations for Alternative 4 reflected many years of negotiations between DWR, Reclamation, the water contractors, USFWS, NMFS, and CDFW.

By July 2014, at the end of the public review period, the Lead Agencies had received numerous comments on the proposed BDCP from other agencies and members of the public. Many of these comments included concrete suggestions regarding how, from the commenters' perspectives, the project (i.e., Alternative 4, the BDCP) could be improved. For example, some people urged the Lead Agencies to reduce the level and scope of the construction activities, as well as the sheer size of the proposed facilities, as means of reducing air quality and noise impacts. Other commenters noted that Alternative 4 as then envisioned included substantial amounts of construction activity within Staten Island, which is prime habitat for the greater sandhill crane. Many commenters argued that, because the proposed project would lead to significant, unavoidable water quality effects, DWR could not obtain various approvals needed for the project to succeed (e.g., approval by the State Water Resources Control Board of new points of diversion for north Delta intakes). Yet others suggested that DWR should pursue a permit term shorter than 50 years due to the levels of uncertainty regarding both the future effects of climate change and the long-term effectiveness of habitat restoration in recovering fish populations. Still other comments suggested that the proposed conveyance facilities should be separated from the habitat restoration components of the BDCP, with the latter to be pursued separately.

Consistent with this public input, the Lead Agencies have substantially modified Alternative 4 to reduce its environmental impacts and have formulated new sub-alternatives that would seek incidental take authorization for a period of far less than 50 years, and would include only limited amounts of habitat restoration. The nature of the modifications to Alternative 4 are described at

length in Section 3.1 of this Partially Recirculated Draft EIR/Supplement to Draft EIS (RDEIR/SDEIS); and the Draft EIR/EIS text changes needed to reflect the modifications are shown in "track changes" in Appendix A of this RDEIR/SDEIS. Among the key changes are (i) the elimination of three pumping plants associated with new intake facilities; (ii) associated reductions in construction-related air pollutant emissions at intake sites; (iii) substantial reductions in the amount of construction occurring on Staten Island; (iv) reductions in water quality effects; and (v) the relocation of key project features from private property to public property already owned by DWR.

The three new sub-alternatives (4A, 2D, and 5A) developed by the Lead Agencies embody a different implementation strategy that would not involve a 50-year HCP/NCCP approved under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b) assuming a shorter project implementation period. These new sub-alternatives address the reverse flow problem by focusing on the construction and operation of new north Delta intakes and on habitat restoration commensurate with the footprint of these new facilities. This alternative implementation strategy would allow for other state and federal programs to address more extensive long-term habitat restoration efforts for species recovery in programs separate from the proposed project.

The construction and operation of new conveyance facilities, as now proposed under Alternatives 4A, 2D, and 5A, would help resolve many of the concerns with the current south Delta conveyance system while otherwise helping to reduce threats to endangered and threatened species in the Delta through limited but substantial amounts of habitat restoration, as necessary to mitigate significant environmental effects and satisfy applicable ESA and CESA standards. Implementing a dual conveyance system, in which water could be diverted from either the north or the south or both, depending on the needs of aquatic organisms, would align water operations to better reflect natural seasonal flow patterns by creating new water diversions in the north Delta equipped with state-of-the-art fish screens. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east–west flow patterns. The new diversions would also help protect critical water supplies against the threats of sea level rise and earthquakes.

Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation.

Alternative 4A is also known as "The California WaterFix." It is now DWR's preferred alternative under the California Environmental Quality Act (CEQA) and Reclamation's preferred alternative under the National Environmental Policy Act (NEPA).

ES.1.2 Overview of Key Revisions

This RDEIR/SDEIS has been prepared to provide the public and interested agencies an opportunity to review and comment on revisions and additional information added to the Draft EIR/EIS that was circulated for public review on Dec 13, 2013. Key revisions are listed below.

- Modified project objectives and purpose and need that encompass new alternatives as well as the original alternatives included in the Draft EIR/EIS.
- Engineering refinements made to the Alternative 4 water conveyance facilities, including changes to North Delta Diversion intake facility design; conveyance facility modifications to reduce environmental and property impacts; relocation of pumping plants to a new facility adjacent to Clifton Court Forebay; revisions to proposed conveyance facility operations; and changes to the proposed conservation strategy. These refinements would, among other things, reduce the effects of Alternative 4 on greater sandhill cranes and reduce the extent of construction activities that generate air pollution at intake sites.
- New sub-alternatives, Alternatives 4A, 2D, and 5A, are included to ensure a reasonable range of alternatives are considered that adopt the alternative implementation strategy to achieve federal and state endangered species act compliance using a shorter project implementation period through the "Section 7" process under the federal ESA, and the "Section 2081(b)" process under CESA.
- Updated environmental analysis that addresses certain issues raised in the more than 12,000 comments received on the Draft EIR/EIS. One example of such updated analysis is an updated discussion of Water Quality effects, which have been reduced compared with how they were described in the Draft EIR/EIS.

ES.1.2.1 Legal Basis for Recirculation

In accordance with Public Resources Code (PRC) Section 21092.1 and State CEQA Guidelines Section 15088.5, a CEQA lead agency must "recirculate" a revised Draft EIR or chapters or portions of the revised Draft EIR for additional comments if, after the start of public review but prior to final EIR certification, the lead agency adds "significant new information" to an EIR. Under NEPA, a supplement to the draft EIS may be prepared "when the agency determines that the purposes of NEPA would be furthered by doing so" (40 CFR 1502.9[c][2]) or if 1) the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or 2) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (40 CFR 1502.9[c][1]).

ES.1.2.2 Modified Project Objectives and Purpose and Need

One of the primary challenges facing California is how to comprehensively address the increasingly significant conflict between the ecological needs of a range of at-risk Delta species and natural communities that have been, and continue to be, affected by human activities, while providing more reliable water supplies for people, communities, agriculture, and industry. This challenge must be addressed in decisions by DWR, the CDFW, and the State Water Resources Control Board as they endeavor to strike a reasonable balance between these competing public policy objectives and various actions taken within the Delta, including this proposed project. State policy regarding the Delta is summarized in the Sacramento–San Joaquin Delta Reform Act of 2009, which states:

"it is the intent of the Legislature to provide for the sustainable management of the Sacramento-San Joaquin Delta ecosystem, to provide for a more reliable water supply for the state, to protect and enhance the quality of water supply from the Delta, and to establish a governance structure that will direct efforts across state agencies to develop a legally enforceable Delta Plan." (California Water Code, Section 85001, subd. [c]).

The Delta "serves Californians concurrently as both the hub of the California water system and the most valuable estuary and wetland ecosystem on the west coast of North and South America." (California Water Code, Section 85002).

The ecological health of the Delta continues to be at risk, the conflicts between species protection and Delta water exports have become more pronounced, as amply evidenced by the continuing court decisions regarding the intersection of ESA, CESA, and the operations criteria of the SWP and the CVP. Other factors, such as the continuing subsidence of lands within the Delta, increasing seismic risks and levee failures, and sea level rise associated with climate change, serve to further exacerbate these conflicts. Simply put, the overall system as it is currently designed and operated does not appear to be sustainable from an environmental perspective, and so the proposal to implement a fundamental, systemic change to the current system is necessary. This change is necessary if California is to "[a]chieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." (California Public Resources Code Section 29702, subd. [a]).

A statement of Project Objectives by the Lead Agencies is required by the State CEQA Guidelines, and a Purpose and Need Statement is required by the CEQ NEPA Regulations.

ES.1.2.2.1 Project Objectives

DWR's fundamental purpose in proposing the proposed project is to make physical and operational improvements to the SWP/CVP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. The fundamental purpose is informed by past efforts taken within the Delta and the watersheds of the Sacramento and San Joaquin Rivers. The fundamental purpose, in turn, gives rise to the following project objectives.

- Address adverse effects to state and federally listed species related to:
  - The operation of existing SWP Delta facilities and construction and operation of facilities for the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta;
  - The implementation of actions to improve SWP and/or CVP conveyance that have the potential to result in take of species that are listed under the ESA and CESA.
- Improve the ecosystem of the Delta by reducing the adverse effects to certain listed species of diverting water by siting additional intakes of the SWP and coordinated operations with the CVP;
- Restore and protect the ability of the SWP and CVP to deliver up to full contract amounts, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of state and federal law and the terms and conditions of water delivery contracts and other existing applicable agreements.

Additional Project Objectives that guide the development of the proposed project and alternatives can be found in Section 1.1.4.1 of this RDEIR/SDEIS.

ES.1.2.2.2 Purpose and Need

NEPA requires that an EIS include a statement of "purpose and need" to which the federal agency is responding in proposing the alternatives, including the proposed action. This purpose statement and project need described below are consistent with the Project Objectives outlined above in Section ES.1.2.2.1.

The purposes of the proposed action are to achieve the following.

1. Construction and operation of facilities and/or improvements for the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta.
2. Operation of the existing and potential new SWP facilities and existing CVP Delta facilities.
3. The activities described in 1) and 2) occurring in a manner that minimizes or avoids adverse effects to listed species, and allows for the protection, restoration and enhancement of aquatic, riparian and associated terrestrial natural communities and ecosystems.
4. Restore and protect the ability of the SWP and CVP to deliver up to full contract amounts, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of state and federal law and the terms and conditions of water delivery contracts held by SWP contractors and certain members of San Luis Delta Mendota Water Authority, and other existing applicable agreements.

The above Purpose statement reflects the intent to advance the coequal goals set forth in the Sacramento–San Joaquin Delta Reform Act of 2009 of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The above phrase—*restore and protect the ability of the SWP and CVP to deliver up to full contract amounts*—is related to the upper limit of legal CVP and SWP contractual water amounts and delineates an upper bound for development of EIR/EIS alternatives, not a target. It is not intended to imply that increased quantities of water will be delivered under the proposed project. As indicated by the "up to full contract amounts" phrase, alternatives need not be capable of delivering full contract amounts on average in order to meet the project purposes. Alternatives that depict design capacities or operational parameters that would result in deliveries of less than full contract amounts are consistent with this purpose.

ES.1.2.2.3 Project Need

The need for the action is derived from the multiple, and sometimes conflicting, challenges currently faced within the Delta. The Delta has long been an important resource for California, providing municipal, industrial, agricultural and recreational uses, fish and wildlife habitat, and water supply for large portions of the state. However, by several key criteria, the Delta is now widely perceived to be in crisis. There is an urgent need to improve the conditions for threatened and endangered fish species within the Delta. Improvements to the conveyance system are needed to respond to increased demands upon and risks to water supply reliability, water quality, and the aquatic ecosystem.

To further compound these challenges, fundamental changes to the Delta are certain to occur; the Delta is not a static ecological system. The anticipated effects of climate change will result in elevated sea levels, altered hydrological cycles, changed salinity and water temperatures in and around the Delta, and accelerated shifts in species composition and distribution. These changes add to the difficulty of resolving the conflicts in the Delta. Anticipating, preparing for, and adapting to these changes are key underlying drivers for the proposed project.

ES.1.2.3 Refinements to Alternative 4

Among the purposes of this RDEIR/SDEIS, in addition to introducing Alternatives 4A, 2D, and 5A, are to present revisions to Alternative 4 related to water quality, air quality, and impacts on fish species, and to provide updated analysis on actions to reduce effects of the 2013 Draft EIR/EIS preferred CEQA alternative. In December of 2014, the Lead Agencies publicly announced several design modifications to Alternative 4 to reduce impacts to Delta communities, minimize disturbances or dislocation to greater sandhill cranes, and improve the long-term reliability and operation of the conveyance facilities. Modifications to Alternative 4 include re-design of the north Delta diversions intakes, relocation of pumping plants consolidated at Clifton Court forebay, and removal of transmission lines and reusable tunnel material in sensitive areas, among other changes to the conveyance alignment. Please refer to Section ES.2, *Description of Alternatives*, below for a summary of Alternative 4 modifications and Section 3, *Conveyance Facility Modifications to Alternative 4* of this RDEIR, for a more detailed description of Alternative 4.

Although Alternative 4A is proposed as the new preferred alternative in this RDEIR/SDEIS, Alternative 4 remains an important option for consideration by the Lead Agencies. Alternative 4A includes all of the conveyance components of Alternative 4 and was formulated as an outgrowth of Alternative 4 in response to input from other agencies and members of the public. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. The current version of Alternative 4 includes substantial refinements (as indicated above) and reflects additional scientific work and analysis completed since release of the 2013 Draft EIR/EIS that are also carried forward to the new alternatives. For example, all of the new alternatives include the same refinements made for Alternative 4 related to the north Delta diversion intake facilities design, and all of the alternatives include the same conveyance facility alignments as presented for Alternative 4.

ES.1.2.4 Introduction of New Sub-Alternatives

On April 30, 2015, the Lead Agencies publicly announced a proposed modified sub-alternative, Alternative 4A, as the new proposed action, replacing Alternative 4 (the proposed BDCP). During the 2013–2014 public comment period, commenters expressed concerns about the potential impacts of large-scale habitat restoration on the Delta economy and community character. Other comments articulated concerns about the expected effectiveness of certain habitat restoration measures, the nature and uncertainty of climate change, and the related level of scientific uncertainty about future conditions and the efficacy of a 50-year permit.

The primary differences between Alternatives 4A, 2D, and 5A and Alternative 4 include:

- Alternatives 4A, 2D, and 5A would not serve as habitat conservation plans/natural community conservation plans under ESA section 10 and the Natural Community Conservation Planning

Act, but would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). DWR would not seek 50-year permits.

- The originally proposed BDCP habitat restoration and other conservation measures (CM) (i.e., CM2 through CM21) would not be included in Alternative 4A, 2D, and 5A, except to mitigate significant environmental effects under CEQA/NEPA and to meet the regulatory standards of ESA Section 7 and CESA Section 2081(b).
- BDCP CM2, which would consist of proposed Yolo bypass improvements and approximately 8,000 acres of tidal habitat restoration, is not included in the new sub-alternatives; instead, these components of CM2 are assumed to occur independently of the sub-alternatives in a revised No Action Alternative.

Alternatives 2D and 5A are presented in addition to Alternative 4A to provide reviewers and decision-makers with a reasonable range of alternatives by which to compare and evaluate the proposed action. Alternatives 2D and 5A propose the same modified regulatory approach as the proposed Alternative 4A.

Although Alternatives 4A, 2D, and 5A comprise only the conveyance facilities and operations that formerly constituted CM1 under BDCP alternatives, and no longer include habitat restoration measures beyond what is needed to provide full mitigation under CEQA and NEPA, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Habitat restoration in the Delta beyond these alternatives' mitigation requirements will occur separately through implementation of California EcoRestore, and these activities will be further developed and evaluated independent of the water conveyance facilities.

ES.1.2.5 Updated Environmental Analysis

Substantive revisions to the Draft EIR/EIS related to the changes noted above, as well as other changes, have been made to RDEIR/SDEIS sections listed below; and these analyses have been applied to all of the impacts analysis for Alternative 4 (in Appendix A) and Alternatives 4A, 2D, and 5A in Section 4.

- Section 2.1, Improved Fish and Aquatic Habitat Analyses
- Section 2.2, Water Quality Revisions
- Section 2.3, Air Quality and Health Risk Assessment
- Section 2.4, Revised Project Description and Enhanced Level of Detail
- Section 2.5, Analysis of Geotechnical Investigations
- Section 5, Revisions to Cumulative Impact Analyses

The RDEIR/SDEIS describes, evaluates, and discloses the potential temporary and permanent direct and reasonably foreseeable indirect impacts to the human and natural environment associated with the proposed actions (Alternative 4A), the changes to Alternative 4, as well as Alternatives 2D and 5A, and the No Action Alternative. The RDEIR/SDEIS also identifies environmental commitments, avoidance and minimization measures, and mitigation measures to reduce or avoid effects. As was the case in the Draft EIR/EIS, Alternative 4 is evaluated at the Late-Long-Term (LLT) timeframe because it would include 50-year incidental take permits. The other alternatives evaluated in the RDEIR/SDEIS, Alternative 4A, 2D, and 5A, are evaluated at the Early Long-Term (ELT) timeframe because the project implementation period is anticipated to be shorter. For NEPA impact

assessment purposes, Alternatives 4A, 2D, and 5A are compared to the No Action Alternative for the Early Long-Term timeframe. Where impacts differ at the Late Long-Term (LLT) period, discussions of these effects were included in the analysis. For CEQA impact assessment purposes, they are compared against Existing Conditions, as generally described in the Draft EIR/EIS. More information about the No Action Alternative ELT is provided in Section 4.2, *Impact of No Action Alternative Early Long-Term*.

ES.1.2.6 Lead Agencies

As a result of changes to the proposed project and the modified regulatory approach for gaining necessary permits, the U.S. Bureau of Reclamation is now acting as the sole federal Lead Agency implementing NEPA. The USFWS and NMFS are now acting as NEPA Cooperating Agencies. The California Department of Water Resources is continuing to act as the state Lead Agency implementing CEQA.

ES.1.3 Areas of Known Controversy

As noted above, the Lead Agencies have prepared the RDEIR/SDEIS to provide the public and interested agencies with updated environmental analysis, to introduce new sub-alternatives, and to address certain issues raised in comments received on the Draft EIR/EIS. Many of these comments helped identify ways in which the BDCP and Draft EIR/EIS could be improved or alternative implementation strategies could be proposed to increase benefits and reduce environmental effects. All of the comments were considered in the decision to circulate the RDEIR/SDEIS.

NEPA and CEQA require that the lead agencies identify areas of known controversy and issues to be resolved that have been raised during the scoping process, public review periods, and throughout the development of alternatives in the EIR/EIS. Based on input from agency representatives and the general public during public scoping and the 2013–2014 comment period, the following issue areas of particular concern have been identified.

- **Range of Alternatives.** The range and adequacy of alternatives is an issue of concern to the public as well as to governmental agencies. In response, the RDEIR/SDEIS proposes three new sub-alternatives.
- **Biological Resources.** The complexity of the BDCP (Alternative 4) raises many concerns over environmental consequences for the aquatic ecosystem and fish species, and for the terrestrial ecosystem and plant and wildlife species. Separating the water conveyance plan from the HCP/NCCP and accelerating environmental restoration through EcoRestore may alleviate some of these concerns.
- **Biological Goals and Objectives.** Controversy exists over the potential conflict between conservation goals and the reasonable use of natural resources and lands for economic development. This issue is somewhat reduced under the new sub-alternatives 4A, 2D, and 5A because of the revised approach to limit habitat improvements to those that would offset conveyance facility effects.
- **Climate Change.** The likely effects of climate changes on water supplies and the Delta ecosystem during the 50-year life of the BDCP prompted many comments during the formal public review process. Comments reflected widespread concerns that the anticipated effects of climate and habitat restoration are too speculative and that there is too much uncertainty about such effects to allow for a 50-year permit period. These comments are among the reasons the

Lead Agencies introduced Alternatives 4A, 2D, and 5A, which do not include a HCP/NCCP and do not seek 50-year incidental take permits.

- **Water Supply, Surface Water Resources, and Water Quality.** Water supply and surface water resources—key drivers for development of the proposed project and its alternatives—remain highly controversial issues for a wide array of stakeholders (e.g., agricultural interests, hunting and fishing interests, water agencies, local jurisdictions) because of the changes in water operations, surface water flow conditions, and diversions that could result from changes to the SWP and CVP systems. Water quality is an issue of concern because of uncertainties regarding activities associated with conveyance facilities and restored habitat that could lead to discharge of sediment, possible changes in salinity patterns, and water quality changes that could result from modifications to existing flow regimes. This RDEIR/SDEIS in Section 4 addresses all of these water supply, surface water and water quality issues.
- **Agricultural Resources.** Because the Plan Area identified for the BDCP (Alternative 4) is largely devoted to agricultural uses, the effects of the BDCP on existing agricultural activities constitute an issue of known controversy. Although Alternatives 4A, 2D, and 5A would require much less conversion of agricultural land to restored or protected habitat than the alternatives that include a HCP/NCCP, agricultural land will still be affected by implementing any of the alternatives.
- **Socioeconomics.** The key socioeconomic concerns involve the impacts of construction activities, the potential losses of business revenues and employment associated with the decrease in agricultural production, and the potential decrease in tax revenues due to such a decline in agricultural activities. Alternative 4 would continue to have these effects while Alternatives 4A, 2D, and 5A would have lesser socioeconomic effects associated with agricultural land conversions compared with other BDCP alternatives.
- **Recreation.** Concerns relating to recreation include potential conflicts between construction and operation of facilities associated with the BDCP (Alternative 4) and ongoing Delta recreational activities (e.g., boating, fishing, hunting, enjoyment of marinas). In addition, there are concerns about possible conflicts between operable barriers and gates in Delta waterways and recreational boating corridors.
- **Aesthetics/Visual Resources.** Potential effects on aesthetics/visual resources are controversial to Plan Area residents. While aesthetic impacts are difficult to quantify, such impacts would be reduced by proposed changes to the conveyance facilities that would be constructed under Alternatives 4, 4A, 2D, and 5A.
- **Growth.** One of the proposed project objectives is to increase water supply reliability to SWP and CVP contractors south of the Delta. Increasing the reliability of water may allow additional growth south of the Delta or in export service areas. Concerns regarding the growth-inducing consequences of the proposed project or its alternatives generally focus on the potential effects of increased water supply to the southern part of the state.
- **Community Issues.** Community issues, such as construction noise, air quality, and traffic circulation effects; conversion of existing land uses; and access to private lands have been controversial topics. Plans by DWR to conduct geotechnical drilling surveys were opposed by the local Farm Bureaus because of concerns over confidentiality of the survey results, and the eminent domain process is currently underway to allow acquisition of temporary entry rights on private land for survey work.

ES.1.4 Readers Guide to the RDEIR/SDEIS

This Executive Summary provides an overview of the substantive changes made to the Draft EIR/EIS, as mentioned above, and a brief summary of the analysis of the impacts of those changes, as well as a guide for reviewing the RDEIR/SDEIS. As an augmentation to the Draft EIR/EIS, the RDEIR/SDEIS is intended to meet the requirements of CEQA and NEPA, to provide sufficient analysis to support decision making, and to inform permit decisions for the issuance of incidental take permits.

The RDEIR/SDEIS presents new information and addresses project revisions in several complementary ways. The main body of the document is organized into *Sections* rather than *Chapters*. This terminology is intended to distinguish references to existing chapters in the Draft EIR/EIS from references to new sections in the RDEIR/SDEIS that may address issues similar to those presented in the Draft EIR/EIS. In many instances, new information and project changes are addressed in stand-alone essays. Each essay discusses a discrete topic that has received substantive comment. These stand-alone essays are intended to make this document as user friendly as possible, and to avoid reprinting thousands of pages on which minor modifications might have been made.

The topical essays in Section 2 of the RDEIR/SDEIS are listed below.

- Section 2.1, *Improved Fish and Aquatic Habitat Analyses*, summarizes revisions made to chapter 11, *Fish and Aquatic Resources* of the Draft EIR/EIS.
- Section 2.2, *Water Quality Revisions*, describes additional analyses undertaken to more accurately characterize the potential for exceedances of water quality standards and summarizes associated revisions.
- Section 2.3, *Air Quality, Health Risk Assessment, Transportation, and Noise Revisions*, presents revised emissions calculations based on improved construction assumptions and updates the health risk assessment, traffic, and noise analyses to reflect improved construction data.
- Section 2.4, *Revised Project Description and Enhanced Level of Detail*, presents additional revisions that explain how, for the purposes of CEQA and NEPA, project-level detail is included for water conveyance facilities and provides additional information about early implementation actions, including examples of habitat restoration and enhancement activities.
- Section 2.5, *Analysis of Geotechnical Investigations*, provides an explanation about the method for incorporating analyses of geotechnical investigations into the analysis of the water conveyance facilities construction

In cases where the essay format was not appropriate, or where actual text changes were necessary to complement particular essays, the RDEIR/SDEIS includes modified excerpts of text that originally appeared in the Draft EIR/EIS, with underlining showing new language and strikeout showing eliminated text. These underline/strikeout revisions are referenced in the main text of the RDEIR/SDEIS as Appendix A, *Revisions to the Draft EIR/EIS*, which contains the actual text revisions. Appendix A does not include Draft EIR/EIS text that was not changed or that may be modified in the Final EIR/EIR in a non-substantive manner, and is focused primarily on impact analysis revisions to Alternative 4, though other BDCP alternatives are addressed for some of the resources for various reasons. To give readers the best possible sense of the context in which such text changes occur, Appendix A includes section headings before and after modified passages, so that readers can understand precisely where within Draft EIR/EIS chapters the revisions occur. Table 1-2 in Section

1, *Introduction*, provides an overview of the Draft EIR/EIS chapters in which substantive changes have been made in this RDEIR/SDEIS and identifies the topics that are addressed in each chapter as shown in Appendix A. For a visual representation of how the document is laid out and how various segments relate to one another, please see the *Document Review Road Map*.

ES.1.4.1 Alternative 4 Revisions

Section 3, *Alternative 4: Conveyance Facility Modifications*, provides an overview of the optimized design of water conveyance facilities associated with Alternative 4, and a summary discussion of the impacts and other associated text revisions made in each affected resource chapter. The resource summaries refer the reader to Appendix A of the RDEIR/SDEIS for detailed revisions made to the Draft EIR/EIS text. Topics include surface water, groundwater, water quality, geology and seismicity, soils, fish and aquatic resources, terrestrial biological resources, land use, agricultural resources, recreation, socioeconomics, aesthetics and visual resources, cultural resources, transportation, public services and utilities, energy, air quality, noise, hazards and hazardous materials, public health, minerals, and paleontological resources.

ES.1.4.2 Alternative 4A, 2D, and 5A Analyses

Description and analysis of new sub-alternatives are presented in Section 4, *New Alternatives: Alternatives 4A, 2D, and 5A*. Analyses presented in this section address impacts for all the resource topics considered in the Draft EIR/EIS. Impacts for which substantive changes have been identified are presented in full impact format with CEQA conclusions and NEPA effects and proposed mitigation measures where they are feasible and required to reduce a significant impact. Impact analyses also include revisions made to the No Action Alternative ELT for the purpose of providing a logical point of comparison for the NEPA analysis of Alternatives 4A, 2D, and 5A.

ES.1.4.3 Cumulative Impact Analyses

Section 5 of this RDEIR/SDEIS addresses revisions to the cumulative impacts analyses. In response to comments, and in light of new information, this RDEIR/SDEIS includes additional reasonably foreseeable proposed projects that, when considered together with the action alternatives, could have a significant cumulative effect. The analysis includes a discussion of the California Water Action Plan, California EcoRestore, and the Sustainable Groundwater Management Act to better describe the roles of the new Delta conveyance facilities and habitat restoration in the context of the state's comprehensive vision for water management.

ES.1.4.4 Supplemental Appendices

Additional components of this RDEIR/SDEIS include multiple appendices, in addition to Appendix A described above, that provide new or updated data used in the revised analyses.

- Appendix B, *Supplemental Modeling Results for New Alternatives*, provides additional CALSIM II, DSM2, and other modeling results referenced for Alternative 4A, 2D, and 5A operations impacts.
- Appendix C, *Supplemental Modeling Results Requested by the State Water Resources Control Board Related to Increased Delta Outflows*, provides supplemental modeling for use in the State Water Board permit process.
- Appendix D, *Substantive BDCP Revisions*, provides the changes that were made to the BDCP after the circulation of the Draft BDCP and Draft EIR/EIS and that are referenced in the RDEIR/SDEIS.

- Appendix E,*Supplemental Information for U.S. Army Corps of Engineers Permitting Requirements*, provides additional information needed for Corps wetland, navigation, levee modification, and cultural resources permitting processes.
- Appendix F, *Supplemental Modeling Results at ELT for Alternative 4*, provides supplemental CALSIM II and DSM2 results for Alternative 4 at the early-long-term that describe H1 and H2 operations scenarios.
- Appendix G, *Alternative 4A (Proposed Project) Compatibility with the Delta Plan*, provides an approach that may be considered for Alternative 4A to meet the Delta Plan consistency requirements.

All components of this RDEIR/SDEIS should be considered complementary to, and should be read and reviewed as supplemental elements of, the December 2013 Bay Delta Conservation Plan Draft Environmental Impact Report/Environmental Impact Statement. The Final EIR/EIS will include the entire presentation of all text changes made to the Draft EIR/EIS.

ES.1.5 Key RDEIR/SDEIS Terms

Due to the changes to the proposed project, there are several key terms that readers should be aware of when reviewing this RDEIR/SDEIS.

- **Plan Area and Study Area.** The terms Plan Area and Study Area are still applied to the impact analysis of Alternatives 4A, 2D, and 5A and all associated figures, tables, etc., since the activities pursued under these alternatives would take place in the same geographical area as the Plan Area; and the potential impacts would still occur in what was defined as the Study Area in the Draft EIR/EIS.
- **Conservation Measures and Environmental Commitments**. Because Alternatives 4A, 2D, and 5A do not include components of a HCP/NCCP, these alternatives do not include Conservation Measures (which are specifically required under Section 10 of the Federal ESA). Rather, limited elements of the previously proposed Conservation Measures are included as "Environmental Commitments" under Alternative 4A to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and CESA Section 2081(b). To aid reviewers, the Environmental Commitments are numbered to parallel the BDCP (Alternative 4) Conservation Measures, as shown in the examples below.

Alternative 4A	Environmental Commitment 3	Natural Communities Protection and Restoration
Alternative 4	Conservation Measure 3	Natural Communities Protection and Restoration

- **Biological Goals and Objectives and Resource Restoration and Protection Principles for Implementing Environmental Commitments.** Alternatives 4A, 2D, and 5A do not include specific Biological Goals and Objectives such as were included in the BDCP (Alternative 4) because these alternatives do not comprise a proposed HCP/NCCP. However, Alternatives 4A, 2D, and 5A do include species-specific resource restoration and protection principles for implementing Environmental Commitments that would ensure that the implementation of these commitments would achieve the intended mitigation of impacts.
- **Conservation Zones and Restoration Opportunity Areas.** Similar to the Plan Area and Study Area, the Conservation Zones and Restoration Opportunity Areas are still applied to the impact

analysis of Alternatives 4A, 2D, and 5A and all associated figures, tables, etc., since the activities pursued under these alternatives are expected to take place in these same areas.

- **Covered Activities and Covered Species.** Alternatives 4A, 2D, and 5A do not include a list of "covered species" or "covered activities" since these concepts are not requirements of the ESA Section 7 or CESA Section 2081(b) permit processes. However, this RDEIR/SDEIS does include analysis of the special-status species addressed in the new permit process, to the extent that implementation of Alternatives 4A, 2D, and 5A could result in impacts to these species.

ES.1.6 Public Review Process

All of the comments received during the Draft EIR/EIS 2013–2014 public review period were considered in the development of this RDEIR/SDEIS. This RDEIR/SDEIS does not include responses to comments on the Draft EIR/EIS, though some revisions have been made in response to comments received on the Draft EIR/EIS. New public comments made during the public review period for the RDEIR/SDEIS should be specific only to the newly circulated information contained in the RDEIR/SDEIS and should not address issues not directly included in the RDEIR/SDEIS. The Lead Agencies intend to only respond to comments that address analysis included within this RDEIR/SDEIS and not those related solely to the original Draft EIR/EIS. Formal responses to the comments previously submitted on the Draft BDCP and Draft EIR/EIS, as well as comments received on this RDEIR/SDEIS, will be published in the Final EIR/EIS.

This RDEIR/SDEIS is being noticed and circulated for public review and comment until August 31, 2015 in the same manner as the draft documents that were issued for public review on December 13, 2013. Two public meetings will be held to receive comments on the RDEIR/SDEIS, on Tuesday, July 28 in Sacramento, and on Wednesday, July 29, in Walnut Grove. Comments can also be submitted by U.S. mail or email.

BDCP Comments
P.O. Box 1919
Sacramento, CA 95812
BDCPComments@icfi.com

Following the close of the public review period, the Lead Agencies will consider and respond to all significant environmental issues raised in comments on the RDEIR/SDEIS (along with comments previously received on the Draft EIR/EIS) and incorporate revisions and response to comments into the Final EIR/EIS. The Final EIR/EIS will be circulated for a 30-day NEPA review period. Following completion of the Final EIR/EIS and the NEPA 30-day review period, DWR and Reclamation decision-makers will have the opportunity to certify/approve the Final EIR/EIS and submit a Notice of Determination/Record of Decision (NOD/ROD). Upon completion of the NOD/ROD, the agencies would be able to move forward with final permit approval and implementation.

ES.2 Description of Alternatives

In December 2014, state and federal Lead Agencies, along with the administration of Governor Edmund G. Brown Jr., announced several changes to the proposed water conveyance facilities to reduce environmental impacts. Since 2014, additional modifications to the proposed conveyance facilities and operations have been made based on refined engineering analysis and in consideration

of feedback received during the 2014 public comment period. Because the changes to Alternative 4 ripple through multiple environmental resources analyzed, information about the potential impacts of these changes can be found in Section 1.0, *Introduction*, Section 2.0, *Substantive Draft EIR/EIS Revisions*, Section 3.0, *Alternative 4: Conveyance Facility Modifications*, and Section 5.0, *Revisions to Cumulative Impact Analyses.*

As explained above, the RDEIR/SDEIS considers project revisions that were developed in response to input from the Draft EIR/EIS comment period (see below) as well as from agencies' comments regarding the challenges with meeting the standards required to issue long term assurances associated with compliance with Section 10 of the ESA and the NCCPA. Comments suggested DWR should pursue permit terms shorter than 50 years due to the levels of uncertainty regarding effectiveness of habitat restoration and the future effects of climate change. Other comments suggested that the proposed conveyance facility be separated from the habitat restoration components of the BDCP.

Consistent with this input, the Lead Agencies are analyzing an alternative implementation strategy with the new alternatives in this RDEIR/SDEIS, Alternatives 4A, 2D, and 5A. This strategy focuses on the conveyance facility improvements necessary for the SWP to address more immediate water supply reliability needs, and allows for other state and federal programs to address the long-term conservation efforts for species recovery through programs separate from the proposed project analyzed in this RDEIR/SDEIS. Alternatives 4A, 2D, and 5A would enable DWR to construct and operate new conveyance facilities that improve conditions for endangered and threatened aquatic species in the Delta while improving water supply reliability. Implementing the conveyance facilities alone would help resolve many of the concerns with the current south Delta conveyance system, would help reduce conveyance threats to endangered and threatened species in the Delta, and would allow for implementing habitat restoration projects on an expedited schedule through the state's EcoRestore program.

ES.2.1 Alternative 4

Revisions to the BDCP Alternative 4 in this RDEIR/SDEIS are limited to the water conveyance facilities Please refer to Figure ES-1, *Location of Conveyance Facility Alignment for Alternatives 4, 4A, 2D and 5A* for an overview of the conveyance facility alignment. No changes were made to operations or conservation measures. The changes would achieve the benefits listed below.

- Eliminate three pumping plants associated with the new intake facilities, and the visual effects associated with these facilities, on the east bank of the Sacramento River between Clarksburg and Courtland.
- Minimize construction activities on Staten Island, which provides important sandhill crane habitat, by removing tunnel launch facilities, large reusable tunnel material (RTM) storage areas, a barge landing site, and high-voltage power lines.
- Minimize impacts to private landowners by relocating project features to property already owned by DWR and reducing the acreage of lands needing to be acquired from private and Non-Governmental Organization (NGO) landowners.
- Eliminate the need for additional permanent power lines to the intake locations in the north Delta, including lines proposed near Stone Lakes National Wildlife Refuge.

- Eliminate impacts on Italian Slough (near Clifton Court Forebay) by removing an underground siphon.
- Reduce electric power requirements for construction and potentially operation of the facilities.
- Allow water to flow from the Sacramento River and through screened intakes, initial tunnels, an intermediate forebay, main tunnels, and into Clifton Court Forebay entirely by gravity at certain river stages (previously, only flows between the intermediate forebay and Clifton Court Forebay would be conveyed by gravity).
- Reduce tunnel operation and maintenance costs.

These changes would eliminate the need to build three separate two-story pumping plants along the Sacramento River between Clarksburg and Courtland. Instead, water could be moved from the river into tunnels by two new pumping plants constructed 40 miles away on DWR property at the southern end of the tunnels near Clifton Court Forebay.

Under Alternative 4, water would primarily be conveyed from the north Delta to the south Delta through tunnels. Water would be diverted from the Sacramento River through three fish-screened intakes on the east bank of the Sacramento River between Clarksburg and Courtland. Water would travel from the intakes to a sedimentation basin before reaching the tunnels. From the intakes water would flow into an initial single-bore tunnel, which would lead to an intermediate forebay on Glannvale Tract. From the southern end of this forebay, water would pass through an outlet structure into a dual-bore tunnel where it would flow by gravity to the south Delta. Water would then reach pumping plants to the northeast of the Clifton Court Forebay, where water would be pumped into the north cell of the expanded Clifton Court Forebay. The forebay would be dredged and redesigned to provide an area isolating water flowing from the new north Delta facilities. New siphon and canal connections would be constructed between the north cell of the expanded Clifton Court Forebay and the Banks and Jones pumping plants, along with control structures to regulate the relative quantities of water flowing from the north Delta and the south Delta. Alternative 4 would entail the continued use of the SWP/CVP south Delta export facilities. A map and a schematic diagram depicting the conveyance facilities associated with Alternative 4 are also provided in Figures 3-9 and 3-10 in Appendix A of this RDEIR/SDEIS.

ES.2.2 Alternative 4A

Under Alternative 4A water conveyance facilities would be constructed and maintained identically to those proposed and analyzed under Alternative 4 (including the modifications that have been made since the Draft EIR/EIS was released and described in Section 3, *Alternative 4: Conveyance Facility Modifications* and Section ES 2.1, *Alternative 4*, above).

Table ES.2.2.-1, below, provides a side-by-side comparison of Alternative 4 to Alternative 4A.

Table ES.2.2-1. Comparison of Alternative 4 and Alternative 4A

Element of Project Description	Alternative 4 (BDCP)	Alternative 4A
ESA Compliance	Section 10 (DWR)/Section 7 (Reclamation)	Section 7
California Endangered Species law Compliance	NCCPA	2081(b) permit
Facilities	Modified Pipeline/Tunnel Alignment: 3 intakes, 9,000 cfs	Modified Pipeline/Tunnel Alignment: 3 intakes, 9,000 cfs
Operations	Dual Conveyance; Operational Scenarios H1–H4 with Decision Tree (see Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS); evaluated at LLT	Dual Conveyance; Operational Scenario H3+ (a new operational scenario which includes a criterion for spring outflow bounded by the criteria associated with Scenarios H3 and Scenario H4, as described in Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS); evaluated as Scenarios H3-H4 at early long-term (ELT, which is associated with conditions around 2025)
Conservation Measures/ Environmental Commitments	Conservation Measures 2–21; includes Yolo Bypass Improvements and 65,000 acres of tidal wetland restoration	Environmental Commitments 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16; includes up to 59 acres of tidal wetland restoration
CEQA Baseline	Existing Conditions	Existing Conditions
NEPA Baseline	No Action Alternative at LLT	No Action Alternative at ELT

While all aspects of water conveyance facility design, construction, and maintenance would be identical to those described for Alternative 4, operational components would be similar, but not identical. Alternative 4A starting operations will be determined through the continued coordination process as outlined in the Section 7 consultation process and 2081(b) permit prior to the start of construction. An adaptive management and monitoring program will be implemented to develop additional scientific information during the course of project construction and operations to inform and improve conveyance facility operational limits and criteria. Additionally, operational elements associated with Fremont Weir modifications would not be incorporated as part of this alternative, because Yolo Bypass improvements previously contemplated in the BDCP (under CM2) would not be implemented as part of Alternative 4A; instead, they would be assumed to occur as part of the No Action Alternative because they are required by the existing Biological Opinions (BiOps) (discussed below). Table 4.1-2 in the RDEIR/SDEIS provides a detailed characterization of operational criteria.

Implementation of Alternative 4A will include conveyance operations of both new and existing water conveyance facilities once the new north Delta facilities are completed and become operational, thereby enabling joint management of north and south Delta diversions. Operational limits included in Alternative 4A for south Delta export facilities would supplement the south Delta operations currently implemented in compliance with the FWS (2008) and NMFS (2009) BiOps. Alternative 4A incorporates existing criteria from the 2008 and 2009 BiOps (including Fall X2), and adds additional criteria for spring outflow and new minimum flow requirement at Rio Vista from January through August. The north Delta diversions and the head of Old River barrier (HORB) are

new facilities for the SWP and CVP and would be operated consistent with the proposed operating criteria for each of these facilities. All other criteria included in the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641) will continue to be complied with, subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps, as part of the continued operations of the CVP and SWP. Alternative 4A includes modified or new operations and criteria of only the following elements.

- North Delta intake facilities.
- South Delta export operations.
- Head of Old River barrier operations.
- Spring Delta outflow.
- Rio Vista minimum flow standard in January through August.

Alternative 4A operations include a preference for south Delta pumping in July through September to provide limited flushing for improving general water quality conditions and reduced residence times.

To achieve the regulatory standards under ESA Section 7 and CESA Section 2081(b) while also complying with NEPA and CEQA, some of the actions proposed in the conservation strategy for the Draft BDCP would be implemented under Alternative 4A, 2D, and 5A, though on a smaller scale, as environmental commitments to mitigate significant environmental effects of the conveyance facilities. These commitments consist primarily of habitat restoration, protection, enhancement, and management activities necessary to offset—that is, mitigate for—adverse effects from construction of the proposed water conveyance facilities, along with species-specific resources guidelines to ensure that implementation of these commitments would achieve the intended mitigation of impacts. Additionally, pertinent elements previously included as Avoidance and Minimization Measures and the proposed Adaptive Management and Monitoring Program would be implemented as applicable to the activities proposed under Alternative 4A. These, too, would serve a mitigation function under CEQA. All of these components would function as de facto CEQA and NEPA mitigation measures for the construction and operations-related impacts of Alternative 4A. Section 4.1.2.3 of the RDEIR/SDEIS describes and analyzes the Alternative 4A Environmental Commitments.

Portions of the actions previously contemplated under CM3, CM4, CM6, CM7, CM8, CM9, CM10, CM11, CM12, CM15, and CM16 would be included in Alternatives 4A, 2D, and 5A, but at different levels. Table ES.2.2-2 provides a comparison of the acreages or actions for each environmental commitment proposed for Alternatives 4A, 2D, and 5A.

Table ES.2.2-2. Comparison of Environmental Commitments under Alternatives 4A, 2D, and 5A

Environmental Commitments	4A	2D	5A
3: Natural Communities Protection & Restoration			
Valley /Foothill Riparian	103 acres	122 acres	91 acres
Grassland	1,060 acres	1,089 acres	1,034 acres
Vernal Pool Complex & Alkali Seasonal Wetland Complex	150 acres	150 acres	150 acres
Nontidal Marsh	119 acres	187 acres	118 acres
Cultivated Lands	11,870 acres	13,410 acres	11,330 acres
Total:	**Up to 13,302 acres**	**Up to 14, 958 acres**	**Up to 12, 724 acres**
4: Tidal Natural Communities	Up to 59 acres	Up to 65 acres	Up to 55 acres
6: Channel Margin Enhancement	Up 4.6 levee miles	Up to 5.5. levee miles	Up to 3.1 levee miles
7: Riparian Natural Community	Up to 251 acres	Up to 297 acres	Up to 222 acres
8: Grassland Natural Community	Up to 1,070 acres	Up to 1,099 acres	Up to 1,044 acres
9: Vernal Pool & Alkali Seasonal Wetland Complex Restoration	Up to 34 acres	Up to 34 acres	Up to 34 acres
10: Nontidal Marsh Restoration	Up to 832 acres	Up to 1,307 acres	Up to 826 acres
11: Natural Communities Enhancement & Management	At sites protected or restored under Environmental Commitments 3-10	At sites protected or restored under Environmental Commitments 3-10	At sites protected or restored under Environmental Commitments 3-10
12: Methylmercury Management	At sites restored under Environmental Commitment 4	At sites restored under Environmental Commitment 4	At sites restored under Environmental Commitment 4
15: Localized Reduction of Predatory Fishes	At north Delta intakes and at Clifton Court Forebay	At north Delta intakes and at Clifton Court Forebay	At north Delta intakes and at Clifton Court Forebay
16: Nonphysical Fish Barrier	At Georgianna Slough	At Georgianna Slough	At Georgianna Slough

ES.2.3 Other RDEIR/SDEIS Alternatives

Under Alternatives 2D and 5A, water conveyance facilities would be constructed and maintained similarly to those proposed and analyzed under Alternative 4 and 4A. However, Alternative 2D would entail five intakes in the same locations as those under Alternative 2A (as shown in Figure 30-2 of the Draft EIR/EIS), rather than three. As proposed for Alternative 4, a new pumping facility would be constructed northeast of the north cell of the expanded Clifton Court Forebay, along with control structures to regulate the relative quantities of water flowing from the north Delta and the south Delta to the Banks and Jones Pumping Plants. All alternatives would entail the continued use of the SWP/CVP south Delta export facilities.

Alternative 5D would include one intake rather than three. Construction of a single intake site (Intake 2) would preclude the need for ancillary facilities and features associated with Intakes 3 and

5. Alternative 5A would not require construction of a single-bore tunnel between Intake 5 and the intermediate forebay. An operable barrier would not be constructed at the head of Old River.

Operational components of the water conveyance facilities under Alternative 2D would be similar, but not identical, to those described under Scenario B in Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS. Operational elements associated with Fremont Weir modifications would not be incorporated, because Yolo Bypass improvements previously contemplated for Alternative 2A would not be implemented as part of Alternative 2D; instead, they would be assumed to occur as part of the No Action Alternative because they are required by the existing BiOps.

Implementation of Alternative 2D would include operations of both new and existing water conveyance facilities once the new north Delta facilities are completed and become operational, thereby enabling joint management of north and south Delta diversions. Operations included in this alternative for south Delta export facilities would replace the south Delta operations currently implemented in compliance with the FWS (2008) and NMFS (2009) BiOps. The north Delta intakes and the HORB would be new facilities for the SWP and CVP. Compliance with all other criteria included in the FWS (2008) and NMFS (2009) BiOps and D-1641, including Fall X2, the E:I ratio, and operations of the Delta Cross Channel gates and the Suisun Marsh Salinity Control Gates, will continue as part of the continued operations of the CVP and SWP. When compared to operations under the No Action Alternative, Alternative 2D includes modified or new operations and criteria of only the following elements.

- North Delta intake facilities.
- South Delta export operations.
- HORB operations.
- Rio Vista minimum flow standard in January through August.

Alternative 2D operations include a preference for south Delta pumping in July through September to provide limited flushing for improving general water quality conditions and reduced residence times.

Operational components of the water conveyance facilities under Alternative 5A would be similar, but not identical, to those described under Scenario C in Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS. Operational elements associated with Fremont Weir modifications would not be incorporated as part of this alternative, because Yolo Bypass improvements previously contemplated for Alternative 5 (under CM2) would not be implemented as part of Alternative 5A; instead, they would be assumed to occur as part of the No Action Alternative because they are required by the existing BiOps.

Implementation of Alternative 5A would include operations of both new and existing water conveyance facilities once the new north Delta facilities are completed and become operational, thereby enabling joint management of north and south Delta diversions. The north Delta intake would be a new facility for the SWP. Compliance with all other criteria included in the FWS (2008) and NMFS (2009) BiOps and D-1641, including Fall X2, the E:I ratio, and operations of the Delta Cross Channel gates and the Suisun Marsh Salinity Control Gates, will continue as part of the operation of the CVP and SWP. When compared with operations under the No Action Alternative, Alternative 5A includes modified or new operations and criteria of only the following elements.

- North Delta intake facilities.

- Rio Vista minimum flow standard in January through August.

Alternative 5A operations include a preference for south Delta pumping in July through September to provide limited flushing for improving general water quality conditions and reduced residence times.

As discussed in Section ES 2.1, *Alternative 4*, portions of the actions previously contemplated under CM3, CM4, CM6, CM7, CM8, CM9, CM10, CM11, CM12, CM15, and CM16 would be included in Alternatives 2D and 5A, but at different levels. See Table ES.2.2-2, *Comparison of Environmental Commitments under Alternatives 4A, 2D, and 5A*, above, for a comparison of the implementation of Environmental Commitments.

Table ES.2.3-1 below, provides an overview of the alternatives analyzed in the RDEIR/SDEIS. The complete descriptions of these alternatives is provided in Section 3, *Alternative 4: Conveyance Facility Modifications* and Section 4, *New Alternatives: Alternatives 4A, 2D, and 5A* of this RDEIR/SDEIS.

Table ES.2.3-1. Comparison of Alternative 4, 2D, 4A, 5A

Alternative	Alignment Option	Conveyance Type	Intake Locations	North Delta Diversion Capacity	Operational Scenario	Federal ESA and CESA Compliance Approach
4	Pipeline/ Tunnel	Dual	2, 3, and 5	9,000 cfs	H	Section 10/ NCCP
2D	Pipeline/ Tunnel	Dual	1 through 5	15,000 cfs	B	Section 7/ 2081(b) permit
4A*	Pipeline/ Tunnel	Dual	2, 3, and 5	9,000 cfs	H3+** (See Table ES.2.2-1)	Section 7/ 2081(b) permit
5A	Pipeline/ Tunnel	Dual	2	3,000 cfs	C	Section 7/ 2081(b) permit

* Alternative 4A is the CEQA and NEPA preferred project proposed by State and Federal Lead Agencies.

** Operational Scenario H for Alternative 4A would not include the operation of the Fremont Weir modification associated with Yolo Bypass improvements because those activities would not be implemented as part of Alternative 4A. Starting operations would be determined through the Section 7 and 2081(b) permit processes and an adaptive management and monitoring program would guide future operational limits and criteria.

ES.3 Summary of Substantive Revisions

The following sections provide a brief overview of the substantives changes and conclusions provided in the RDEIR/SDEIS.

ES.3.1 Improved Fish and Aquatic Habitat Analyses

Section 2.1, *Improved Fish and Aquatic Habitat Analyses*, summarizes revisions made to Chapter 11, Fish and Aquatic Resources, since the release of the Draft EIR/EIS. Revisions were made to address design changes associated with the proposed project, incorporate the latest engineering assumptions and modeling procedures, and to respond to comments raised by the public.

ES.3.1.1 Summary of Changes

ES.3.1.1.1 New Data and/or Modeling

- Effects of construction impacts are reassessed to account for changes in the proposed construction approach.
- Potential North Delta Diversion entrainment effects on striped bass and American shad eggs and larvae are revised.
- Analysis to assess the consequences on downstream aquatic habitat was conducted.
- Selenium and mercury analysis and potential effects on aquatic resources are revised.
- Updated water quality data is integrated into selenium quantitative modeling for water and fish tissue.

ES.3.1.1.2 New/Revised Assumptions

- Assessed and revised assumptions related to installation of piles needed for conveyance facility construction.
- Updated reservoir carryover storage for the Existing Conditions baseline.
- Updated assumptions for sea level rise, restoration sediment demand, and effects of the creation of new points of diversion.

ES.3.1.1.3 Summary of Analyses and Results

Draft EIR/EIS Chapter 11, *Aquatic Resources*, provided substantial information about the potential effects of the alternatives on fish and their habitats in the Plan Area and in upstream areas used by the evaluated species. Since release of the Draft EIR/EIS, the chapter has been revised to address design changes associated with the proposed project, to incorporate the latest engineering assumptions and modeling procedures, and to respond to comments raised by the public. Several comments requested elaboration on the methods used to arrive at CEQA conclusions and NEPA effects determinations and on the effects of contaminants. Additionally, commenters requested analyses of the effects on downstream bays (i.e., San Francisco Bay), and that all analyses include a NEPA conclusion. Since release of the Draft EIR/EIS, additional information has been developed pertaining to the following: the use of RTM for restoration efforts; the construction effects of the modification to Clifton Court Forebay; and the construction of an operable barrier at Head of Old River. This section briefly describes the revisions and their effects on the impact analysis.

Revisions to Impacts in Alternatives Included in the Draft EIR/EIS

The following describes the changes in impact conclusions for alternatives included the Draft EIR/EIS based on new information, comments received, and the application of a consistent methodology across alternatives, as shown in Section 11.3.6 of Appendix A of the RDEIR/SDEIS. The same approach was used to determine effects of Alternatives 4A, 2D, and 5A, and the conclusions for those alternatives are shown in Table ES-9, Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures.

- Effects were changed from less-than-significant level (CEQA)/No Determination (NEPA) to less-than-significant level (CEQA)/not adverse (NEPA) for:

- Effects of water operations on rearing habitat (AQUA-5) and migration conditions for delta smelt (AQUA-6) for Alternatives 2A, 2B, 2C, 4, 5, 6A, 6B, 6C, 7, 8, and 9.
- Effects of water operations on spawning, egg incubation, and rearing habitat for longfin smelt (AQUA-22) for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9.
- Effects of contaminants associated with restoration measures on longfin smelt (AQUA-26) for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, and 9.
- Effects of water operations on spawning and egg incubation habitat for Chinook salmon (winter-run ESU) (AQUA-40) for Alternatives 4 and 7.
- Effects of water operations on migration conditions for Chinook salmon (winter-run ESU) (AQUA-42) for Alternatives 4, 5, and 7.
- Effects of water operations on spawning and egg incubation habitat for Chinook salmon (spring-run ESU) (AQUA-58) for Alternatives 2A, 4, 5, and 7.
- Effects of water operations on migration conditions for Chinook salmon (spring-run ESU) (AQUA-60) for Alternatives 3, 4, 5, and 7.
- Effects of water operations on migration conditions for Chinook salmon (fall-/late fall–run ESU) (AQUA-78) for Alternative 7.
- Effects of water operations on migration conditions for steelhead (AQUA-96) for Alternatives 3, 4, 5, and 7.
- Effects of water operations on migration conditions for white sturgeon (AQUA-132) for Alternative 4, 5, 6A, 9.
- Effects of water operations on migration conditions for white sturgeon (AQUA-150) for Alternative 1A, 2A, 3, 4, 5, 6A, 7, and 9.

- Effects were changed from less-than-significant level (CEQA)/No Determination (NEPA) to significant and unavoidable with mitigation (CEQA)/adverse (NEPA) for:
  - Effects of water operations on spawning and egg incubation habitat for Chinook salmon (winter-run ESU) (AQUA-40) for Alternative 3.
  - Effects of water operations on migration conditions for Chinook salmon (fall-/late fall–run ESU) (AQUA-78) for Alternative 4.
- Effects were changed from significant and unavoidable with mitigation (CEQA)/adverse (NEPA) to less than significant (CEQA)/not adverse (NEPA) for:
  - Effects of water operations on rearing conditions for Chinook salmon (winter–run ESU) (AQUA-41) for Alternative 2A and 5.
  - Effects of water operations on migration conditions for Chinook salmon (fall-/late fall–run ESU) (AQUA-78) for Alternative 5.
  - Effects of water operations on migration conditions for green sturgeon (AQUA-132) for Alternative 2A and 7.
- Effects were changed from less-than-significant level (CEQA)/no determination/not adverse (NEPA) with no mitigation to less-than-significant level (CEQA)/not adverse (NEPA) for effects

of contaminants associated with restoration (AQUA-8) for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, and 9.

- Effects of contaminants associated with restoration measures on steelhead (AQUA-98) were changed from less than significant/beneficial (CEQA)/beneficial (NEPA) to less than significant (CEQA)/not adverse (NEPA) for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9.
- Effects of contaminants associated with restoration measures on green sturgeon (AQUA-134) changed from less than significant/beneficial (CEQA)/beneficial (NEPA) for Alternatives1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 6A, 6B, 6C, 8, and 9 to less than significant/not adverse.
- Effects of contaminants associated with restoration measures on river lamprey (AQUA-188) were changed from less than significant/beneficial (CEQA)/not adverse/beneficial (NEPA) for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9 to less than significant/not adverse.
- Effects of water operations on entrainment of non-covered aquatic species of primary management concern (AQUA-201) were changed from less than significant (CEQA)/not adverse (NEPA) for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6B, 6C, 7, 8, and 9 (with the exception of no impact/no effect for California bay shrimp, and beneficial for Alternative 9 for largemouth bass), and less than significant/not adverse for 6A (with exception of beneficial for largemouth bass and no impact/no effect for California bay shrimp), to significant and unavoidable (CEQA)/ adverse (NEPA) for striped bass and American shad under all alternatives (except less than significant/not adverse for Alternative 9) and less than significant (CEQA)/not adverse (NEPA) for the other non-covered fishes under all alternatives
- Effects of water operations on spawning and egg incubation habitat for non-covered aquatic species of primary management concern (AQUA-202) changed from a range of no impact and less than significant/not adverse to less than significant/not adverse, depending on the species.
- Effects of water operations on rearing habitat for non-covered aquatic species of primary management concern (AQUA-203) were changed from a range (depending on the species) of less than significant and significant and unavoidable (CEQA)/not adverse (NEPA) to less than significant/not adverse.

Major Results of Updates to the Fish and Aquatic Habitats Analysis

The following is a summary of the revisions made to Chapter 11, *Fish and Aquatic Resources* in the Draft EIR/EIS. The same approach was used in analyzing new Alternatives 4A, 2D, and 5A presented in this RDEIR/SDEIS.

- The methods section is updated to better explain the rationale and process applied to development of CEQA conclusions and NEPA effects determinations.
- A description of the potential changes in sediment loading as a result of the creation of new points of diversion under Alternatives 1A through 8 is included.
- An analysis of changes in sediment loading to the Bay for all of the alternatives, with specificity to operations-related effects and restoration-related effects, is included.
- The analysis of selenium and mercury has been revised in three locations: revisions to Conservation Measure 12 Methylmercury Management and Avoidance and Minimization Measure 27 Selenium Management (see Appendix D); revisions to the CM4 tidal habitat

contaminants analysis; and a new impact to specifically address effects of contaminants on fish as a result of change in operations (See Chapter 11, Impact AQUA-219 in Appendix A).

- New impacts were created to analyze impacts to fish and aquatic habitat under the No Action Alternative (Impacts AQUA-NAA1-16).
- AMM27 is expanded, with specific requirements included to reduce the potential for bioaccumulation in covered fish species.
- Better understanding and articulation of the potential for selenium and mercury effects on fish as a result of both operations and restoration actions proposed under the alternatives has allowed a more certain determination for contaminants effects under NEPA, which have been determined to be not adverse across all alternatives.
- The effects of underwater noise caused by pile driving were reassessed to account for changes in the proposed construction approach.
- Reanalysis to assess the potential for entrainment of noncovered species of primary management concern because for some (striped bass, American shad) most of their spawning could occur upstream of the proposed north Delta intake locations, and the early life stages (eggs/larvae) would be susceptible to entrainment.

ES.3.2 Water Quality Revisions

Water quality constituent sections in Chapter 8, *Water Quality* of the Draft EIR/EIS that received the most updating were electrical conductivity, chloride, selenium, and bromide. Additionally, assessments of effects on *Microcystis* and constituents downstream of the Plan Area in San Francisco Bay were added. Several other modifications and additions were made to the assessments of mercury, nutrients, trace metals, and dissolved oxygen.

Additionally, three new alternatives, Alternative 4A, 2D, and 5A, were evaluated for effects on water quality from construction and operation of the water conveyance facility (CM1) and for other environmental commitments (CM 3, 4, 6, 7, 9–12, 15, and 16). The alternatives evaluated in Chapter 8 contain many similarities to each other from a water quality perspective, and thus are often grouped together in the following discussion. The three new alternatives are also very similar to each other, but from a water quality perspective, are fundamentally different than the alternatives evaluated in Chapter 8, in that they contain substantially less tidal restoration acreage. Although this section is focused on describing changes made in Chapter 8 from the Draft EIR/EIS, differences between the alternatives assessed in Chapter 8 and the three new alternatives are highlighted where appropriate.

Section 2.2, *Water Quality Revisions*, of this RDEIR/SDEIS describes additional analyses undertaken to more accurately characterize the potential for exceedances of water quality standards and summarizes associated

ES.3.2.1 Summary of Changes

ES.3.2.1.1 New Data and/or Modeling

- New modeling and sensitivity analyses were conducted to evaluate the impacts to electrical conductivity (EC) from:

- Changing the existing Emmaton compliance location to a new location at Threemile Slough.
- Monthly-daily patterning at the Delta boundary locations.
- Including operation of the Suisun Marsh Salinity Control Gates consistent with the assumptions in the No Action Alternative.
- Removing tidal restoration areas (as a means of understanding the contribution of restoration versus CM1 to exceedances of EC objectives).
- Revising Head of Old River Barrier operations during April and May.

- Chloride modeling results were updated:
  - New calculation of exceedances of the 150 mg/L chloride objective were prepared based on calendar years 1976–1990 of the original modeled results (i.e., 15 years instead of 16), because the objective applies on a calendar year basis.
- New calculations were prepared of objective exceedances based on the water year type at the modeled time step (e.g., LLT) rather than the water year type defined for Existing Conditions.
- Selenium modeling was updated to include:
  - Updated source water concentration data.
  - Updated bioaccumulation modeling methodology for bass in the Delta.
  - Expanded discussion of residence time in the Delta and its effect on selenium bioaccumulation in the Delta.
- New modeling for sensitivity analyses was conducted to evaluate what factors were causing or contributing to bromide increases in Barker Slough.
- Water column and fish tissue methylmercury modeling was conducted under Alternative 8 and was corrected to be based on proper source water concentration data.
- A new assessment of *Microcystis aeruginosa* was prepared.
- New assessment of water quality effects in San Francisco Bay was included.
- Updated dissolved oxygen assessment was prepared to include an evaluation of the effects from changes in San Joaquin River flows.

ES.3.2.1.2 New/Revised Assumptions

- The EC compliance location is now at Emmaton instead of Threemile Slough for Alternative 4; Emmaton also is the compliance location for Alternatives 4A, 2D, and 5A.
- The project description now assumes continued operation of the Suisun Marsh Salinity Control Gates for all project alternatives, consistent with assumptions included in the No Action Alternative.

ES.3.2.1.3 New/Revised Criteria or Thresholds

- Updated numeric thresholds were used in the selenium assessment to EPA's draft water quality criteria for the protection of freshwater aquatic life from toxic effects of selenium released in May 2014. The draft criteria include tissue-based concentrations, which are most closely

associated with reproductive effects, and water concentrations, which are to be used when fish tissue data is not available.

ES.3.2.2 Summary of Analyses and Results

The following summarizes the results of the above described revisions on the water quality impact analysis.

EC and Chloride

- With the change in the EC compliance point from Threemile Slough to Emmaton, Alternative 4 no longer shows a significant impact with respect to EC objective exceedance at Emmaton, while all other alternatives still show significant impacts. The three new alternatives assessed (4A, 2D, and 5A) also maintain the existing compliance point at Emmaton and, thus, also do not show significant impacts due to EC objective exceedance at Emmaton.
- Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, and 9 no longer show significant impacts with respect to EC objective exceedance at San Andreas Landing. The new Alternatives, 4A, 2D, and 5A also show no significant impacts with respect to EC objective exceedance at San Andreas Landing.
- Based on the sensitivity analyses, optimizing the design and siting of restoration areas is expected to be able to reduce EC and chloride increases in Suisun Marsh, relative to Existing Conditions and the No Action Alternative, to levels that would be less than significant.
- Revising the assessment of the 150 mg/L chloride objective to properly calculate exceedances on a calendar year basis resulted in fewer exceedances of the objective under the project alternatives assessed in the Draft EIR/EIS (1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9) than previously indicated. The specific number of exceedances predicted under the revised approach varied by alternative, and for some alternatives remained a significant impact. The new Alternatives 4A, 2D, and 5A, did not result in any exceedances of this objective, likely in part due to the lower acreage of tidal restoration included in these alternatives.
- Revising the electrical conductivity assessment to correctly apply the water quality objective based on the modeled time step (i.e., LLT) hydrology and water year type, rather than the Existing Conditions water year type, resulted in the modeled percent of days out of compliance increasing by 0–5% for both the No Action Alternative and project alternatives, depending on the alternative and water quality objective evaluated. However, these changes did not alter any of the related impact conclusions.
- All alternatives assessed in the Draft EIR/EIS (1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9) remained significant and unavoidable for chloride and EC, but based on the sensitivity analyses and revisions identified above, the magnitude of the impacts is substantially less than was indicated in the Draft EIR/EIS.
- Alternatives 4A, 2D, and 5A would not result in significant impacts for EC related to objective exceedance in the Sacramento River at Emmaton, would not result in substantial degradation in the western Delta due to increased chloride concentrations, would have less adverse water quality effects in the western Delta related to EC, and would have fewer exceedances of the fish and wildlife EC objective between Prisoners Point and Jersey Point, such that it is feasible to introduce mitigation that would prevent significant impacts related to EC increases. After introduction of these mitigation measures, Alternatives 4A, 2D, and 5A would result in less than

significant impacts for EC. Alternatives 4A, 2D, and 5A would also result in less than significant impacts for chloride.

Selenium

- Results of updated selenium modeling showed that there would generally be a greater increase from Existing Conditions and No Action Alternative concentrations to the concentrations under the alternatives than previously predicted (i.e., the relative effect of the project alternatives was greater). However, the absolute values of all of the estimated concentrations for Existing Conditions, the No Action Alternative, and all project alternatives were lower than modeled in the Draft EIR/EIS, and thus were lower relative to thresholds of concern and water quality criteria used in the assessment.
- The result of updates to bioaccumulation modeling for selenium is that predicted bass tissue concentrations in the Delta are more consistent across location and alternative than was determined in the Draft EIR/EIS. This update could not be made for sturgeon bioaccumulation modeling because there was insufficient monitoring data to calibrate the model for such a change.
- The changes discussed above did not result in any changes to the selenium impact conclusions in the Draft EIR/EIS.

Bromide

- The cause of the modeled increases in bromide in Barker Slough, which was driving the impact conclusion for almost all alternatives, is due to the assumptions regarding tidal habitat restoration not due to conveyance facility operations. Thus, the mitigation measure was revised to more appropriately address actions that could lessen the projected impact, based on these findings.
- Because new alternatives 4A, 2D, and 5A contain a lower acreage of tidal restoration, significant impacts with regard to bromide are not expected under these alternatives.

Mercury

- Revisions and updates to mercury modeling results made for Alternative 8 lowered the concentrations predicted under Alternative 8, but did not change the assessment conclusions.
- Implementation of restoration under the Environmental Commitments would result in significant and unavoidable impacts with regard to mercury concentrations under Alternatives 4A, 2D, and 5A; however, these effects would be localized in the vicinity of restoration areas and the magnitude of effect would be less than other alternatives because the amount of restoration proposed under the new alternatives would be substantially less than other proposed alternatives.

Microcystis

- Because of the combined effects of increased temperatures due to climate change (not related to the project alternatives) and increased residence times in the Delta (due primarily to the effects of the conveyance facility and tidal restoration), effects of project alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9 on *Microcystis* were considered adverse (under NEPA) and significant and unavoidable (under CEQA). Mitigation measure WQ-32 was created to attempt to lessen the effects of the alternatives on Microcystis.

- Because new alternatives 4A, 2D, and 5A contain a lower acreage of tidal restoration, residence times related to implementation of the alternative are not expected to increase as substantially, and thus significant impacts with regard to *Microcystis* are not expected under these alternatives, relative to Existing Conditions and the No Action Alternative.

San Francisco Bay

- These assessment of seaward effects of the project alternatives did not identify any new adverse or significant impacts or any substantial increase in the severity of previously identified impacts, except in the case of selenium. For Alternatives 6–9, projected increases in selenium loading and concentrations in North San Francisco Bay were considered adverse (under NEPA) and significant and unavoidable (under CEQA), while Alternatives 1–5 were considered not adverse and less than significant.

Dissolved Oxygen

Analysis of flows in the San Joaquin River at Stockton showed that in most cases flows decreased by a small amount and, thus, would not be expected to substantially move the location of minimum DO in the river.

ES.3.3 Air Quality, Health Risk Assessment, Traffic and Noise Revisions

Section 2.3, *Air Quality, Health Risk Assessment, Transportation, Noise, and Energy Revisions*, presents updated calculations based on improved construction assumptions and revises the impact assessment to reflect the amended construction data. The following summarizes the changes that can be found in Section 2.3 and Appendix A of the RDEIR/SDEIS.

ES.3.3.1 Summary of Changes

ES.3.3.1.1 New Data and/or Modeling

- Revised mobile, marine and helicopter source emissions, modeling based on updated guidance documents and new models, including the California Air Resources Board (ARB) model, EMFAC2014.
- Updated concrete batching modeling based on CO_2 emission factors for anticipated compression strength values.
- Included fugitive reactive organic emissions from asphalt paving.
- Modeled receptor exposure to localized PM2.5 and PM10 concentrations.
- Estimated gasoline and diesel consumption by equipment and vehicles.

ES.3.3.1.2 New/Revised Assumptions

- Updated 2014 economic assessment ("cost estimate"), including revised truck trip, scheduling, material quantity, and equipment operating assumptions.
- Revised activity scaling factors for the PTO, East, West, and SCO alternatives.
- Updated construction electricity demand based on changes to project design.

- Refined environmental commitments that establish aggressive performance standards equipment, vehicles, and material movement activities.
- Revised O&M assumptions based on changes to project design.
- Revised cancer risk calculation daily breath rates and faction at home assumptions per Office of Environmental Health Hazard guidance.

ES.3.3.1.3 New/Revised Criteria or Thresholds

- Air district thresholds for localized PM2.5 and PM10 exposure.

ES.3.3.2 Summary of Analyses and Results

- Revised air quality, health risk, noise, and traffic analysis based on updated construction assumptions outlined in the 2014 cost estimate from 5RMK Inc.
- Revised air quality and Health Risk Assessment (HRA) impact analysis based on updated performance standards outlined in the Construction Equipment Exhaust Reduction Plan.
- Incorporated new air quality models and emission factors released since the Public Draft EIR/EIS.
- Revised operational emissions based on the latest understanding of project operations.
- Expanded the analysis of odor impacts to consider excavated organic matter and land use change.
- Included the General Conformity determination under the Clean Air Act.
- Added explicit identification and disclosure of health risks from receptor exposure to localized particulate matter, localized carbon monoxide, localized diesel particulate matter, and *C. immitis* (Valley Fever).
- Revised cancer risk calculations to account for the fraction of time spent at home and daily breath rates by age groups, per OEHHA 2015 guidance.
- Incorporated an estimate of diesel and gasoline consumption into the energy impact analysis.

ES.3.4 Terrestrial Resources Revisions

The analysis for Alternative 4 in Chapter 12, *Terrestrial Biological Resources*, of the Draft EIR/EIS was revised to account for changes in the magnitude of direct impacts on natural communities and species habitat associated with the footprint of the revised water conveyance facilities, including the revised power line alignment and assumptions. In addition, analyses for the three new sub-alternatives (Alternatives 4A, 2D, and 5A) were conducted. The following summarizes the changes that can be found in Chapter 12, *Terrestrial Biological Resources*, Section 12.3.3.9 of Appendix A of the RDEIR/SDEIS and the new analyses can be found in Section 4 of the RDEIR/SDEIS.

ES.3.4.1 Summary of Changes

ES.3.4.1.1 New Data and/or Modeling

- Updated method for mapping and quantifying wetlands and waters of the United States.
- Updated term of Avoidance and Minimization Measures (AMM) implementation.
- Updated AMM2 Construction Best Management Practices, AMM6 Disposal and Reuse of Spoils, Reusable Tunnel Material, and Dredged Material, AMM11 Covered Plant Species, AMM18 Swainson's Hawk and White-Tailed Kite, AMM19 California Clapper Rail and California Black Rail, AMM20 Greater Sandhill Crane, AMM26 Salt Marsh Harvest Mouse and Suisun Shrew, and AMM27 Selenium Management.
- Updated acreage impacts of Alternative 4.
- Updated impacted acres of tidal perennial aquatic natural community, tidal freshwater emergent wetland natural community, valley/foothill riparian natural community, nontidal perennial aquatic natural community, nontidal freshwater perennial emergent wetland natural community, alkali seasonal wetland complex natural community aquatic habitat, vernal pool complex natural community, managed wetland, grassland natural community, vernal pool crustacean modeled habitat, modeled valley elderberry longhorn beetle habitat, vernal pool habitat, and nonlisted vernal pool invertebrate habitat in the study area.
- Updated impacted acres of the California red-legged frog, California tiger salamander, giant garter snake, western pond turtle, special-status reptiles, California black rail, California least tern, greater sandhill crane, lesser sandhill crane, least Bell's vireo, yellow warbler, Swainson's hawk, tricolored blackbird, western yellow-billed cuckoo, white-tailed kite, yellow-breasted chat, Cooper's hawk and osprey, golden eagle and ferruginous hawk, double-crested cormorant, great blue heron, great egret, snowy egret, black-crowned night heron, short-eared owl, northern harrier, mountain plover, California horned lark, grasshopper sparrow, least bittern, white-faced ibis, loggerhead shrike, Modesto song sparrow, yellow-headed blackbird, riparian brush rabbit, San Joaquin kit fox, San Joaquin pocket mouse, special-status bats, grassland plant species, valley/foothill riparian plant species, tidal wetland plant species, and nontidal wetland plant species.
- Updated methylmercury exposure impact discussion for California black rail, California clapper rail, California least tern, greater sandhill crane, lesser sandhill crane, Suisun song sparrow, saltmarsh common yellowthroat, tricolored blackbird, double-crested cormorant, great blue heron, great egret, snowy egret, black-crowned night heron, least bittern, white-faced ibis, and yellow-headed blackbird.
- Updated acres of fill of jurisdictional wetlands waters associated with all alternatives.
- Updated acres of potentially jurisdictional wetlands and waters potentially affected by CM2-CM10 under Alternative 4.
- Revised California least tern indirect effect CEQA conclusion to less-than-significant.
- Updated acres of fill of jurisdictional wetlands associated with all alternatives.
- Updated acres of potentially jurisdictional wetlands and waters potentially affected by CM2–CM10 under Alternative 4.

ES.3.4.2 Summary of Analyses and Results

The terrestrial resources analysis for Alternative 4 was revised to reflect impacts that changed due to a revised project footprint for Alternative 4. Affected species and habitats were updated with the number of impacted acres of habitat and the impact discussion was revised accordingly (see Appendix 12E *Detailed Accounting of Direct Effects of Alternatives on Natural Communities and Covered Species* in Appendix A of this RDEIR/SEIS). Species with habitats that include high tidal marshes are at risk for methylmercury exposure. Modeled methylmercury effects on largemouth bass (used as a surrogate species for analysis) did not differ substantially from existing conditions. Restoration actions that would create high and low tidal marsh, which is Black Rail habitat, could provide biogeochemical conditions for methylation of mercury in the in the newly inundated soils. There is potential for increased exposure of the foodwebs to methylmercury in these areas, with the level of exposure dependent on the amounts of mercury available in the soils and the biogeochemical conditions. Methylmercury effects discussions were updated and CM12 was expanded for each species to address methylmercury effects. NEPA effects and CEQA conclusions for Alternative 4 terrestrial resources in the RDEIR/SDEIS remained generally consistent with the Draft EIR/EIS.

The RDEIR/SDEIS also includes analyses of the new sub-alternatives (Alternatives 4A, 2D, and 5A). These analyses can be found in Sections 4.3.8 (Alternative 4A), 4.4.8 (Alternative 2D), and 4.5.8 (Alternative 5A) of this RDEIR/SEIS. Tidal restoration under these alternatives would be substantially less than under the BDCP and thus the impacts to terrestrial resources from tidal restoration would be considerably less. However, the benefits of the large amount of tidal restoration, as well as other large amounts of other natural community restoration under the BDCP, would not occur under Alternatives 4A, 2D, and 5A, which is reflected in the NEPA effects and CEQA conclusions for several natural communities that went from being beneficial under the BDCP Alternatives to less-than-significant under Alternatives 4A, 2D, and 5A. The NEPA effects and CEQA conclusions for the other terrestrial resources are also different than those of the BDCP alternatives and, where different, change from being not adverse/less-than-significant to no effect/no impact.

A summary of some of the key revisions found in the RDEIR/SEIS compared to the Draft EIR/EIS are presented below.

- Inclusion of NEPA effects determinations for Impact BIO-69 Loss or Conversion of Habitat for and Direct Mortality of Greater Sandhill Crane and BIO-70 Effects on Greater Sandhill Crane Associated with Electrical Transmission Facilities under all alternatives.
- Updated NEPA effects determinations for indirect effects from methylmercury for several species under Alternative 4.
- Revised Mitigation Measure BIO-147: Monitor Bank Swallow Colonies and Evaluate Winter and Spring Flows Upstream of the Study Area.
- Revised Mitigation Measure BIO-162: Conduct Preconstruction Survey for American Badger.
- New Mitigation Measure BIO-176: Compensatory Mitigation for Fill of Waters of the U.S.

ES.3.5 Revised Project Descriptions and Enhanced Level of Detail (Alt 4)

Section 2.4, *Revised Project Description and Enhanced Level of Detail*, presents additional revisions that explain how, for the purposes of CEQA and NEPA, project-level detail is included for water conveyance facilities and provides additional information about early implementation actions, including examples of habitat restoration and enhancement activities.

ES.3.5.1 Summary of Analyses and Results

The RDEIR/SDEIS includes a number of revisions to the project description and an enhanced level of detail for Alternatives 4, 4A, 2D, and 5A. These include more explanation regarding the analysis of water conveyance facilities, updates to conservation measures and environmental commitments and their use to offset impacts related to the project, and more information on the role of the Bureau of Reclamation, as NEPA Lead Agency and other cooperating and responsible agencies.

Each component feature of the water conveyance facilities is analyzed at a resource-specific level. Following the release of the Draft EIR/EIS, DWR's Division of Engineering created a revised project footprint for Alternative 4. Some of the major changes include removing pumping plants from the north Delta and creating combined pumping plants on the north end of Clifton Court Forebay in the south Delta, which would allow water to flow by gravity through the conveyance facilities. The alignment was also revised to lessen impacts to wildlife on Staten Island.

Analyses of Alternatives 4 and 4A in the RDEIR/SDEIS reflect this new project footprint. Alternatives 2D and 5A reflect the alignment except for the number and location of intakes. Similar to Alternative 2, Alternative 2D also incorporates five intakes, but the rest of the alignment is identical to that of Alternative 4. Similar to Alternative 5, Alternative 5A incorporates only one intake, but the rest of the alignment is identical to that of Alternative 4. The impact analyses of these alternatives rely on GIS data from DWR that incorporates the recent revisions to the alignment of water conveyance features and associated lands required for construction.

The RDEIR/SDEIS reflects changes made to the conservation measures, environmental commitments, and AMMs for Alternative 4 and, where applicable, Alternatives 4A, 2D, and 5A. Many of the conservation measures from the Draft EIR/EIS became environmental commitments in the RDEIR/SDEIS for Alternatives 4A, 2D, and 5A. These revisions are made to ensure that the conservation measures (in Alternative 4), or environmental commitments in Alternatives 4A, 2D, and 5A, are described consistently where needed in the RDEIR/SDEIS and reflect additional detail that may have been developed since publication of the Draft BDCP, such as updated acreages for mitigation measures. A discussion of the conservation measures and AMMs that have been substantively changed and that would potentially affect the characterization of impacts can be found in Appendix D.

ES.3.6 Analysis of Geotechnical Investigations

Section 2.5, *Analysis of Geotechnical Investigations*, provides an explanation about the method for incorporating analyses of geotechnical investigations into the analysis of the water conveyance facilities construction.

ES.3.6.1 Summary of Analyses and Results

As described in Appendix 3B, *Environmental Commitments*, in Appendix A of this RDEIR/SDEIS, DWR will perform a series of geotechnical investigations along both the selected water conveyance alignment and at locations proposed for facilities or material borrow areas. The work to be performed will constitute a subsurface investigation program to provide information required to support the design and construction of the water conveyance facilities. Geotechnical investigations will be conducted to identify surface and subsurface conditions as necessary to complete design of the water conveyance facilities.

Following publication of the Draft EIR/EIS, DWR developed a Draft Geotechnical Exploration Plan (Phase 2) for the Alternative 4 conveyance alignment. The geotechnical investigation plan provides additional details regarding the rationale, investigation methods and locations, and criteria for obtaining subsurface soil information and laboratory test data (California Department of Water Resources 2014). The proposed exploration is designed as a two-part program (Phases 2a and 2b) to collect geotechnical data relevant to engineering issues associated with conveyance facility construction (as opposed to learning more about the environmental impacts of those facilities). The two-part program will allow refinement of the second part of the program to respond to findings from the first part.

Because this new information allows for a more detailed assessment of the potential environmental effects resulting from geotechnical investigations than that which appeared in Chapter 31 of the Draft EIR/EIS, the activities described in the geotechnical plan have been incorporated into the revised impact analysis for Alternative 4 and the analysis of Alternatives 4A, 2D, and 5A in this RDEIR/SDEIS (see Section 3, *Alternative 4: Conveyance Facility Modifications*, for a description of other revisions to facility design and Appendix A for revised Draft EIR/EIS text).

ES.3.7 Revisions to Cumulative Impact Analyses

ES.3.7.1 Summary of Analyses and Results

In response to comments raised by key stakeholders during the public comment period, and in light of changes that have occurred over time in project landscapes and the availability of new information since the 2009 release of the Notice of Preparation and the 2011 commencement of the extensive amounts of modeling undertaken for the Draft EIR/EIS, the cumulative analysis presented in the Draft EIR/EIS has been revised.

CEQA Guidelines Section 15130 requires the consideration of cumulative impacts within an EIR when a proposed project's incremental contribution to a larger universe of significant cumulative effects from multiple projects is itself "cumulatively considerable." "Cumulatively considerable" means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines, § 15065[a][3]). A similar requirement to examine cumulative impacts exists for NEPA documents, and is required by Council on Environmental Quality (CEQ) regulations (CEQ 1987). Section 5 of this RDEIR/SDEIS updates and revises the cumulative impacts analysis presented in the Draft EIR/EIS; it also adds a discussion of the cumulative impacts associated with Alternatives 4A, 2D, and 5A.

Section 5 breaks the cumulative analysis into two separate pieces which build upon each other. First, Section 5.2.1 examines concurrent project effects, considering potential additive effects of project components that are constructed during the same time period. Then, Section 5.2.2 describes the revisions to the cumulative analysis under each resource topic and the effects of these revisions on the cumulative impact analysis when considered in concert with the effects of the project effects described in Section 5.2.1. References have been made to specific sections of the chapters that have been revised. Analyses of the cumulative impacts for Alternatives 4A, 2D, and 5A are also included.

Table 5.2.1-1 in Section 5 of this RDEIR/SDEIS provides a summary of the potential interim implementation actions that could be implemented concurrently during the conveyance facility construction period as early implementation actions under CM2–CM11. The concurrent project analysis was included to ensure that the total combined impacts of the conveyance facility and other BDCP conservation measures (such as restoration actions scheduled to occur during conveyance facility construction) were fully evaluated in this RDEIR/SDEIS. Alternatives 4A, 2D, and 5A would not be expected to have the same magnitude of concurrent effects as other alternatives because habitat environmental commitments proposed under the new alternatives are limited to actions needed to offset effects of the conveyance facilities.

Proposed future projects that have since become more defined or developed since 2011 have been addressed in the revised cumulative impact analysis as appropriate in either a qualitative or quantitative fashion. The California Water Action Plan, California EcoRestore, and the Sustainable Groundwater Management Act are included in this list of interim implementation projects. For a complete list of such projects, consult Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative*, and *Cumulative Impact Conditions*, in Appendix A of the RDEIR/SDEIS.

ES.4 Mitigation and Adaptive Management

ES.4.1 Mitigation Measures, Avoidance and Minimization Measures, and Environmental Commitments

This RDEIR/SDEIS presents the impacts of the action alternatives and incorporates a variety of methods to reduce adverse/significant impacts on the physical and human environment whenever it is feasible to do so. The methods used to reduce impacts include: 1) modification of project designs and construction assumptions to avoid or reduce potential project impacts, 2) incorporation of environmental commitments, AMMs and CMs into action alternatives, 3)application of additional mitigation measures to reduce alternative effects, and 4) use of a collaborative science, monitoring and adaptive management approach to address uncertainties and adjust project implementation as needed to avoid or reduce impacts. The following provides a summary of these methods used to reduce or avoid environmental effects with references to the various locations in the RDEIR/SDEIS.

ES.4.1.1 Project Definition and Design of Project Elements

This RDEIR/SDEIS includes analyses that reflect modification of the conveyance facility designs for Alternative 4, and the additional sub-alternatives 4A, 2D, and 5A. Design revisions were made to improve the constructability of the proposed conveyance facilities, reduce impacts on sensitive species and resources, avoid and reduce effects on private property owners, and reduce

construction costs. Some of the ways in which environmental effects have been reduced with new facility designs include:

- Reducing visual and aesthetic resource and land use impacts related to north Delta diversion intake pumping plants near the Sacramento River by consolidating and relocating the plants to Clifton Court Forebay.
- Eliminating the realignment of SR 160 at the north Delta diversion intake sites to reduce wetland/riparian impacts and effects on the Stone Lakes National Wildlife Refuge.
- Moving tunnel launch shaft sites off of Staten Island to reduce effects on greater sandhill cranes and their habitat.
- Changing the location of permanent electric transmission lines to reduce potential effects on bird species and aesthetic and visual resources effects.
- Consolidating reusable tunnel material disposal sites to use more State owned property and reduce potential agricultural effects.
- Changing the tunnel alignment to terminate at the Northeast portion of Clifton Court Forebay on State owned property.

Additionally, the new sub-alternatives are also defined to reduce the land use changes and agricultural land conversion associated with natural community restoration and protections needed to offset conveyance facility effects. Please refer to Section 3, *Conveyance Facility Modifications to Alternative 4* and Section 4, *New Alternatives: Alternatives 4A, 2D, and 5A* for an overview of the conveyance facility construction design changes.

ES.4.1.2 Environmental Commitments, AMM's and Conservation Measures

This RDEIR/SDEIS also includes environmental commitments and AMMs that are Best Management Practices and other actions that have been incorporated into the action alternatives to avoid and reduce potential environmental impacts. CMs which are part of BDCP Alternatives 1A–9 (including the modified Alternative 4 presented in this RDEIR/SDEIS) are intended to offset the biological effects of the alternatives and establish a strategy to improve conditions for covered species. These commitments, AMMs and CMs are distinguished from mitigation measures in that they are commitments built into the definition of the action alternatives as compared to mitigation measures which are recommended to reduce adverse or significant environmental impacts. For the new sub-alternatives 4A, 2D, and 5A, environmental commitments are also included in the project definition to distinguish habitat and other project components that have been modified from conservation measures presented for BDCP Alternatives 1A–9 in the Draft EIR/EIS. All of the environmental commitments and summaries of the AMMs are presented in Appendix 3B, *Environmental Commitments, AMMs and CMs* in RDEIR/SDEIS Appendix A, along with a discussion of how the actions would be effective at reducing various environmental effects.

ES.4.1.3 Mitigation Measures

To meet the requirements of CEQA and NEPA, mitigation measures are recommended in this RDEIR/SDEIS to reduce significant or adverse impacts of the action alternatives to the extent possible. Mitigation measures are recommended when the project design, environmental commitments, AMMs and CMs are not sufficient to reduce impacts or when these project measures

are not relevant to a particular impact. In many cases mitigation measures are recommended to reduce the construction effects of conveyance facilities on resources located within the conveyance facility alignments. For example, impacts on agriculture, recreation, aesthetics and visual resources, and cultural resources that occur within conveyance facility alignments are identified as significant impacts for which mitigation measures are recommended to reduce the impacts. In other cases, mitigation measures are proposed to reduce impacts of the conveyance facilities on sensitive receptors or infrastructure such as in the case of air quality, noise, transportation and public services impacts. Although many of the operational effects of the conveyance facilities have been reduced by design of the facility operational criteria and rules, which reflect state and federal requirements of SWP/CVP operation, additional mitigation measures are included for some of the water quality and fish and aquatic resources impacts. In a number of cases significant impacts are identified for CEQA purposes that cannot be fully mitigated to a less-than-significant level. In all of these cases, mitigation measures are recommend to attempt to reduce the potential impact to the greatest extent possible.

Please refer to Table ES-9, Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures for a detailed summary of all of the impacts and mitigation measures included in the RDEIR/SDEIS. Full text of the mitigation measures are included by reference and presented in Appendix A and the Draft EIR/EIS.

ES.4.2 Collaborative Science and Adaptive Management Program

Considerable scientific uncertainty exists regarding the Delta ecosystem, including the effects of CVP and SWP operations and the related operational criteria. To address this uncertainty, DWR, Reclamation, CDFW, USFWS, NMFS, and the public water agencies will establish a robust program of collaborative science, monitoring, and adaptive management. For the purposes of analysis, it is assumed that the Adaptive Management and Monitoring Plan (AMMP) developed for Alternative 4A would not, by itself, create nor contribute to any new significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A.

Collaborative science and adaptive management will support the proposed project by helping to address scientific uncertainty where it exists, and as it relates to the benefits and impacts of the construction and operations of the new water conveyance facility and existing CVP and SWP facilities. Specifically, collaborative science and adaptive management will, as appropriate, develop and use new information and insight gained during the course of project construction and operation to inform and improve:

- the design of fish facilities including the intake fish screens;
- the operation of the water conveyance facilities under the Section 7 biological opinion and 2081(b) permit; and
- habitat restoration and other mitigation measures conducted under the biological opinions and 2081(b) permits.

In summary, the broad purposes of the program will be to: (1) undertake collaborative science, (2) guide the development and implementation of scientific investigations and monitoring for both

permit compliance and adaptive management, and (3) apply new information and insights to management decisions and actions. Each purpose is further described below.

Collaborative Science

The program will provide guidance and recommendations on relevant science related to the operations of the CVP and SWP within the Delta to inform implementation of the existing BiOps for the coordinated operations of the SWP and CVP and the 2081(b) permit for the SWP facilities and operations, as well as for the new biological opinion and 2081(b) for this proposed project. The collaborative science effort will build on the progress being made by the existing Collaborative Science and Adaptive Management Program (CSAMP) that was established to make recommendations on the science needed to inform implementation of or potential changes to the existing BiOps for the SWP and CVP operations, and proposed alternative management actions. The CSAMP process and its Collaborative Adaptive Management Team (CAMT) rely on the Delta Science Program to provide independent peer review of both science proposals and products.

Results from the collaborative science produced under the program would inform policy makers from the agencies implementing or overseeing the proposed project. These policy makers would determine whether and how to act on the information within the regulatory contexts of the biological opinions, 2081(b) permits, and other relevant authorizations (e.g., Corps permits, State Board authorizations).

Monitoring

Monitoring is a critical element of the adaptive management program and a required component of ESA Section 7 biological opinions and CESA 2081(b) permits. In addition, monitoring is a critical element of the collaborative science process that informs adaptive management decision-making. The proposed compliance and effectiveness monitoring program for the CESA 2081(b) permit is described in Chapter 6 of that permit application. These monitoring programs overlap but have distinct elements owing to their overlapping but distinct species lists.

Management Recommendations, Decisions, and Actions

The collaborative science effort is expected to inform operational decisions within the ranges established by the biological opinion and 2081(b) permit for the proposed project. However, if new science suggests that operational changes may be appropriate that fall outside of the operational ranges evaluated in the biological opinion and authorized by the 2081(b) permit, the appropriate agencies will determine whether those changes should be implemented. An analysis of the biological effects of any such changes will be conducted to determine if those effects fall within the range of effects analyzed and authorized under the biological opinion and 2081(b) permit. If NMFS, USFWS, or CDFW determine that impacts to listed species are greater than those analyzed and authorized under the biological opinion and 2081(b) permit, consultation may need to be reinitiated and/or the permittees may need to seek a 2081(b) permit amendment. Likewise, in the unlikely event analysis shows that impacts to water supply are greater than those analyzed in this EIR/EIS, it may be necessary to complete additional environmental review to comply with CEQA or NEPA.

The collaborative science process will also inform the design and construction of the fish screens on the new intakes. This requires active study to maximize water supply, ensure flexibility in their design and operation, and minimize effects to covered species. The collaborative science process

will similarly inform adaptive management of habitat restoration and other mitigation measures required by the existing and new biological opinion and 2081(b) permit.

Structure of Collaborative Science

The collaborative science elements of the program will build on the experience gained in the CSAMP process, Collaborative science for the proposed project is expected to follow a similar organizational model in which management decisions are made by the appropriate agencies within their authorities and collaborative science is undertaken by managers and scientists from participating entities, and other stakeholders as will be described in the Memorandum of Agreement (MOA) between DWR, Reclamation, the public water agencies, CDFW, NMFS, and USFWS. In keeping with the existing CSAMP model, future members of the collaborative science process will have expertise or technical skills that would enable them to contribute to the tasks outlined above. Membership from each group will be limited to maintain the effectiveness of the group. Other senior scientists may be invited to participate by mutual consent. If useful, the group could form technical subgroups or use existing subgroups to inform its work. Decisions about what science to pursue would be made by consensus. The group will integrate the work of relevant existing groups and processes (e.g., Delta Science Program and Interagency Ecological Program) to avoid duplicating work.

Funding for collaborative science and monitoring will be implemented, when feasible, using existing resources from state, federal, and other programs, and the mitigation program of the water conveyance facility. The mitigation program has money dedicated to the monitoring necessary to support effective implementation of mitigation actions. Proponents of the collaborative science and monitoring program will agree to provide or seek additional funding when existing resources are insufficient. The budget will be based on annual workplans. The proponents also will ensure the availability of funding for monitoring and the requirements defined in the biological opinion and 2081(b) permit.

Scientific Basis for Adaptive Management

Adaptive management is a systematic process to continually improve management policies and practices by learning from our actions (Holling 1978; Walters 1986). It requires well-articulated management objectives to guide decisions about what science to try, and explicit assumptions about expected outcomes to compare against actual outcomes (Williams et al. 2009). Adaptive management uses a process to clearly articulate objectives, identify management alternatives, predict management consequences, recognize key uncertainties in advance, and monitor and evaluate outcomes. This structured and systematic process is what differentiates adaptive management from a trial and error approach (National Research Council 2004a; Williams 2011a). Learning, facilitated through deliberate design and testing, is an integral component of adaptive management (Williams et al. 2009; Allen et al. 2011; Williams 2011a).

Adaptive management is a particularly useful framework in the face of scientific uncertainty. The principles of adaptive management lend themselves to water management and ecological restoration in the Bay-Delta (CALFED Bay-Delta Program 2000; Reed et al. 2007, 2010; Healey 2008; Dahm et al. 2009; National Research Council 2011; Parker et al. 2011, 2012; Delta Stewardship Council 2013). In particular, a National Research Council (2011) panel found that despite the challenges, there often is no better option for implementing water management regimes. The adaptive management program for the proposed project will be designed and implemented with these principals and scientific guidance in mind.

ES.5 Summary of Impacts

Table ES-9, Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures summarizes, by resource area, the environmental impacts of implementing Alternatives 4, 4A, 2D, and 5A. NEPA and CEQA impact conclusions are provided for all of the impacts presented in this RDEIR/SDEIS and mitigation measures are identified that if implemented would reduce impacts. The impact conclusions after mitigation measures are applied are also summarized.

Table ES-9. Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures

Notes:

1. These conclusions reflect implementation of Environmental Commitments 3, 4, 6–12, 15 and 16 (as described in Section 4.1 of the RDEIR/SDEIS), and Avoidance and Minimization Measures (described in detail in the Appendix 3C of the BDCP and in Appendix D of the RDEIR/SDEIS), which are considered a part of each action alternative. In some cases, mitigation measures proposed under one resource section (e.g., terrestrial biological resources) are also proposed to reduce effects on another resource topic (e.g., recreation). These mitigation measures are cross-referenced wherever they may reduce effects. Additional discussion of each effect and mitigation measure can be found under the referenced resource-specific chapter(s).
2. While many impact headers (see "Potential Impact" column) describe specific effects associated with BDCP action alternatives (e.g., the effects of implementing one or more conservation measures proposed as part of the BDCP), the conclusions provided for No Action Alternative (NAA) represent the anticipated effects on a resource as a result of future conditions in the absence of BDCP implementation. For the EIR/EIS analysis, the No Action Alternative assumptions are described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*.
3. The names of some of the numbered impacts have been slightly modified in the text to more accurately reflect the impacts resulting from implementing Alternatives 4A, 2D, or 5A. Although names of some of these impacts have been modified, the impact number sequence remains accurate as are the findings shown in this table. The impact names in the table reflect the same as what was shown in the DEIR/SEIS.
4. Impacts which refer to conservation measures (from the Draft EIR/S) correspond to identically numbered Environmental Commitments for Alternatives 4A, 2D, and 5A in the Recirculated Draft EIR/Supplemental EIS. (For more information, see Section 4.1 in the RDEIR/SDEIS.)

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Water Supply					
WS-1: Changes in SWP/CVP water deliveries during construction	NAA, 2D, 4, 4A, 5A	NI		NI	NE
WS-2: Change in SWP and CVP deliveries	NAA, 2D, 4, 4A, 5A	N/A[1]		N/A	N/A
WS-3: Effects of water transfers on water supply	NAA, 2D, 4, 4A, 5A	N/A[2]		N/A	N/A
Surface Water					
SW-1: Changes in SWP or CVP reservoir flood storage capacity	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
SW-2: Changes in Sacramento and San Joaquin River flood flows	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
SW-3: Change in reverse flow conditions in Old and Middle Rivers	NAA, 2D, 4, 4A, 5A	ND		ND	ND
SW-4: Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner that would result in flooding during construction of conveyance facilities	NAA, 2D, 4, 4A, 5A	S	SW-4: Implement measures to reduce runoff and sedimentation	LTS	NA
SW-5: Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner that would result in flooding during construction of habitat restoration area facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	SW-4: Implement measures to reduce runoff and sedimentation	LTS	NA

[1] Findings were not made for these due to the approach in this analysis.

[2] Findings were not made for these due to the approach in this analysis.

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
SW-6: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	SW-4: Implement measures to reduce runoff and sedimentation	LTS	NA
SW-7: Expose people or structures to a significant risk of loss, injury or death involving flooding due to the construction of new conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	SW-7: Implement Measures to Reduce Flood Damage	LTS	NA
SW-8: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding due to habitat restoration	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	SW-8: Implement measures to address potential wind fetch issues	LTS	NA
SW-9: Place within a 100-year flood hazard area structures which would impede or redirect flood flows, or be subject to inundation by mudflow	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	SW-4: Implement measures to reduce runoff and sedimentation	LTS	NA
Groundwater					
Changes in Central and South Delta flow	NAA (ELT)	NI		NI	NE
Changes in Delta Groundwater Levels[3]	NAA (ELT)	NI		NI	NE[4]
Changes in Delta Groundwater Quality[1]	NAA (ELT)	LTS		LTS	NA
Changes in Delta Agricultural Drainage[1]	NAA (ELT)	LTS		NI	NE
San Joaquin Basin Groundwater Levels[5]	NAA (ELT)	S		S	A
Tulare Basin Groundwater Levels[3]	NAA (ELT)	S		S	A
Tulare Basin Groundwater Flow[3]	NAA (ELT)	LTS		LTS	NA
San Joaquin and Tulare Basin Land Subsidence[3]	NAA (ELT)	LTS		LTS	NA
Other Portions of the Export Service Areas–Groundwater supplies, recharge, and local groundwater table levels	NAA (ELT)	S		S	A
Ongoing Plans, Policies, and Programs	NAA (ELT)	LTS		LTS	NA
GW-1: During construction, deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, or reduce the production capacity of preexisting nearby wells	2D, 4, 4A, 5A	S	GW-1: Maintain water supplies in areas affected by construction dewatering	SU	A
GW-2: During operations, deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, or reduce the production capacity of preexisting nearby wells	2D, 4, 4A, 5A	LTS		LTS	NA

[3] Includes effects of climate change and sea level rise at 2060 (2025 for REIR/S)
[4] Increased groundwater level due to sea level rise in San Francisco Bay may result in a beneficial effect on shallow well yields
[5] SWP/CVP Export Service Areas

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
GW-3: Degrade groundwater quality during construction and operation of conveyance facilities	2D, 4, 4A, 5A	LTS		LTS	NA
GW-4: During construction of conveyance facilities, interfere with agricultural drainage in the Delta	2D, 4, 4A, 5A	LTS		LTS	NA
GW-5: During operations of new facilities, interfere with agricultural drainage in the Delta	2D, 4, 4A, 5A	S	GW-5: Agricultural lands seepage minimization	SU	A
GW-6: Deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, reduce the production capacity of preexisting nearby wells, or interfere with agricultural drainage as a result of implementing CM2–CM22	2D, 4, 4A, 5A	S	GW-5: Agricultural lands seepage minimization	SU	A
GW-7: Degrade groundwater quality as a result of implementing CM2–CM22	2D, 4, 4A, 5A	S	GW-7: Provide an alternate source of water	SU	A
GW-8: During operations, deplete groundwater supplies or interfere with groundwater recharge, alter groundwater levels, or reduce the production capacity of preexisting nearby wells	2D, 4A, 5A	LTS[6]		LTS	B
	4, 6A, 6B, 6C, 7, 8, 9	S	No feasible mitigation to address this impact	SU	A
GW-9: Degrade groundwater quality	2D, 4, 4A, 5A	LTS[7]		LTS	NA
GW-10: Result in groundwater level-induced land subsidence	2D, 4, 4A, 5A	LTS		LTS	NA
Water Quality					
WQ-1: Effects on ammonia concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-2: Effects on ammonia concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-3: Effects on boron concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-4: Effects on boron concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-6: Effects on bromide concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-8: Effects on chloride concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA

[6] For Alternative 4A, the impact could be significant/adverse in certain areas of Southern California depending on the range of Spring Delta outflows that affect the surface water deliveries and associated groundwater usage.
[7] For Alternative 4A, the impact could be significant/adverse, as related to impact GW-8

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
WQ-9: Effects on dissolved oxygen resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-10: Effects on dissolved oxygen resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-11: Effects on electrical conductivity concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	S	WQ-11: Avoid or Minimize Reduced Water Quality Conditions WQ-11a: Adaptively Manage Diversions at the North and South Delta Intakes to Reduce or Eliminate Water Quality Degradation in Western Delta. WQ-11b: Adaptively Manage Head of Old River Barrier and Diversions at the North and South Delta Intakes to Reduce or Eliminate Exceedances of the Bay-Delta WQCP Objective at Prisoners Point.	LTS	NA
WQ-12: Effects on electrical conductivity concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-13: Effects on mercury concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-14: Effects on mercury concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	S	No available mitigation to address this impact	SU	A
WQ-15: Effects on nitrate concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-16: Effects on nitrate concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-17: Effects on organic carbon concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-18: Effects on organic carbon concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-19: Effects on pathogens resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-20: Effects on pathogens resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-21: Effects on pesticide concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-22: Effects on pesticide concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-23: Effects on phosphorus concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-24: Effects on phosphorus concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
WQ-25: Effects on selenium concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-26: Effects on selenium concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-27: Effects on trace metal concentrations resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-28: Effects on trace metal concentrations resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-29: Effects on TSS and turbidity resulting from facilities operations and maintenance (CM1)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-30: Effects on TSS and turbidity resulting from implementation of CM2–CM22	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-31: Water quality impacts resulting from construction-related activities (CM1–CM22)	2D, 4, 4A, 5A	LTS		LTS	NA
WQ-32: Effects on Microcystis Bloom Formation Resulting from Facilities Operations and Maintenance (CM1).	1A-2C, 3, 4, 5, 6A-9	S	WQ-32a: Design Restoration Sites to Reduce Potential for Increased Microcystis Blooms WQ-32b: Investigate and Implement Operational Measures to Manage Water Residence Time	SU	A
	2D, 4A, 5A	LTS		LTS	NA
WQ-33: Effects on Microcystis Bloom Formation Resulting from Other Conservation Measures (CM2–CM21).	1A-2C, 3, 4, 5, 6A-9	S	No available mitigation to address this impact	SU	A
	2D, 4A, 5A	LTS		LTS	NA
WQ-34: Effects on San Francisco Bay Water Quality Resulting from Facilities Operations and Maintenance (CM1) and Implementation of CM2–CM21	1A-9	LTS		LTS	NA
Geology and Seismicity					
GEO-1: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking of water conveyance features during construction	NAA	NI		NI	NA
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-2: Loss of property, personal injury, or death from settlement or collapse caused by dewatering during construction of water conveyance features	NAA	NI		NI	NA
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-3: Loss of property, personal injury, or death from ground settlement during construction of water conveyance features	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-4: Loss of property, personal injury, or death from slope failure during construction of water conveyance features	NAA	B		B	B
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
GEO-5: Loss of property, personal injury, or death from structural failure resulting from construction-related ground motions during construction of water conveyance features	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-6: Loss of property, personal injury, or death from structural failure resulting from rupture of a known earthquake fault during operation of water conveyance features	NAA	NI		NI	NE
	2D, 4, 4A, 5A	NI		NI	NE
GEO-7: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking during operation of water conveyance features	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-8: Loss of property, personal injury, or death from structural failure resulting from seismic-related ground failure (including liquefaction) during operation of water conveyance features	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-9: Loss of property, personal injury, or death from landslides and other slope instability during operation of water conveyance features	NAA	B		B	B
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-10: Loss of property, personal injury, or death from seiche or tsunami during operation of water conveyance features	NAA	B		B	B
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-11: Ground failure caused by increased groundwater surface elevations from unlined canal seepage as a result of operating the water conveyance facilities	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-12: Loss of property, personal injury, or death resulting from structural failure caused by rupture of a known earthquake fault at Restoration Opportunity Areas	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-13: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking at Restoration Opportunity Areas	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-14: Loss of property, personal injury, or death from structural failure resulting from seismic-related ground failure (including liquefaction) beneath Restoration Opportunity Areas	NAA	NI		NI	NE
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-15: Loss of property, personal injury, or death from landslides and other slope instability at Restoration Opportunity Areas	NAA	B		B	B
	2D, 4, 4A, 5A	LTS		LTS	NA
GEO-16: Loss of property, personal injury, or death from seiche or tsunami at Restoration Opportunity Areas as a result of implementing the conservation actions	NAA	B		B	B
	2D, 4, 4A, 5A	LTS		LTS	NA
Soils					
SOILS-1: Accelerated erosion caused by vegetation removal and other soil disturbances as a result of constructing the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
SOILS-2: Loss of topsoil from excavation, overcovering, and inundation as a result of constructing the proposed water conveyance facilities	NAA	S		S	A
	2D, 4, 4A, 5A	S	SOILS-2a: Minimize extent of excavation and soil disturbance SOILS-2b: Salvage, stockpile, and replace topsoil and prepare a topsoil storage and handling plan	SU	A
SOILS-3: Property loss, personal injury, or death from instability, failure, and damage from construction on or in soils subject to subsidence as a result of constructing the proposed water conveyance facilities	NAA	S		S	A
	2D, 4, 4A, 5A	LTS		LTS	NA
SOILS-4: Risk to life and property as a result of constructing the proposed water conveyance facilities in areas of expansive, corrosive, and compressible soils	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
SOILS-5: Accelerated bank erosion from increased channel flow rates as a result of operations	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
SOILS-6: Accelerated erosion caused by clearing, grubbing, grading, and other disturbances associated with implementation of proposed Environmental Commitments 3, 4, and 6–11	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
SOILS-7: Loss of topsoil from excavation, overcovering, and inundation associated with restoration activities as a result of implementing the proposed Environmental Commitments 3, 4, and 6–11	NAA	S		S	A
	2D, 4, 4A, 5A	S	SOILS-2a: Minimize extent of excavation and soil disturbance SOILS-2b: Salvage, stockpile, and replace topsoil and prepare a topsoil storage and handling plan	SU	A
SOILS-8: Property loss, personal injury, or death from instability, failure, and damage from construction on soils subject to subsidence as a result of implementing the proposed Environmental Commitments 3, 4, and 6–11	NAA	B		B	B
	2D, 4, 4A, 5A	LTS		LTS	NA
SOILS-9: Risk to life and property from construction in areas of expansive, corrosive, and compressible soils as a result of implementing the proposed Environmental Commitments 3, 4, and 6–11	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
Fish and Aquatic Resources					
AQUA-NAA1: Effects of construction of facilities on covered fish species	NAA	LTS		LTS	NA
AQUA-NAA2: Effects of maintenance of facilities on covered fish species	NAA	LTS		LTS	NA
AQUA-NAA3: Effects of water operations on entrainment of covered fish species	NAA	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-NAA4: Effects of water operations on spawning and egg incubation habitat for covered fish species	NAA	LTS S (winter-run Chinook salmon and green sturgeon)	No feasible mitigation to address this impact on Chinook salmon	SU	A (winter-run Chinook salmon and green sturgeon)
AQUA-NAA5: effects of water operations on rearing habitat for covered fish species	NAA	S		S	NA
AQUA-NAA6: Effects of water operations on migration habitat for covered fish species	NAA	LTS		LTS	NA
AQUA-NAA7: Effects of habitat restoration on covered fish species	NAA	LTS		LTS	NA
AQUA-NAA8: Effects of other Conservation Measures on covered fish species	NAA	LTS		LTS	B
AQUA-NAA9: Effects of construction of facilities on non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA10: Effects of maintenance of facilities on non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA11: Effects of water operations on entrainment of non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA12: Effects of water operations on spawning and egg incubation habitat for non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA13: Effects of water operations on rearing habitat for non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA14: Effects of water operations on migration habitat for non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA15: Effects of habitat restoration on non-covered fish species	NAA	LTS		LTS	NA
AQUA-NAA16: Effects of other Conservation Measures on non-covered fish species	NAA	LTS		LTS	B
AQUA-1: Effects of construction of water conveyance facilities on delta smelt	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-2: Effects of maintenance of water conveyance facilities on delta smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-3: Effects of water operations on entrainment of delta smelt					
	2D, 4, 4A	LTS		LTS	B
	5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-4: Effects of water operations on spawning and egg incubation habitat for delta smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-5: Effects of water operations on rearing habitat for delta smelt	4, 4A	LTS		LTS	NE
	1A, 1B, 1C, 3	LTS		LTS	A
	2A, 2B, 2C, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 5A	LTS		LTS	NA
AQUA-6: Effects of water operations on migration conditions for delta smelt	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-7: Effects of construction of restoration measures on delta smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-8: Effects of contaminants associated with restoration	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-9: Effects of restored habitat conditions on delta smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-10: Effects of methylmercury management on delta smelt (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-13: Effects of localized reduction of predatory fish on delta smelt (CM15)	2D, 4, 4A, 5A	NI		NI	NE
AQUA-14: Effects of nonphysical fish barriers on delta smelt (CM16)	4, 4A	LTS		LTS	NE
	2D, 5A	LTS		LTS	NA
AQUA-19: Effects of construction of water conveyance facilities on longfin smelt	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-20: Effects of maintenance of water conveyance facilities on longfin smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-21: Effects of water operations on entrainment of longfin smelt	4, 4A, 5A	B		B	NA
	2D	B		B	B

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-22: Effects of water operations on spawning, egg incubation, and rearing habitat for longfin smelt	4, 4A	S	AQUA-22D: Ensure January though June Delta outflows do not result in changes in longfin smelt abundance	LTS	NA
	5A	S	AQUA-22a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to longfin smelt to determine feasibility of mitigation to reduce impacts to spawning and rearing habitat AQUA-22b: Conduct additional evaluation and modeling of impacts on longfin smelt rearing habitat following initial operations of water conveyance facilities AQUA-22c: Consult with USFWS and CDFW to identify and implement feasible means to minimize effects on longfin smelt rearing habitat consistent with water conveyance facilities	S	A
	2D	S	AQUA-22a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to longfin smelt to determine feasibility of mitigation to reduce impacts to spawning and rearing habitat AQUA-22b: Conduct additional evaluation and modeling of impacts on longfin smelt rearing habitat following initial operations of water conveyance facilities AQUA-22c: Consult with USFWS and CDFW to identify and implement feasible means to minimize effects on longfin smelt rearing habitat consistent with water conveyance facilities	S	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9	LTS		LTS	NA
AQUA-25: Effects of construction of restoration measures on longfin smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-26: Effects of contaminants associated with restoration measures on longfin smelt	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4A, 5A	LTS		LTS	NA
AQUA-27: Effects of restored habitat conditions on longfin smelt	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-28: Effects of methylmercury management on longfin smelt (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-31: Effects of localized reduction of predatory fish on longfin smelt (CM15)	2D, 4, 4A, 5A	NI		NI	NE
AQUA-32: Effects of nonphysical fish barriers on longfin smelt (CM16)	4, 4A	NI		NI	NE
	2D, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-37: Effects of construction of water conveyance facilities on Chinook salmon (winter-run ESU)	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-38: Effects of maintenance of water conveyance facilities on Chinook salmon (winter-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-39: Effects of water operations on entrainment of Chinook salmon (winter-run ESU)	2D, 4, 4A, 5A	B		B	B
AQUA-40: Effects of water operations on spawning and egg incubation habitat for Chinook salmon (winter-run ESU)	4, 4A, 5A, 7	LTS		LTS	NA
	2D	S	AQUA-40a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to winter-run Chinook salmon to determine feasibility of mitigation to reduce impacts to spawning habitat AQUA-40b: Conduct additional evaluation and modeling of impacts on winter-run Chinook salmon spawning habitat following initial operations of water conveyance facilities AQUA-40c: Consult with NMFS, USFWS, and CDFW to identify and implement potentially feasible means to minimize effects on winter-run Chinook salmon spawning habitat consistent with water conveyance facilities	S	NA
	3	S		S	A
AQUA-41: Effects of water operations on rearing habitat for Chinook salmon (winter-run ESU)	2A, 2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-42: Effects of water operations on migration conditions for Chinook salmon (winter-run ESU)	4, 5, 7, 4A, 5A	LTS		LTS	NA
	2D	S	AQUA-42a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to winter-run Chinook salmon to determine feasibility of mitigation to reduce impacts to migration conditions AQUA-42b: Conduct additional evaluation and modeling of impacts on winter-run Chinook salmon migration conditions following initial operations of water conveyance facilities AQUA-42c: Consult with NMFS and CDFW to identify and implement potentially feasible means to minimize effects on winter-run Chinook salmon migration conditions consistent with water conveyance facilities operations	S	A

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 8, 9	LTS		LTS	NA/B[8]
AQUA-43: Effects of construction of restoration measures on Chinook salmon (winter-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-44: Effects of contaminants associated with restoration measures on Chinook salmon (winter-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-45: Effects of restored habitat conditions on Chinook salmon (winter-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-46: Effects of methylmercury management on Chinook salmon (winter-run ESU) (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-49: Effects of localized reduction of predatory fish on Chinook salmon (winter-run ESU) (CM15)	2D, 4, 4A, 5A	NI		NI	NE
AQUA-50: Effects of nonphysical fish barriers on Chinook salmon (winter-run ESU) (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-55: Effects of construction of water conveyance facilities on Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-56: Effects of maintenance of water conveyance facilities on Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-57: Effects of water operations on entrainment of Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-58: Effects of water operations on spawning and egg incubation habitat for Chinook salmon (spring-run ESU)	2A, 2B, 2C, 4, 5, 7, 2D, 4A, 5A	LTS		LTS	NA
AQUA-59: Effects of water operations on rearing habitat for Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NE

[8] The effects of short-term restoration construction activities would not be adverse; the overall long-term effects of habitat restoration are expected to be beneficial to winter-run Chinook salmon and other covered species by providing additional or improved habitat.

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-60: Effects of water operations on migration conditions for Chinook salmon (spring-run ESU)	4, 4A, 5A, 3, 5, 7	LTS		LTS	NA
	2D	S	AQUA-60a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to spring-run Chinook salmon to determine feasibility of mitigation to reduce impacts to migration conditions AQUA-60b: Conduct additional evaluation and modeling of impacts on spring-run Chinook salmon migration conditions following initial operations of water conveyance facilities AQUA-60c: Consult with NMFS and CDFW to identify and implement potentially feasible means to minimize effects on spring-run Chinook salmon migration conditions consistent with water conveyance facilities	S	A
AQUA-61: Effects of construction of restoration measures on Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-62: Effects of contaminants associated with restoration measures on Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-63: Effects of restored habitat conditions on Chinook salmon (spring-run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-64: Effects of methylmercury management on Chinook salmon (spring-run ESU) (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-67: Effects of localized reduction of predatory fish on Chinook salmon (spring-run ESU) (CM15)	2D, 4, 4A, 5A	NI		NI	NE
AQUA-68: Effects of nonphysical fish barriers on Chinook salmon (spring-run ESU) (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-73: Effects of construction of water conveyance facilities on Chinook salmon (fall- and late fall–run ESU)	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-74: Effects of maintenance of water conveyance facilities on Chinook salmon (fall- and late fall–run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-75: Effects of water operations on entrainment of Chinook salmon (fall-/late fall–run ESU)	4, 4A, 5A	LTS		LTS	NA
	2D	B		B	NA
	5A	B		B	B
AQUA-76: Effects of water operations on spawning and egg incubation habitat for Chinook salmon (fall- and late fall–run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-77: Effects of water operations on rearing habitat for Chinook salmon (fall-/late fall–run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-78: Effects of water operations on migration conditions for Chinook salmon (fall-/late fall–run ESU)	4, 4A	S	AQUA-78D: Slightly adjust the timing and magnitude of Shasta, Folsom, and/or Oroville Reservoir releases, within all existing regulations and requirements, to ameliorate changes in instream, slows that would cause an adverse effect to fall-run Chinook salmon	LTS	NA
	2D, 5A	S	AQUA-78a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to fall-/late fall–run Chinook salmon to determine feasibility of mitigation to reduce impacts to migration conditions AQUA-78b: Conduct additional evaluation and modeling of impacts on fall-/late fall–run Chinook salmon migration conditions following initial operations of water conveyance facilities AQUA-78c: Consult with NMFS and CDFW to identify and implement potentially feasible means to minimize effects on fall-/late fall–run Chinook salmon migration conditions consistent with water conveyance facility operations	S	A
	7	LTS		LTS	NA
AQUA-79: Effects of construction of restoration measures on Chinook salmon (fall-/late fall–run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-80: Effects of contaminants associated with restoration measures on Chinook salmon (fall-/late fall–run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-81: Effects of restored habitat conditions on Chinook salmon (fall-/late fall–run ESU)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-82: Effects of methylmercury management on Chinook salmon (fall-/late fall–run ESU) (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-85: Effects of localized reduction of predatory fish on Chinook salmon (fall-/late fall–run ESU) (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-86: Effects of nonphysical fish barriers on Chinook salmon (fall-/late fall–run ESU) (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-91: Effects of construction of water conveyance facilities on steelhead	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-92: Effects of maintenance of water conveyance facilities on steelhead	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-93: Effects of water operations on entrainment of steelhead	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-94: Effects of water operations on spawning and egg incubation habitat for steelhead	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-95: Effects of water operations on rearing habitat for steelhead	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-96: Effects of water operations on migration conditions for steelhead	3, 4, 5, 7, 4A, 5A	LTS		LTS	NA
	2D	S	AQUA-96a: Following initial operations of water conveyance facilities, conduct additional evaluation and modeling of impacts to steelhead to determine feasibility of mitigation to reduce impact to migration conditions AQUA-96b: Conduct additional evaluation and modeling of impacts on steelhead migration conditions following initial operations of water conveyance facilities AQUA-96c: Consult with NMFS and CDFW to identify and implement potentially feasible means to minimize effects on steelhead migration conditions consistent with water conveyance facility operations	S	A
AQUA-97: Effects of construction of restoration measures on steelhead	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-98: Effects of contaminants associated with restoration measures on steelhead	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 6A, 6B, 6C, 8, 9, 2D, 4A, 5A	LTS		LTS	NA
AQUA-99: Effects of restored habitat conditions on steelhead	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-100: Effects of methylmercury management on steelhead (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-103: Effects of localized reduction of predatory fish on steelhead (CM15)	2D, 4, 4A, 5A	LTS		LTS	NE
AQUA-104: Effects of nonphysical fish barriers on steelhead (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-109: Effects of construction of water conveyance facilities on Sacramento splittail	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-110: Effects of maintenance of water conveyance facilities on Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-111: Effects of water operations on entrainment of Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-112: Effects of water operations on spawning and egg incubation habitat for Sacramento splittail	2D, 4, 4A, 5A	B		B	NE
AQUA-113: Effects of water operations on rearing habitat for Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-114: Effects of water operations on migration conditions for Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-115: Effects of construction of restoration measures on Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-116: Effects of contaminants associated with restoration measures on Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-117: Effects of restored habitat conditions on Sacramento splittail	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-118: Effects of methylmercury management on Sacramento splittail (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-121: Effects of localized reduction of predatory fish on Sacramento splittail (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-122: Effects of nonphysical fish barriers on Sacramento splittail (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-127: Effects of construction of water conveyance facilities on green sturgeon	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-128: Effects of maintenance of water conveyance facilities on green sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-129: Effects of water operations on entrainment of green sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-130: Effects of water operations on spawning and egg incubation habitat for green sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-131: Effects of water operation on rearing habitat for green sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-132: Effects of water operations on migration conditions for green sturgeon	4, 5, 6A, 6B, 6C, 7, 9, 2A, 2D, 4A, 5A	LTS		LTS	NA
AQUA-133: Effects of construction of restoration measures on green sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-134: Effects of contaminants associated with restoration measures on green sturgeon	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4A, 5A	LTS		LTS	NA
AQUA-135: Effects of restored habitat conditions on green sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-136: Effects of methylmercury management on green sturgeon (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-139: Effects of localized reduction of predatory fish on green sturgeon (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-140: Effects of nonphysical fish barriers on green sturgeon (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-145: Effects of construction of water conveyance facilities on white sturgeon	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-146: Effects of maintenance of water conveyance facilities on white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-147: Effects of water operations on entrainment of white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-148: Effects of water operations on spawning and egg incubation habitat for white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-149: Effects of water operations on rearing habitat for white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-150: Effects of water operations on migration conditions for white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-151: Effects of construction of restoration measures on white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-152: Effects of contaminants associated with restoration measures on white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-153: Effects of restored habitat conditions on white sturgeon	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-154: Effects of methylmercury management on white sturgeon (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-157: Effects of localized reduction of predatory fish on white sturgeon (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-158: Effects of nonphysical fish barriers on white sturgeon (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-163: Effects of construction of water conveyance facilities on Pacific lamprey	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-164: Effects of maintenance of water conveyance facilities on Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-165: Effects of water operations on entrainment of Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-166: Effects of water operations on spawning and egg incubation habitat for Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-167: Effects of water operations on rearing habitat for Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-168: Effects of water operations on migration conditions for Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-169: Effects of construction of restoration measures on Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-170: Effects of contaminants associated with restoration measures on Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-171: Effects of restored habitat conditions on Pacific lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-172: Effects of methylmercury management on Pacific lamprey (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-175: Effects of localized reduction of predatory fish on Pacific lamprey (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-176: Effects of nonphysical fish barriers on Pacific lamprey (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-181: Effects of construction of water conveyance facilities on river lamprey	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-182: Effects of maintenance of water conveyance facilities on river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-183: Effects of water operations on entrainment of river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-184: Effects of water operations on spawning and egg incubation habitat for river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-185: Effects of water operations on rearing habitat for river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-186: Effects of water operations-related decline on migration conditions for river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-187: Effects of construction of restoration measures on river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-188: Effects of contaminants associated with restoration measures on river lamprey	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-189: Effects of restored habitat conditions on river lamprey	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-190: Effects of methylmercury management on river lamprey (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-193: Effects of localized reduction of predatory fish on river lamprey (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-194: Effects of nonphysical fish barriers on river lamprey (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-199: Effects of construction of water conveyance facilities on non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	S (noise associated with pile driving)	AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Monitor underwater noise and if necessary, use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
AQUA-200: Effects of maintenance of water conveyance facilities on non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-201: Effects of water operations on entrainment of non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	S (striped bass, American shad) LTS (threadfin shad, largemouth bass, Sacramento tule perch, Sacramento San-Joaquin roach, hardhead, and California bay shrimp)		S (striped bass, American shad) LTS (threadfin shad, largemouth bass, Sacramento tule perch, Sacramento San-Joaquin roach, hardhead, and California bay shrimp)	NA (striped bass, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento San-Joaquin roach, hardhead, and California bay shrimp) A (American shad)
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8	S (striped bass, American shad)		S (striped bass, American shad)	A
	9	LTS		LTS	NA
AQUA-202: Effects of water operations on spawning and egg incubation habitat for non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	LTS (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)		LTS (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)	NA (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQUA-203: Effects of water operations on rearing habitat for non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	LTS (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)		LTS (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)	NA (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9	LTS (striped bass, American shad, California bay shrimp)		LTS (striped bass, American shad, California bay shrimp)	NA (striped bass, American shad, California bay shrimp)
AQUA-204: Effects of water operations on migration conditions for non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	LTS (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)		LTS (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)	NA (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento-San Joaquin roach, hardhead, California bay shrimp)
AQUA-205: Effects of construction of restoration measures on non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-206: Effects of contaminants associated with restoration measures on non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-207: Effects of restored habitat conditions on non-covered aquatic species of primary management concern	2D, 4, 4A, 5A	B		B	NA
AQUA-208: Effects of methylmercury management on non-covered aquatic species of primary management concern (CM12)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-211: Effects of localized reduction of predatory fish on non-covered aquatic species of primary management concern (CM15)	2D, 4, 4A, 5A	LTS		LTS	NA
AQUA-212: Effects of nonphysical fish barriers on non-covered aquatic species of primary management concern (CM16)	2D, 4, 4A, 5A	LTS		LTS	NA (striped bass, American shad, threadfin shad, largemouth bass) NE (Sacramento-San Joaquin roach, hardhead, California bay shrimp)
AQUA-217: Effects of water operations on reservoir coldwater fish habitat	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Terrestrial Biological Resources					
BIO-1: Changes in tidal perennial aquatic natural community as a result of implementing BDCP conservation measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	B		B	B
BIO-2: Increased frequency, magnitude and duration of periodic inundation of tidal perennial aquatic natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-3: Modification of tidal perennial aquatic natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		NI	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-4: Changes in tidal brackish emergent wetland natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	B		B	B
BIO-5: Modification of tidal brackish emergent wetland natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-6: Changes in tidal freshwater emergent wetland natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	LTS (short-term)/ B (long-term)		LTS (short-term)/ B (long-term)	NA (short term-term)/ B (long-term)
BIO-7: Increased frequency, magnitude and duration of periodic inundation of tidal freshwater emergent wetland natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-8: Modification of tidal freshwater emergent wetland natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-9: Changes in valley/foothill riparian natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	B		B	B
BIO-10: Increased frequency, magnitude and duration of periodic inundation of valley/foothill riparian natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	B		B	B
BIO-11: Modification of valley/foothill riparian natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-12: Changes in nontidal perennial aquatic natural community as a result of implementing BDCP conservation measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	B		B	B
BIO-13: Increased frequency, magnitude and duration of periodic inundation of nontidal perennial aquatic natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-14: Modification of nontidal perennial aquatic natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-15: Changes in nontidal freshwater perennial emergent wetland natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	B		B	B
BIO-16: Increased frequency, magnitude and duration of periodic inundation of nontidal freshwater perennial emergent wetland natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-17: Modification of nontidal freshwater perennial emergent wetland natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-18: Changes in alkali seasonal wetland complex natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-19: Increased frequency, magnitude and duration of periodic inundation of alkali seasonal wetland complex natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-20: Modification of alkali seasonal wetland complex natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-21: Changes in vernal pool complex natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-22: Increased frequency, magnitude and duration of periodic inundation of vernal pool complex natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-23: Modification of vernal pool complex natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-24: Changes in managed wetland natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-25: Increased frequency, magnitude and duration of periodic inundation of managed wetland natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-26: Modification of managed wetland natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-27: Modification of other natural seasonal wetland natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-28: Modification of other natural seasonal wetland natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-29: Changes in grassland natural community as a result of implementing BDCP Conservation Measures	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-30: Increased frequency, magnitude and duration of periodic inundation of grassland natural community	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-31: Modification of grassland natural community from ongoing operation, maintenance and management activities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-32: Loss or conversion of habitat for and direct mortality of vernal pool crustaceans	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-33: Indirect effects of Plan implementation on vernal pool crustaceans	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-34: Periodic effects of inundation of vernal pool crustacean habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-35: Loss of valley elderberry longhorn beetle habitat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-36: Indirect effects on valley elderberry longhorn beetle and its habitat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-37: Periodic effects of inundation of valley elderberry longhorn beetle habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-38: Loss or conversion of habitat for and direct mortality of nonlisted vernal pool invertebrates	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-39: Indirect effects of Plan implementation on nonlisted vernal pool invertebrates	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-40: Periodic effects of inundation of nonlisted vernal pool invertebrates' habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-41: Loss or conversion of habitat for and direct mortality of Sacramento and Antioch Dunes anthicid beetles	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-42: Loss or conversion of habitat for and direct mortality of delta green ground beetle	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-42: Avoid impacts on delta green ground beetle and its habitat	LTS	NA
BIO-43: Loss or conversion of habitat for and direct mortality of Callippe silverspot butterfly	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-43: Avoid and minimize loss of Callippe silverspot butterfly habitat	LTS	NA
BIO-44: Loss or conversion of habitat for and direct mortality of California red-legged frog	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-45: Indirect effects of Plan implementation on California red-legged frog	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-46: Loss or conversion of habitat for and direct mortality of California tiger salamander	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-47: Indirect effects of Plan implementation on California tiger salamander	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-48: Periodic effects of inundation of California tiger salamander habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-49: Loss or conversion of habitat for and direct mortality of giant garter snake	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-50: Indirect effects of Plan implementation on giant garter snake	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-50a: Loss of connectivity among giant garter snakes in the Coldani Marsh/White Slough subpopulation, Stone Lakes National Wildlife Refuge, and the Delta	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-51: Periodic effects of inundation of giant garter snake habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-52: Loss or conversion of habitat for and direct mortality of western pond turtle	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-53: Indirect effects of Plan implementation on western pond turtle	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-54: Periodic effects of inundation of western pond turtle habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-55: Loss or conversion of habitat for and direct mortality of special-status reptiles	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-55: Conduct preconstruction surveys for noncovered special-status reptiles and implement applicable CM22 measures	LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-56: Indirect effects of Plan implementation on special-status reptile species	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-55: Conduct preconstruction surveys for noncovered special-status reptiles and implement applicable CM22 measures	LTS	NA
BIO-57: Loss or conversion of habitat for and direct mortality of California black rail	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-58: Effects on California black rail associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-59: Indirect effects of Plan implementation on California black rail	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-60: Fragmentation of California black rail habitat as a result of conservation component implementation	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-61: Periodic effects of inundation of California black rail habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-62: Loss or conversion of habitat for and direct mortality of California clapper rail	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-63: Indirect effects of Plan implementation on California clapper rail	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-64: Effects on California clapper rail associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-65: Fragmentation of California clapper rail habitat as a result of conservation component implementation	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-66: Loss or conversion of habitat for and direct mortality of California least tern	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-66: California least tern nesting colonies shall be avoided and indirect effects on colonies will be minimized	LTS	NA
BIO-67: Indirect effects of Plan implementation on California least tern	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-66: California least tern nesting colonies shall be avoided and indirect effects on colonies will be minimized	LTS	NA
BIO-68: Effects on California least tern associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-69: Loss or conversion of habitat for and direct mortality of greater sandhill crane	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	S	BIO-69a: Compensate for the loss of Medium to Very High-Value Greater Sandhill Crane Foraging Habitat	LTS	NA
BIO-70: Effects on greater sandhill crane associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-71: Indirect effects of Plan implementation on greater sandhill crane	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-72: Loss or conversion of habitat for and direct mortality of lesser sandhill crane	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	S	BIO-72: Compensate for the loss of medium- to over high-value lesser sandhill crane foraging habitat	LTS	NA
BIO-73: Effects on lesser sandhill crane associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-74: Indirect effects of Plan implementation on lesser sandhill crane	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-75: Loss or conversion of habitat for and direct mortality of least Bell's vireo and yellow warbler	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-76: Fragmentation of least Bell's vireo and yellow warbler habitat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-77: Effects on least Bell's vireo and yellow warbler associated with electrical transmission facilities	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-78: Indirect effects of Plan implementation on least Bell's vireo and yellow warbler	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-79: Periodic effects of inundation of least Bell's vireo and yellow warbler habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	B		B	B
BIO-80: Loss or conversion of habitat for and direct mortality of Suisun song sparrow and saltmarsh common yellowthroat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-81: Indirect effects of Plan implementation on Suisun song sparrow and saltmarsh common yellowthroat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-82: Effects on Suisun song sparrow and saltmarsh common yellowthroat associated with electrical transmission facilities	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-83: Loss or conversion of habitat for and direct mortality of Swainson's hawk	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-84: Effects on Swainson's hawk associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-85: Indirect effects of Plan implementation on Swainson's hawk	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-86: Periodic effects of inundation of Swainson's hawk nesting and foraging habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-87: Loss or conversion of habitat for and direct mortality of tricolored blackbird	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-88: Effects on tricolored blackbird associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-89: Indirect effects of Plan implementation on tricolored blackbird	NAA	v		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-90: Periodic effects of inundation of tricolored blackbird habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-91: Loss or conversion of habitat for and direct mortality of western burrowing owl	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
	4	S	BIO-91: Compensate for near-term loss of high-value western burrowing owl habitat	LTS	NA
BIO-92: Effects on western burrowing owl associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-93: Indirect effects of Plan implementation on western burrowing owl	2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-94: Periodic effects of inundation on western burrowing owl habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-95: Loss or conversion of habitat for and direct mortality of western yellow-billed cuckoo	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-96: Fragmentation of western yellow-billed cuckoo habitat as a result of constructing the water conveyance facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-97: Effects on western yellow-billed cuckoo associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-98: Indirect effects of Plan implementation on western yellow-billed cuckoo	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-99: Periodic effects of inundation of western yellow-billed cuckoo habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-100: Loss or conversion of habitat for and direct mortality of white-tailed kite	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-101: Effects on white-tailed kite associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-102: Indirect effects of Plan implementation on white-tailed kite	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-103: Periodic effects of inundation of white-tailed kite habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-104: Loss or conversion of habitat for and direct mortality of yellow-breasted chat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-105: Fragmentation of yellow-breasted chat habitat as a result of constructing the water conveyance facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-106: Effects on yellow-breasted chat associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-107: Indirect effects of Plan implementation on yellow-breasted chat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-108: Periodic effects of inundation of yellow-breasted chat habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	B		B	B
BIO-109: Loss or conversion of habitat for and direct mortality of Cooper's hawk and osprey	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-110: Effects on Cooper's hawk and osprey associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-111: Indirect effects of Plan implementation on Cooper's hawk and osprey	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-112: Periodic effects of inundation of Cooper's hawk and osprey nesting habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-113: Loss or conversion of habitat for and direct mortality of golden eagle and ferruginous hawk	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	S	BIO-113: Compensate for the near-term loss of golden eagle and ferruginous hawk foraging habitat	LTS	NA
BIO-114: Effects on golden eagle and ferruginous hawk associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-115: Indirect effects of Plan implementation on golden eagle and ferruginous hawk	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-116: Periodic effects of inundation on golden eagle and ferruginous hawk habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-117: Loss or conversion of nesting habitat for and direct mortality of cormorants, herons and egrets	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds BIO-117: Avoid impacts on rookeries	LTS	NA
BIO-118: Effects associated with electrical transmission facilities on cormorants, herons and egrets	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-119: Indirect effects of Plan implementation on cormorants, herons and egrets	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds BIO-117: Avoid impacts on rookeries	LTS	NA
BIO-120: Periodic effects of inundation on cormorants, herons and egrets as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-121: Loss or conversion of habitat for short-eared owl and northern harrier	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-122: Effects on short-eared owl and northern harrier associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-123: Indirect effects of Plan implementation on short-eared owl and northern harrier	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-124: Periodic effects of inundation on short-eared owl and northern harrier as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-125: Loss or conversion of habitat for and direct mortality of mountain plover	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	S	BIO-125: Compensate for the near-term loss of mountain plover wintering habitat	LTS	NA
BIO-126: Effects on mountain plover associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-127: Indirect effects of Plan implementation on mountain plover	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-128: Periodic effects of inundation on mountain plover as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable

NEPA

A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-129a: Loss or conversion of habitat for and direct mortality of black tern	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds BIO-129a: Compensate for loss of black tern nesting habitat (short-term)	LTS	NA
BIO-129b: Indirect effects of Plan implementation on black tern	NAA	B (short-term)// SS (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-129c: Periodic effects of inundation on black tern nesting habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-130: Loss or conversion of habitat for and direct mortality of California horned lark and grasshopper sparrow	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
	4	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds BIO-130: Compensate for near-term loss of California horned lark and grasshopper sparrow habitat	LTS	NA
BIO-131: Effects on California horned lark and grasshopper sparrow and associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-132: Indirect effects of Plan implementation on grasshopper sparrow and California horned lark	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-133: Periodic effects of inundation on California horned lark and grasshopper sparrow as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-134: Loss or conversion of habitat for and direct mortality of least bittern and white-faced ibis	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-135: Effects on least bittern and white-faced ibis associated with electrical transmission facilities	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-136: Indirect effects of Plan implementation on least bittern and white-faced ibis	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-137: Periodic effects of inundation on least bittern and white-faced ibis as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-138: Loss or conversion of modeled habitat for and direct mortality of loggerhead shrike	NAA	B (short-term)/ S (long-term)		B (short-term)v/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
	4	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds BIO-138: Compensate for the near-term loss of high-value loggerhead shrike habitat	LTS	NA
BIO-139: Effects on loggerhead shrike associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-140: Indirect effects of Plan implementation on loggerhead shrike	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-141: Periodic effects of inundation on loggerhead shrike as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-142: Loss or conversion of habitat for and direct mortality of Modesto song sparrow	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-143: Effects on Modesto song sparrow associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-144: Indirect effects of Plan implementation on Modesto song sparrow	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-145: Periodic effects of inundation on Modesto song sparrow as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-146: Indirect effects of implementation of conservation components on bank swallow	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-146: Active bank swallow colonies shall be avoided and indirect effects on bank swallow will be minimized	LTS	NA
BIO-147: Effects of upstream reservoir and water conveyance facility operations on bank swallow	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-147: Monitor bank swallow colonies and evaluate winter and spring flows upstream of the study area	LTS	NA
BIO-148: Loss of habitat for and direct mortality of yellow-headed blackbird	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-149: Effects on yellow-headed blackbird associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-150: Indirect effects of Plan implementation on yellow-headed blackbird	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-151: Periodic effects of inundation of yellow-headed blackbird nesting habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-152: Loss or conversion of habitat for and direct mortality of riparian brush rabbit	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-153: Indirect effects of Plan implementation on riparian brush rabbit	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-154: Periodic effects of inundation of riparian brush rabbit habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-155: Loss or conversion of habitat for and direct mortality of riparian woodrat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-156: Indirect effects of Plan implementation on riparian woodrat	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-157: Periodic effects of inundation of riparian woodrat habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-158: Loss or conversion of habitat for and direct mortality of salt marsh harvest mouse	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-159: Indirect effects of Plan implementation on salt marsh harvest mouse	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-160: Loss or conversion of habitat for and direct mortality of Suisun shrew	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable

NEPA

A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-161: Indirect effects of Plan implementation on Suisun shrew	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	LTS		LTS	NA
BIO-162: Loss or conversion of habitat for and direct mortality of San Joaquin kit fox and American badger	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-162: Conduct preconstruction survey for American badger	LTS	NA
BIO-163: Indirect effects of Plan implementation on San Joaquin kit fox and American badger	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-162: Conduct preconstruction survey for American badger	LTS	NA
BIO-164: Loss or conversion of habitat for and direct mortality of San Joaquin pocket mouse	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-165: Indirect effects of Plan implementation on San Joaquin pocket mouse	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-166: Loss or conversion of habitat for and direct mortality of special-status bats	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-166: Conduct preconstruction surveys for roosting bats and implement protective measures	LTS	NA
BIO-167: Indirect effects of Plan implementation on special-status bats	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-166: Conduct preconstruction surveys for roosting bats and implement protective measures	LTS	NA
BIO-168: Periodic effects of inundation of special-status bat habitat as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NE
	4	S	BIO-166: Conduct preconstruction surveys for roosting bats and implement protective measures	LTS	NA
BIO-169: Effects on habitat and populations of vernal pool plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-170: Effects on habitat and populations of alkali seasonal wetland plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-170: Avoid, minimize, or compensate for impacts on noncovered special-status plant species	LTS	NA

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination	A=adverse	NE=no effect	ND=no determination
	S=significant	B=beneficial	N/A=not applicable	NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-171: Effects on habitat and populations of grassland plant species	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NA
	4	LTS		LTS	NA
BIO-172: Effects on habitat and populations of valley/foothill riparian plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	NI		NI	NA
	4	LTS		LTS	NA
BIO-173: Effects on habitat and populations of tidal wetland plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	S	BIO-170: Avoid, minimize, or compensate for impacts on noncovered special-status plant species	LTS	NA
BIO-174: Effects on habitat and populations of inland dune plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	NI		NI	NE
BIO-175: Effects on habitat and populations of nontidal wetland plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-170: Avoid, minimize, or compensate for impacts on noncovered special-status plant species	LTS	NA
BIO-176: Effects of constructing water conveyance facilities (CM1) on wetlands and other waters of the United States	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	4, 2D, 4A, 5A	S	BIO-176: Compensatory Mitigation for Fill of Waters of the U.S.	LTS	NA
BIO-177: Effects of implementing other conservation measures (CM2–CM10) on wetlands and other waters of the United States	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4A, 5A	LTS		LTS	NA
	4	B		B	B
BIO-178: Loss or conversion of habitat for waterfowl and shorebirds as a result of water conveyance facilities construction	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
BIO-179: Loss or conversion of habitat for wintering waterfowl as a result of implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-179a: Conduct food studies and monitoring for wintering waterfowl in Suisun Marsh BIO-179b: Conduct food studies and monitoring to demonstrate food quality of palustrine tidal wetlands in the Yolo and Delta Basins	LTS	NA
BIO-180: Loss or conversion of habitat for breeding waterfowl from implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-180: Conduct food and monitoring studies of breeding waterfowl in Suisun Marsh	LTS	NA
BIO-181: Loss or conversion of habitat for shorebirds from implementation of conservation components	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-182: Effects on shorebirds and waterfowl associated with electrical transmission facilities	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-183: Indirect effects of Plan implementation on shorebirds and waterfowl	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds	LTS	NA
BIO-184: Effects on habitat and populations of common wildlife and plants	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-185: Effect of BDCP Conservation Measures on wildlife corridors	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-186: Effects on natural communities resulting from the introduction and spread of invasive plant species	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	LTS		LTS	NA
BIO-187: Compatibility of the proposed water conveyance facilities and other Conservation Measures with federal, state, or local laws, plans, policies, or executive orders addressing terrestrial biological resources in the study area	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	NI		NI	NE

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination	A=adverse	NE=no effect	ND=no determination
	S=significant	B=beneficial	N/A=not applicable	NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Land Use					
LU-1: Incompatibility with applicable land use designations, goals, and policies as a result of constructing the proposed water conveyance facility (CM1)	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	NI		NI	NE
LU-2: Conflicts with existing land uses as a result of constructing the proposed water conveyance facility (CM1)	NAA, 2D, 4, 4A, 5A	NI		NI	A
LU-3: Create physical structures adjacent to and through a portion of an existing community as a result of constructing the proposed water conveyance facility (CM1)	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments	SU	A
LU-4: Incompatibility with applicable land use designations, goals and policies as a result of implementing the proposed Conservation Measures 2–21	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	4	NI		NI	NE
	2D, 4A, 5A	LTS		LTS	NA
LU-5: Conflicts with existing land uses as a result of implementing the proposed Conservation Measures 2–21	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	4	NI		NI	A
	2D, 4A, 5A	LTS		LTS	NA
LU-6: Create physical structures adjacent to and through a portion of an existing community as a result of implementing the proposed Conservation Measures 2–21	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
Agricultural Resources					
AG-1: Temporary conversion, short-term conversion, and permanent conversion of Important Farmland or of farmland under Williamson Act contracts or in Farmland Security Zones as a result of constructing the proposed water conveyance facility.	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	SU	A

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AG-2: Other effects on agriculture as a result of constructing and operating the proposed water conveyance facility	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones GW-1: Maintain water supplies in areas affected by construction dewatering GW-5: Agricultural lands seepage minimization WQ-11: Avoid, minimize, or offset, as feasible, reduced water quality conditions	SU	A
AG-3: Temporary conversion, short-term conversion, and permanent conversion of Important Farmland or of land subject to Williamson Act contracts or in Farmland Security Zones as a result of implementing the proposed Conservation Measures 2–11, 13, 15, 16, 20, and 21	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	SU	A
AG-4: Other effects on agriculture as a result of implementing the proposed Conservation Measures 2–11, 13, 15, 16, 20, and 21	NAA	B (short-term)/ S (long-term)		B (short-term)/ S (long-term)	B (short-term)/ A (long-term)
	2D, 4, 4A, 5A	S	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones GW-5: Agricultural lands seepage minimization	SU	A
Recreation					
REC-1: Permanent displacement of existing well-established public use or private commercial recreation facility available for public access as a result of the location of the proposed water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	LTS		LTS	NA
REC-2: Result in long-term reduction of recreation opportunities and experiences as a result of constructing the proposed water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	REC-2: Provide alternative bank fishing access sites BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible	SU/LTS[9]	A/NA[13]

[9] Impacts and effects on recreation from constructing the intakes would be LTS and NA, respectively, following mitigation.

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination	A=adverse	NE=no effect	ND=no determination
	S=significant	B=beneficial	N/A=not applicable	NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
			AES-1b: Install visual barriers between construction work areas and sensitive receptors AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1d: Restore barge unloading facility sites once decommissioned AES-1e: Apply aesthetic design treatments to all structures to the extent feasible AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities AES-1g: Implement best management practices to implement project landscaping plan AES-4a: Limit construction to daylight hours within 0.25 mile of residents AES-4b: Minimize fugitive light from portable sources used for construction AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments NOI-1a: Employ noise-reducing construction practices during construction NOI-1b: Prior to construction, initiate a complaint/response tracking program		
REC-3: Result in long-term reduction of recreational navigation opportunities as a result of constructing the proposed water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	TRANS-1a: Implement site-specific construction traffic management plan	SU	A
REC-4: Result in long-term reduction of recreational fishing opportunities as a result of constructing the proposed water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	REC-2: Provide alternative bank fishing access sites AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Use an attenuation device to reduce effects of pile driving and other construction-related underwater noise NOI-1a: Employ noise-reducing construction practices during construction	LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
			NOI-1b: Prior to construction, initiate a complaint/response tracking program AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1b: Install visual barriers between construction work areas and sensitive receptors AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1d: Restore barge unloading facility sites once decommissioned AES-1e: Apply aesthetic design treatments to all structures to the extent feasible AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities AES-1g: Implement best management practices to implement project landscaping plan		
REC-5: Result in long-term reduction of recreational fishing opportunities as a result of the operation of the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
REC-6: Cause a change in reservoir or lake elevations resulting in substantial reductions in water-based recreation opportunities and experiences at north- and south-of-Delta reservoirs	NAA	LTS	LTS	NA	
	2D, 4, 4A, 5A	LTS (for north-and south-of-Delta reservoirs for all operational scenarios except for San Luis Reservoir) S (for Scenarios H2 and H4 for San Luis Reservoir)	REC-6: Provide a Temporary Alternative Boat Launch to Ensure Access to San Luis Reservoir	LTS	NA
REC-7: Result in long-term reduction in water-based recreation opportunities as a result of maintenance of the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
REC-8: Result in long-term reduction in land-based recreation opportunities as a result of maintenance of the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	NI		NI	NE

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
REC-9: Result in long-term reduction in fishing opportunities as a result of implementing Conservation Measures 2–21	NAA	LTS		LTS	NA
	4	LTS	AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1b: Install visual barriers between construction work areas and sensitive receptors AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1d: Restore barge unloading facility sites once decommissioned AES-1e: Apply aesthetic design treatments to all structures to the extent feasible AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities AES-1g: Implement best management practices to implement project landscaping plan AES-4b: Minimize fugitive light from portable sources used for construction AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments NOI-1a: Employ noise-reducing construction practices during construction NOI-1b: Prior to construction, initiate a complaint/response tracking program AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
	2D, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
REC-10: Result in long-term reduction in boating-related recreation opportunities as a result of implementing Conservation Measures 2–21	4	S	AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1b: Install visual barriers between construction work areas and sensitive receptors AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1d: Restore barge unloading facility sites once decommissioned AES-1e: Apply aesthetic design treatments to all structures to the extent feasible AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities AES-1g: Implement best management practices to implement project landscaping plan AES-4b: Minimize fugitive light from portable sources used for construction AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments NOI-1a: Employ noise-reducing construction practices during construction NOI-1b: Prior to construction, initiate a complaint/response tracking program AQUA-1a: Minimize the use of impact pile driving to address effects of pile driving and other construction-related underwater noise AQUA-1b: Use an attenuation device to reduce effects of pile driving and other construction-related underwater noise	LTS	NA
	NAA, 2D, 4A, 5A	LTS		LTS	NA
REC-11: Result in long-term reduction in upland recreational opportunities as a result of implementing Conservation Measures 2–21	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
REC-12: Compatibility of the proposed water conveyance facilities and other conservation measures with federal, state, or local plans, policies, or regulations addressing recreation resources	NAA, 2D, 4, 4A, 5A	NI		NI	NE
ECON-1: Temporary effects on regional economics and employment in the Delta region during construction of the proposed water conveyance facilities.	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	NI	A
ECON-2: Effects on population and housing in the Delta region during construction of the proposed water conveyance facilities.	NAA	NI		NI	NA
	4	LTS		LTS	LTS
	2D, 4A, 5A	NI		NI	NA
ECON-3: Changes in community character as a result of constructing the proposed water conveyance facilities.	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI		NI	A/B[10]
ECON-4: Changes in local government fiscal conditions as a result of constructing the proposed water conveyance facilities.	NAA, 2D, 4, 4A, 5A	NI		NI	NA
ECON-5: Effects on recreational economics as a result of constructing the proposed water conveyance facilities.	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	Various mitigation measures introduced in the following chapters: Chapter 12, *Terrestrial Biological Resources;* Chapter 15, *Recreation*; Chapter 17, *Aesthetics and Visual Resources*; Chapter 19, *Transportation*; and Chapter 23, *Noise*.	NI	A
ECON-6: Effects on agricultural economics in the Delta region during construction of the proposed water conveyance facilities	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	NI	A
ECON-7: Permanent regional economic and employment effects in the Delta region during operation and maintenance of the proposed water conveyance facilities.	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	NI	A
ECON-8: Permanent effects on population and housing in the Delta region during operation and maintenance of the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	NI		NI	NA

[10] While water conveyance construction could result in beneficial effects relating to the economic welfare of a community through additional regional employment and income, adverse social effects could also arise as a result of declining economic stability in communities closest to construction effects and in those most heavily influenced by agricultural and recreational activities.

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable

NEPA

A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
ECON-9: Changes in community character during operation and maintenance of the proposed water conveyance facilities	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	Various mitigation measures and environmental commitments related to noise, visual effects, transportation, agriculture and recreation would reduce adverse effects (See Appendix 3B, Environmental Commitments).	NI	A
ECON-10: Changes in local government fiscal conditions during operation and maintenance of the proposed water conveyance facilities.	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI		NI	A/B[11]
ECON-11: Effects on recreational economics during operation and maintenance of the proposed water conveyance facilities	2D, 4, 4A, 5A	NI		NI	NA
ECON-12: Permanent effects on agricultural economics in the Delta region during operation and maintenance of the proposed water conveyance facilities.	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	NI	A
ECON-13: Effects on the Delta region's economy and employment due to the implementation of the proposed Conservation Measures 2–22	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones MIN-5: Design Conservation Measures 4, 5, and 10 to avoid displacement of active natural gas wells to the extent feasible	NI	A/B[12]
ECON-14: Effects on population and housing in the Delta region as a result of implementing the proposed Conservation Measures 2–22	NAA, 2D, 4, 4A, 5A	NI		NI	NA
ECON-15: Changes in community character as a result of implementing the proposed Conservation Measures 2–22	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	Various mitigation measures and environmental commitments related to transportation, agriculture, and recreation would be anticipated to reduce these adverse effects (See Appendix 3B).	NI	A
ECON-16: Changes in local government fiscal conditions as a result of implementing the proposed Conservation Measures 2–22	NAA, 2D, 4, 4A, 5A	NI		NI	NA

[11] A decrease in revenue as a result property tax and assessment revenue forgone as a result of the proposed water conveyance facilities could result in the loss of a substantial share of some agencies' tax bases, which would be considered an adverse effect. However, the BDCP proponents would make arrangements to compensate local governments for the loss of property tax or assessment revenue for land used for constructing, locating, operating, or mitigating for new Delta water conveyance facilities. Additionally, operation and maintenance of the water conveyance facilities would be anticipated to result in a net increase of income and employment in the Delta region. This would also create an indirect beneficial effect through increased sales tax revenue for local government entities that rely on sales taxes.

[12] Implementation of CMs 2–22 would result in an increase in construction and operation and maintenance-related employment and labor income, which would be considered a beneficial effect. However, there may also be a resulting decrease in agricultural-related and natural gas production-related employment and labor income as a result of implementing these conservation measures, which would be considered an adverse effect.

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation CEQA	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation CEQA	Impact After Mitigation NEPA
ECON-17: Effects on recreational economics as a result of implementing the proposed Conservation Measures 2–22	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI		NI	A/B[13]
ECON-18: Effects on agricultural economics in the Delta region as a result of implementing the proposed Conservation Measures 2–22	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI	AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones	NI	A
ECON-19: Socioeconomic effects in the south-of-Delta hydrologic regions	NAA, 2D, 4, 4A, 5A	NI		NI	A/B[14]
Aesthetics and Visual Resources					
AES-1: Substantial alteration in existing visual quality or character during construction of conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1b: Install visual barriers between construction work areas and sensitive receptors AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1d: Restore barge unloading facility sites once decommissioned AES-1e: Apply aesthetic design treatments to all structures to the extent feasible AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities AES-1g: Implement best management practices to implement project landscaping plan	SU	A

[13] Adverse effects would be primarily limited to areas close to restoration areas and during site preparation and earthwork phases. These effects could result in a decline in visits to the Delta and reduction in recreation-related spending, creating an adverse economic effect throughout the Delta. Beneficial recreational effects would generally result during later stages of the BDCP permit period as CM2–CM22 are implemented and environmental conditions supporting recreational activities are enhanced. These effects could improve the quality of recreational experiences, leading to increased economic activities related to recreation, particularly in areas where conservation measure implementation would create new recreational opportunities.

[14] If operation of water conveyance facilities under Alternative 6A reduced M&I deliveries to the extent that it would, in the long run, constrain population growth, its implementation could reinforce a socioeconomic status quo or limit potential economic and employment growth in hydrologic regions. Such changes to agricultural production and population growth with its associated economic activity could also lead to shifts in the character of communities in the hydrologic regions with resultant beneficial or adverse effects. Likewise, limited growth associated with reduced deliveries could require lower expenditures for local governments while also leading to reduced revenue.

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AES-2: Permanent effects on a scenic vista from presence of conveyance facilities.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1e: Apply aesthetic design treatments to all structures to the extent feasible	SU	A
AES-3: Permanent damage to scenic resources along a state scenic highway from construction of conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1e: Apply aesthetic design treatments to all structures to the extent feasible	SU	A
AES-4: Creation of a new source of light or glare that would adversely affect views in the area as a result of construction and operation of conveyance facilities.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	AES-4a: Limit construction to daylight hours within 0.25 mile of residents AES-4b: Minimize fugitive light from portable sources used for construction AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences	SU	A
AES-5: Substantial alteration in existing visual quality or character during operation.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	LTS		LTS	NA
AES-6: Substantial alteration in existing visual quality or character during construction of CM2–CM22.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible AES-1b: Install visual barriers between construction work areas and sensitive receptors AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan AES-1d: Restore barge unloading facility sites once decommissioned AES-1e: Apply aesthetic design treatments to all structures to the extent feasible	SU	A

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable

NEPA

A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
			AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities AES-1g: Implement best management practices to implement project landscaping plan AES-4a: Limit construction to daylight hours within 0.25 mile of residents AES-4b: Minimize fugitive light from portable sources used for construction AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences AES-6a: Underground new or relocated utility lines where feasible AES-6b: Develop and implement an afterhours low-intensity and lights off policy AES-6c: Implement a comprehensive visual resources management plan for the Delta and study area		
AES-7: Compatibility of the proposed water conveyance facilities and other conservation measures with federal, state, or local plans, policies, or regulations addressing aesthetics and visual resources	NAA	NI		NI	NA
	2D, 4, 4A, 5A	NI		NI	NE
Cultural Resources					
CUL-1: Effects on identified archaeological sites resulting from construction of conveyance facilities	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-1: Prepare a data recovery plan and perform data recovery excavations on the affected portion of the deposits of identified and significant archaeological sites	SU	A
CUL-2: Effects on archaeological sites to be identified through future inventory efforts	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-2: Conduct inventory, evaluation, and treatment of archaeological resources	SU	A
CUL-3: Effects on archaeological sites that may not be identified through inventory efforts	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-3: Implement an archaeological resources discovery plan, perform training of construction workers, and conduct construction monitoring	SU	A
CUL-4: Effects on buried human remains damaged during construction	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-4: Follow state and federal law governing human remains if such resources are discovered during construction	SU	A
CUL-5: Direct and indirect effects on eligible and potentially eligible historic architectural/built environment-resources resulting from construction activities	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-5: Consult with relevant parties, prepare and implement a built environment treatment plan	SU	A

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
CUL-6: Direct and indirect effects on unidentified and unevaluated historic architectural/built environment resources resulting from construction activities	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-6: Conduct a survey of inaccessible properties to assess eligibility, determine if these properties will be adversely impacted by the project, and develop treatment to resolve or mitigate adverse impacts	SU	A
CUL-7: Effects of other Conservation Measures on cultural resources	NAA	S		SU	A
	2D, 4, 4A, 5A	S	CUL-7: Conduct cultural resource studies and adopt cultural resource mitigation measures for cultural resource impacts associated with implementation of Conservation Measures 2–22	SU	A
CUL-8: Compatibility of the proposed water conveyance facilities and other Conservation Measures with plans and policies	NAA	NI		NI	NE
	2D, 4, 4A, 5A	NI		NI	NE
Transportation					
TRANS-1: Increased construction vehicle trips resulting in unacceptable LOS conditions	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments	SU[20]	A[21]
TRANS-2: Increased construction vehicle trips exacerbating unacceptable pavement conditions	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	TRANS-2a: Prohibit construction activity on physically deficient roadway segments TRANS-2b: Limit construction activity on physically deficient roadway segments TRANS-2c: Improve physical condition of affected roadway segments as stipulated in mitigation agreements or encroachment permits	SU[21]	A[22]
TRANS-3: Increase in safety hazards, including interference with emergency routes during construction	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments	SU[22]	A[23]
TRANS-4: Disruption of marine traffic during construction	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
TRANS-5: Disruption of rail traffic during construction.	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A		TRANS-1a: Implement site-specific construction traffic management plan	LTS	NA
TRANS-6: Disruption of transit service during construction.	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 2D, 4, 4A, 5A	S	TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments	SU	A
	9	S	TRANS-1a: Implement site-specific construction traffic management plan	LTS	NA
TRANS-7: Interference with bicycle routes during construction.	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	TRANS-1a: Implement site-specific construction traffic management plan	LTS	NA
TRANS-8: Increased traffic volumes and delays during operations and maintenance.	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
TRANS-9: Permanent alteration of transportation patterns during operations and maintenance.	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
TRANS-10: Increased traffic volumes during implementation of CM2–CM22	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	TRANS-1a: Implement site-specific construction traffic management plan TRANS-1b: Limit hours or amount of construction activity on congested roadway segments TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments	SU[23, 24]	A[24, 25]
TRANS-11: Compatibility of the proposed water conveyance facilities and other conservation measures with plans and policies	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	NI		NI	NE
TRANS-12: Potential Effects on Navigation From Changes in Surface Water Elevations Caused by Construction of Water Conveyance Facilities	NAA	NI		NI	NE
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 4A, 2D, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
TRANS-13: Potential Effects of Navigation from Changes in Surface Elevations Caused by Operation of Intakes	NAA	NI		NI	NE
	4A	LTS	SW-4: Implement Measures to Reduce Runoff and Sedimentation	LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 5A	LTS		LTS	NA
TRANS-14: Potential Effects on Navigation Caused by Sedimentation From Construction of Intakes	NAA	NI		NI	NE
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 4A, 2D, 5A	LTS	SW-4: Implement Measures to Reduce Runoff and Sedimentation	LTS	NA
TRANS-15: Potential Effects on Navigation Caused by Sedimentation From Construction of Barge Facilities	NAA	NI		NI	NE
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 4A, 2D, 5A	LTS	SW-4: Implement Measures to Reduce Runoff and Sedimentation	LTS	NA
TRANS-16: Potential Effects on Navigation Caused by Sedimentation From Construction of Clifton Court Forebay	NAA	NI		NI	NE
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 4A, 2D, 5A	NI		NI	NE
TRANS-17: Potential Effects on Navigation Caused by Sedimentation From Operation of Intakes	NAA	NI		NI	NE
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9, 4A, 2D, 5A	LTS	SW-4: Implement Measures to Reduce Runoff and Sedimentation	LTS	NA
TRANS-18: Potential Effects on Navigation From Construction and Operations of Head of Old River Barrier	NAA	NI		NI	NE
	4A, 2A, 2B, 2C, 3, 4, 2D	LTS		LTS	NA
	1A, 1B, 1C, 5, 6A, 6B, 6C, 7, 8, 9, 5A	NI		NI	NE
TRANS-19: Potential Cumulative Effects on Navigation From Construction and Operations of Water Conveyance Facilities	NAA	NI		NI	NE
	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 4A, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 5A	LTS		LTS	NA
Public Services and Utilities					
UT-1: Increased demand on law enforcement, fire protection, and emergency response services from new workers in the Plan Area as a result of constructing the proposed water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
UT-2: Displacement of public service facilities as a result of constructing the proposed water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
UT-3: Effects on public schools as a result of constructing the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
UT-4: Effects on water or wastewater treatment services and facilities as a result of constructing the proposed water conveyance facilities.	NAA. 2D, 4, 4A, 5A	LTS		LTS	NA
UT-5: Effects on landfills as a result of solid waste disposal needs during construction of the proposed water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
UT-6: Effects on regional or local utilities as a result of constructing the proposed water conveyance facilities.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	UT-6a: Verify locations of utility infrastructure UT-6b: Relocate utility infrastructure in a way that avoids or minimizes any effect on operational reliability UT-6c: Relocate utility infrastructure in a way that avoids or minimizes any effect on worker and public health and safety	SU[15]	A[16]
UT-7: Effects on public services and utilities as a result of operation and maintenance of the proposed water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
UT-8: Effects on public services and utilities as a result of implementing the proposed CM2–CM11	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	UT-6a: Verify locations of utility infrastructure UT-6b: Relocate utility infrastructure in a way that avoids or minimizes any effect on operational reliability UT-6c: Relocate utility infrastructure in a way that avoids or minimizes any effect on worker and public health and safety	SU	NA
Energy					
ENG-1: Wasteful or inefficient energy use for temporary construction activities	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
ENG-2: Wasteful or inefficient energy use for pumping and conveyance	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
ENG-3: Compatibility of the proposed water conveyance facilities and CM2–CM22 with plans and policies	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	NI		NI	

[15] If coordination with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to communities were successful under Mitigation Measure UT-6b, the impact would be less than significant (CEQA) and there would be no adverse effect (NEPA).

[16] If coordination with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to communities were successful under Mitigation Measure UT-6b, the impact would be less than significant (CEQA) and there would be no adverse effect (NEPA).

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Air Quality and Greenhouse Gases					
AQ-1: Generation of criteria pollutants in excess of the SMAQMD regional thresholds during construction of the proposed water conveyance facility (previously AQ-1).	NAA	S		S	A
	1A, 1B, 2A, 2B, 6A, 6B, 2D	S (for ROG, NO_X, and PM10)	AQ-1a: Mitigate and offset construction-generated criteria pollutant emissions within the SFNA to net zero (0) for emissions in excess of general conformity *de minimis* thresholds (where Applicable) and to quantities below applicable CEQA thresholds for other pollutants AQ-1b: Develop an alternative or complementary offsite mitigation program to mitigate and offset construction-generated criteria pollutant emissions within the SFNA to net zero (0) for emissions in excess of general conformity *de minimis* thresholds (where applicable) and to quantities below applicable CEQA thresholds for other pollutants	LTS	NA
	1C, 2C, 6C, 3, 7, 8	S (for ROG, NO_X)		LTS	NA
	4, 4A, 5, 5A	S (for NO_X)		LTS	NA
AQ-2: Generation of criteria pollutants in excess of the YSAQMD regional thresholds during construction of the proposed water conveyance facility (previously AQ-1).	NAA	S		S	A
	1A, 1B, 2A, 2B, 6A, 6B, 7, 8, 9, 2D	S (for ROG, NO_X, and PM10)	AQ-1a: Mitigate and offset construction-generated criteria pollutant emissions within the SFNA to net zero (0) for emissions in excess of general conformity *de minimis* thresholds (where Applicable) and to quantities below applicable CEQA thresholds for other pollutants AQ-1b: Develop an alternative or complementary offsite mitigation program to mitigate and offset construction-generated criteria pollutant emissions within the SFNA to net zero (0) for emissions in excess of general conformity *de minimis* thresholds (where applicable) and to quantities below applicable CEQA thresholds for other pollutants	LTS	NA
	3	S (for PM10)		LTS	NA
	4, 4A, 5, 5A	LTS		LTS	NA
AQ-3: Generation of criteria pollutants in excess of the BAAQMD regional thresholds during construction of the proposed water conveyance facility.	NAA	S		S	A
	1A, 1B, 2A, 2B, 3, 5, 6A, 6B, 7, 8, 9, 2D, 4, 4A, 5A	S (for ROG and NO_X)	AQ-3a: Mitigate and offset construction-generated criteria pollutant emissions within BAAQMD/SFBAAB to net zero (0) for emissions in excess of General Conformity *de minimis* thresholds (where applicable) and to quantities below applicable BAAQMD CEQA thresholds for other pollutants AQ-3b: Develop an alternative or complementary off-site mitigation program to mitigate and offset construction-generated criteria pollutant emissions within the BAAQMD/SFBAAB to net zero (0) for emissions in excess of General Conformity *de minimis* thresholds (where applicable) and to quantities below applicable BAAQMD CEQA thresholds for other pollutants	LTS	NA
	1C, 2C, 6C	S (for ROG and NO_X)		S (for ROG and NO_X)	A (for ROG and NO_X)

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant	NI=no impact	ND=no determination
	S=significant	B=beneficial	N/A=not applicable

NEPA

A=adverse	NE=no effect	ND=no determination
NA=not adverse	B=beneficial	N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQ-4: Generation of criteria pollutants in excess of the SJVAPCD regional thresholds during construction of the proposed water conveyance facility.	NAA	S		S	A
	1A, 1B, 2A, 2B, 2D, 3, 4, 4A, 5, 5A, 7, 8	S (for ROG, NO_X and PM10)	AQ-4a: Mitigate and offset construction-generated criteria pollutant emissions within SJVAPCD/SJVAB to net zero (0) for emissions in excess of General Conformity *de minimis* thresholds (where applicable) and to quantities below applicable SJVAPCD CEQA thresholds for other pollutants AQ-4b: Develop an alternative or complementary off-site mitigation program to mitigate and offset construction-generated criteria pollutant emissions within the SJVAPCD/SJVAB to net zero (0) for emissions in excess of General Conformity *de minimis* thresholds (where applicable) and to quantities below applicable SJVAPCD CEQA thresholds for other pollutants	LTS	NA
	9	S (NO_X and PM10)		LTS	NA
	1C, 2C, 6C	LTS		LTS	NA
AQ-5: Generation of criteria pollutants in excess of the SMAQMD regional thresholds from operation and maintenance of the proposed water conveyance facility (previously AQ-6).	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-6: Generation of criteria pollutants in excess of the YSAQMD regional thresholds from operation and maintenance of the proposed water conveyance facility (previously AQ-5).	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-7: Generation of criteria pollutants in excess of the BAAQMD regional thresholds from operation and maintenance of the proposed water conveyance facility.	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-8: Generation of criteria pollutants in excess of the SJVAPCD regional thresholds from operation and maintenance of the proposed water conveyance facility.	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-9: Exposure of Sensitive Receptors to Health Hazards from Localized Particulate Matter in Excess of SMAQMD's Health-Based Concentration Thresholds (new impact).	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	AQ-9: Implement Measures to Reduce Re-Entrained Road Dust and Receptor Exposure to PM2.5 and PM10	LTS	NA
AQ-10: Exposure of Sensitive Receptors to Health Hazards from Localized Particulate Matter in Excess of YSAQMD's Health-Based Concentration Thresholds (new impact).	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-11: Exposure of Sensitive Receptors to Health Hazards from Localized Particulate Matter in Excess of BAAQMD's Health-Based Concentration Thresholds (new impact)	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-12: Exposure of Sensitive Receptors to Health Hazards from Localized Particulate Matter in Excess of SJVAPCD's Health-Based Concentration Thresholds (new impact)	NAA	LTS		LTS	NA
	1A, 1B, 2A, 2B, 2D, 3, 5, 5A, 6A, 6B, 7, 8, 9	S	AQ-9: Implement Measures to Reduce Re-Entrained Road Dust and Receptor Exposure to PM2.5 and PM10	LTS	NA
	1C, 2C, 6C, 4, 4A	LTS		LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQ-13: Exposure of Sensitive Receptors to Health Hazards from Localized Carbon Monoxide (new impact)	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-14: Exposure of Sensitive Receptors to Health Hazards from Diesel Particulate Matter in Excess of SMAQMD's Chronic Non-Cancer and Cancer Risk Thresholds (previously Impact AQ-11)	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, 9	LTS		LTS	NA
AQ-15: Exposure of Sensitive Receptors to Health Hazards from Diesel Particulate Matter in Excess of YSAQMD's Chronic Non-Cancer and Cancer Risk Thresholds (previously impact AQ-10)	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-16: Exposure of Sensitive Receptors to Health Hazards from Diesel Particulate Matter in Excess of BAAQMD's Chronic Non-Cancer and Cancer Risk Thresholds (previously impact AQ-13)	1A, 1C, 2A, 2C, 2D, 3, 5, 5A, 6A, 6C, 7, 8	S (cancer risk)	AQ-16: Relocate Sensitive Receptors to Avoid Excess Cancer Risk	SU (cancer risk)[17]	A (cancer risk)[38]
	NAA, 1B, 2B, 4, 4A, 6B, 9	LTS		LTS	NA
AQ-17: Exposure of Sensitive Receptors to Health Hazards from Diesel Particulate Matter in Excess of SJVAPCD's Chronic Non-Cancer and Cancer Risk Thresholds (previously impact AQ-12)	1B, 2B, 6B	S (cancer risk)	AQ-16: Relocate Sensitive Receptors to Avoid Excess Cancer Risk	SU (cancer risk)[18]	A (cancer risk)[39]
	NAA, 1A, 1C, 2A, 2C, 2D, 3, 4, 4A, 5, 5A, 6A, 6C, 7, 8, 9	LTS		LTS	NA
AQ-18: Exposure of Sensitive Receptors to *Coccidioides immitis* (Valley Fever) (new impact)	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-19: Creation of Potential Odors Affecting a Substantial Number of People	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-20: Generation of Criteria Pollutants in the Excess of Federal De Minimis Thresholds from Construction and Operation and Maintenance of the Proposed Water Conveyance Facility	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 2D, 3, 5, 5A, 6A, 6B, 6C, 7, 8, 9	S	AQ-1a: Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity De Minimis Thresholds (Where Applicable) and to Quantities below Applicable CEQA Thresholds for Other Pollutants AQ-1b: Develop an Alternative or Complementary Offsite Mitigation Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity De Minimis Thresholds (Where Applicable) and to Quantities below Applicable CEQA Thresholds for Other Pollutants	SU	A
	4, 4A	S		LTS	NA

[17] Mitigation Measure AQ-16 would reduce exposure to substantial cancer risk by relocating affected receptors. The BDCP proponents cannot ensure that the affected landowners will accept DWR's offer for relocation assistance. If the landowners choose not to accept DWR's offer of relocation assistance, a significant impact in the form of exposure to substantial excess cancer risk would occur. Therefore, this impact would be significant and unavoidable. If, however, the landowners accept DWR's offer of relocation assistance, the impact would be less than significant.

[18] Mitigation Measure AQ-16 would reduce exposure to substantial cancer risk by relocating affected receptors. The BDCP proponents cannot ensure that the affected landowners will accept DWR's offer for relocation assistance. If the landowners choose not to accept DWR's offer of relocation assistance, a significant impact in the form of exposure to substantial excess cancer risk would occur. Therefore, this impact would be significant and unavoidable. If, however, the landowners accept DWR's offer of relocation assistance, the impact would be less than significant.

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant) | LTS=less than significant | S=significant | NI=no impact | B=beneficial | ND=no determination | N/A=not applicable

NEPA

A=adverse | NA=not adverse | NE=no effect | B=beneficial | ND=no determination | N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
			AQ-3a: Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General Conformity De Minimis Thresholds (Where Applicable) and to Quantities below Applicable BAAQMD CEQA Thresholds for Other Pollutants AQ-3b: Develop an Alternative or Complementary Offsite Mitigation Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General Conformity De Minimis Thresholds (Where Applicable) and to Quantities below Applicable BAAQMD CEQA Thresholds for Other Pollutants AQ-4a: Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General Conformity De Minimis Thresholds (Where Applicable) and to Quantities below Applicable SJVAPCD CEQA Thresholds for Other Pollutants AQ-4b: Develop an Alternative or Complementary Offsite Mitigation Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General Conformity De Minimis Thresholds (Where Applicable) and to Quantities below Applicable SJVAPCD CEQA Thresholds for Other Pollutants		
AQ-21: Generation of cumulative greenhouse gas emissions during construction of the proposed water conveyance facility (previously Impact AQ-15)	NAA	S		S	A
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	AQ-21: Develop and implement a GHG mitigation program to reduce construction related GHG emissions to net zero (0)	LTS	NA
AQ-22: Generation of cumulative greenhouse gas emissions from operation and maintenance of the proposed water conveyance facility and increased pumping (previously Impact AQ-16)	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-23: Generation of cumulative greenhouse gas emissions from increased CVP pumping as a result of implementation of CM1 (previously Impact AQ-17)	1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 4A, 5, 5A	S	No feasible mitigation to address this impact	SU	A
	NAA, 6A, 6B, 6C, 7, 8, 9	LTS		LTS	NA
AQ-24: Generation of regional criteria pollutants from implementation of CM2–CM11 (previously Impact AQ-18)	NAA	S		S	A
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	AQ-24: Develop an Air Quality Mitigation Plan (AQMP) to ensure air district regulations and recommended mitigation are incorporated into future conservation measures and associated project activities.	SU	A

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
AQ-25: Exposure of Sensitive Receptors to Health Hazards from Localized Particulate Matter, Carbon Monoxide, and Diesel Particulate Matter from Implementation of CM2–CM11 (new impact)	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	AQ-24: Develop an Air Quality Mitigation Plan (AQMP) to ensure air district regulations and recommended mitigation are incorporated into future conservation measures and associated project activities. AQ-25: Prepare a Project-Level Health Risk Assessment to Reduce Potential Health Risks from Exposure to Localized DPM and PM Concentrations	LTS	NA
AQ-26: Creation of Potential Odors Affecting a Substantial Number of People from Implementation of CM2–CM11	NAA, 1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	LTS		LTS	NA
AQ-27: Generation of cumulative greenhouse gas emissions from implementation of CM2–CM11 (previously Impact AQ-19)	NAA	S		S	A
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	AQ-24: Develop an Air Quality Mitigation Plan (AQMP) to ensure air district regulations and recommended mitigation are incorporated into future conservation measures and associated project activities. AQ-27 Prepare a land use sequestration analysis to quantify and mitigate (as needed) GHG flux associated with conservation measures and associated project activities	SU	A
Noise					
NOI-1: Exposure of noise-sensitive land uses to noise from construction of water conveyance facilities	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	NOI-1a: Employ noise-reducing construction practices during construction. NOI-1b: Prior to construction, initiate a complaint/response tracking program.	SU	A
NOI-2: Exposure of sensitive receptors to vibration or groundborne noise from construction of water conveyance facilities	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 2D, 4, 4A, 5A	S	NOI-2: Employ vibration-reducing construction practices during construction of water conveyance facilities.	SU	A
	NAA, 9	LTS		LTS	NA
NOI-3: Exposure of noise-sensitive land uses to noise from operation of water conveyance facilities	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	NOI-3: Design and construct intake facilities and other pump facilities such that operational noise does not exceed 50 dBA (one-hour L_{eq}) during daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA (one-hour L_{eq}) during nighttime hours (10:00 p.m. to 7:00 a.m.) or the applicable local noise standard (whichever is less) at nearby noise sensitive land uses.	LTS	NA

Level of Significance/Determination of Effects:

CEQA

SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)
LTS=less than significant
S=significant
NI=no impact
B=beneficial
ND=no determination
N/A=not applicable

NEPA

A=adverse
NA=not adverse
NE=no effect
B=beneficial
ND=no determination
N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
NOI-4: Exposure of noise-sensitive land uses to noise from implementation of proposed Conservation Measures 2–10	NAA	LTS		LTS	NA
	1A, 1B, 1C, 2A, 2B, 2C, 3, 5, 6A, 6B, 6C, 7, 8, 9, 2D, 4, 4A, 5A	S	NOI-1a: Employ noise-reducing construction practices during construction. NOI-1b: Prior to construction, initiate a complaint/response tracking program.	SU	A
Hazards and Hazardous Materials					
HAZ-1: Create a substantial hazard to the public or the environment through the release of hazardous materials or by other means during construction of the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S		LTS	NA
HAZ-2: Expose sensitive receptors located within 0.25 miles of a construction site to hazardous materials, substances, or waste during construction of the water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
HAZ-3: Potential to conflict with a known hazardous materials site and, as a result, create a significant hazard to the public or the environment	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	NI		NI	NE
HAZ-4: Result in a safety hazard associated with an airport or private airstrip within 2 miles of the water conveyance facilities footprint for people residing or working in the study area during construction of the water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
HAZ-5: Expose people or structures to a substantial risk of property loss, personal injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, as a result of construction, and operation and maintenance of the water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
HAZ-6: Create a substantial hazard to the public or the environment through the release of hazardous materials or by other means during operation and maintenance of the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S		LTS	
HAZ-7: Create a substantial hazard to the public or the environment through the release of hazardous materials or by other means as a result of implementing Conservation Measures CM2–CM11, CM13, CM14, CM16 and CM18	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S		LTS	NA
HAZ-8: Increased risk of bird – aircraft strikes during implementation of conservation components that create or improve wildlife habitat	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S		SU	A

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Public Health					
PH-1: Increase in vector-borne diseases as a result of construction and operation of the intakes, solids lagoons, and/or sediment basins associated with the water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
PH-2: Exceedances of water quality criteria for constituents of concern such that there is an adverse effect on public health as a result of operation of the water conveyance facilities.	NAA	LTS		LTS	NA
	4	S	WQ-5: Avoid, minimize, or offset, as feasible, adverse water quality conditions.	SU[19]	A[31]
	2D, 4A, 5A	LTS		LTS	NA
PH-3: Substantial mobilization or increase in constituents known to bioaccumulate as a result of construction, operation or maintenance of the water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
PH-4: Expose substantially more people to transmission lines generating new sources of EMFs as a result of the operation of the water conveyance facilities.	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
PH-5: Increase in vector-borne diseases as a result of implementing CM2–CM7, CM10, and CM11	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
PH-6: Substantial increase in recreationists' exposure to pathogens as a result of implementing the restoration conservation measures	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
PH-7: Substantial mobilization of or increase in constituents known to bioaccumulate as a result of implementing CM2, CM4, CM5, and CM10	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
PH-8: Increase in Microcystis Bloom Formation as a Result of Operation of the Water Conveyance Facilities.	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	WQ-32a: Design Restoration Sites to Reduce Potential for Increased Microcystis Blooms. WQ-32b: Investigate and Implement Operational Measures to Manage Water Residence Time.	SU	A
PH-9: Increase in Microcystis Bloom Formation as a Result of Implementing CM2 and CM4.	4	S	WQ-32a: Design Restoration Sites to Reduce Potential for Increased Microcystis Blooms. WQ-32b: Investigate and Implement Operational Measures to Manage Water Residence Time.	SU	A
PH-9: Increase in *Microcystis* Bloom Formation as a Result of Implementing Environmental Commitment 4	NAA, 2D, 4A, 5A	LTS		LTS	NA

[19] This impact/effect would be less than significant/not adverse if all financial contributions, technical contributions, or partnerships required to avoid significant impacts prove feasible and any necessary agreements are completed before the project's contribution to the effect.

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Mineral Resources					
MIN-1: Loss of availability of locally important natural gas wells as a result of constructing the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	NI		NI	NA
MIN-2: Loss of availability of extraction potential from natural gas fields as a result of constructing the water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
MIN-3: Loss of availability of locally important natural gas wells as a result of operation and maintenance of the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	NI		NI	NA
MIN-4: Loss of availability of natural gas fields as a result of operation and maintenance of the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	NI		NI	NA
MIN-5: Loss of availability of locally important natural gas wells as a result of implementing Conservation Measures 2–22	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	MIN-5: Design CM4, CM5, and CM10 to avoid displacement of active natural gas wells to the extent feasible	SU	A
MIN-6: Loss of availability of extraction potential from natural gas fields as a result of implementing Conservation Measures 2–22	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	S	MIN-6: Design CM4, CM5, and CM10 to maintain drilling access to natural gas fields to the extent feasible	SU	A
MIN-7: Loss of availability of locally important aggregate resource sites (mines and MRZs) as a result of constructing the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	NI		NI	NE
MIN-8: Loss of availability of known aggregate resources as a result of constructing the proposed water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
MIN-9: Loss of availability of locally important aggregate resource sites (mines and MRZs) as a result of operation and maintenance of the water conveyance facilities	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	NI		NI	NE
MIN-10: Loss of availability of known aggregate resources as a result of operation and maintenance of the water conveyance facilities	NAA, 2D, 4, 4A, 5A	LTS		LTS	NA
MIN-11: Loss of availability of locally important aggregate resource sites (mines and MRZs) as a result of implementing Conservation Measures 2–22	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	LTS	MIN-11: Purchase affected aggregate materials for use in BDCP construction	LTS	NA
MIN-12: Loss of availability of known aggregate resources as a result of implementing Conservation Measures 2–22	NAA	LTS		LTS	NA
	2D, 4, 4A, 5A	LTS		LTS	NA

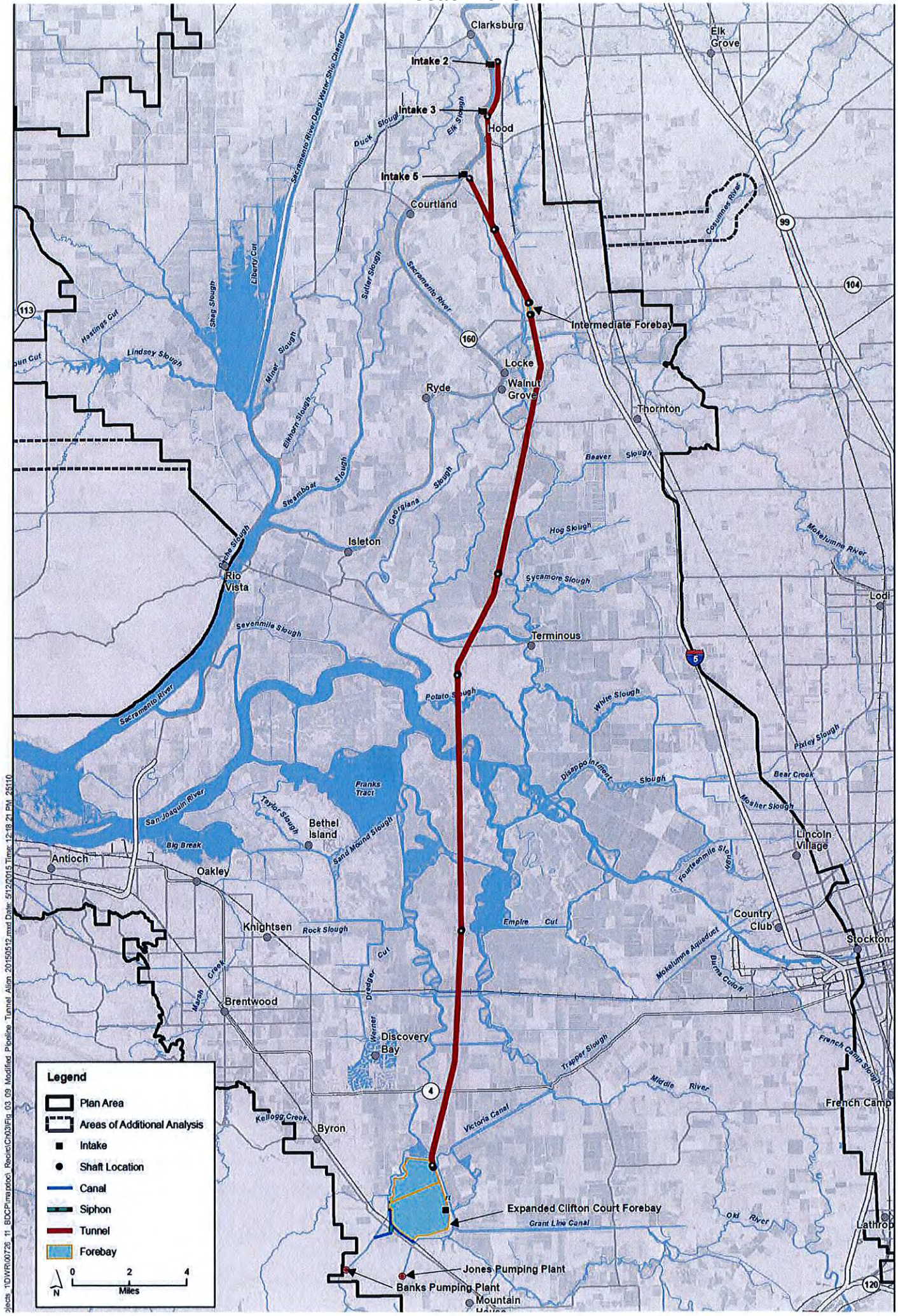
Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable

Potential Impact	Alternatives	Impact Conclusions Before Mitigation	Proposed Mitigation (CEQA and NEPA)	Impact After Mitigation	
		CEQA		CEQA	NEPA
Paleontological Resources					
PALEO-1: Destruction of unique or significant paleontological resources as a result of construction of water conveyance facilities.	NAA	S		S	A
	2D, 4, 4A, 5A	S	PALEO-1a: Prepare a monitoring and mitigation plan for paleontological resources PALEO-1b: Review 90% design submittal and develop specific language identifying how the mitigation measures will be implemented along the alignment PALEO-1c: Educate construction personnel in recognizing fossil material PALEO-1d: Collect and preserve substantial potentially unique or significant fossil remains when encountered	SU	A
PALEO-2: Destruction of unique or significant paleontological resources associated with the implementation of other conservation measures.	NAA	S		S	A
	2D, 4, 4A, 5A	S	PALEO-1a: Prepare a monitoring and mitigation plan for paleontological resources PALEO-1b: Review 90% design submittal and develop specific language identifying how the mitigation measures will be implemented along the alignment PALEO-1c: Educate construction personnel in recognizing fossil material PALEO-1d: Collect and preserve substantial potentially unique or significant fossil remains when encountered	LTS	NA

Level of Significance/Determination of Effects:

CEQA				NEPA		
SU=significant and unavoidable (any mitigation not sufficient to render impact less than significant)	LTS=less than significant S=significant	NI=no impact B=beneficial	ND=no determination N/A=not applicable	A=adverse NA=not adverse	NE=no effect B=beneficial	ND=no determination N/A=not applicable


Clarksburg
Elk Grove
Intake 2
Intake 3
Hood
Intake 5
Courtland
Intermediate Forebay
Locke
Walnut Grove
Ryde
Thornton
Isleton
Rio Vista
Terminous
Lodi
Lincoln Village
Stockton
Country Club
Antioch
Oakley
Bethel Island
Knightsen
Brentwood
Discovery Bay
Byron
French Camp
Lathrop
Expanded Clifton Court Forebay
Jones Pumping Plant
Banks Pumping Plant
Mountain House
Sacramento River Deep Water Ship Channel
Duck Slough
Elk Slough
Sutter Slough
Sacramento River
Columbia River
Hastings Cut
Lindsey Slough
Shag Slough
Liberty Cut
Miner Slough
Elkhorn Slough
Steamboat Slough
Georgiana Slough
Beaver Slough
Hog Slough
Mokelumne River
Sycamore Slough
Potato Slough
White Slough
Pixley Slough
Bear Creek
Mosher Slough
Fourteenmile Slough
Disappointment Slough
Severnmile Slough
Franks Tract
Taylor Slough
Sand Mound Slough
Big Break
San Joaquin River
Empire Cut
Rock Slough
Dredger Cut
Marsh Creek
Kellogg Creek
Werner
Trapper Slough
Middle River
Victoria Canal
Grant Line Canal
Old River
Mokelumne Aqueduct
Burns Cutoff
French Camp Slough
Legend
Plan Area
Areas of Additional Analysis
Intake
Shaft Location
Canal
Siphon
Tunnel
Forebay
0 2 4
Miles
N

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Stefani Phillips, Secretary

SUBJECT: **COMMITTEE MEETINGS**

RECOMMENDATION

This item is presented for information only. No action by the Board is proposed at this time.

Summary

There were no committee meetings held between the months of August and September 2015.

DISCUSSION

Background

At the Regular Board Meeting held on May 27, 2015, the FRCD Board of Directors determined that the committee meeting minutes will be brought to the FRCD Regular Board Meeting and placed under agenda item Committee Meetings. The agenda item Committee Meetings, were placed after Consent Calendar for approval. This item may be moved within the agenda, if necessary, by direction from Chairman Chuck Dawson. The committee meeting minutes shall be accepted by the FRCD Board of Directors.

Present Situation

There were no committee meetings held between the months of August and September 2015, therefore minutes were not produced.

FINANCIAL SUMMARY

There is no financial impact associated with this item at this time.

Respectfully Submitted,

STEFANI PHILLIPS,
FLORIN RESOURCE CONSERVATION DISTRICT BOARD SECRETARY

SP

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Ellen Carlson, Management Analyst

SUBJECT: **FLORIN RESOURCE CONSERVATION DISTRICT CONSERVATION ACTIVITIES – SEPTEMBER 2015**

RECOMMENDATION

This item is presented for information only. No action by the Board is proposed at this time.

Summary

The Board has requested a monthly summary of Florin Resource Conservation District conservation activities performed by the Board and Staff.

DISCUSSION

Background

Board members and staff periodically perform community services within the FRCD boundaries in keeping with the purpose of the Florin Resource Conservation District.

Present Situation

General Mark Madison has initiated a contract with Kampa Consulting LLC to conduct a needs assessment for the District. Work is underway to design a stakeholder and public outreach process to solicit information to be presented to the Board.

STRATEGIC PLAN CONFORMITY

Participation in regional conservation outreach is in conformity with the District's conservation and cooperative program goals of the 2012-2017 Strategic Plan.

FINANCIAL SUMMARY

There is no direct financial impact associated with this report.

Respectfully submitted,

Ellen Carlson SP

ELLEN CARLSON
MANAGEMENT ANALYST

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Ellen Carlson, Management Analyst

SUBJECT: **WATER CONSERVATION REPORT**

RECOMMENDATION

This item is presented for information only. No action by the Board is proposed at this time.

Summary

This report provides a monthly update on the Elk Grove Water District's water conservation efforts. For the month of August, Service area 1 reduced its water consumption by 39.25% in August and service area 2 reduced by 32.31%. These figures are in comparison to the same month in 2013. The cumulative reduction was 39.27%. The Elk Grove Water District's cumulative water use reduction, starting from June 2015, is 39.27%.

DISCUSSION

Background

On May 5, the State Water Resources Control Board (SWRCB) adopted emergency regulations to meet a statewide reduction of potable water use by 25 percent. Water agencies were assigned different reduction targets comparing the use this year to that in 2013. The Elk Grove Water District (EGWD) was assigned a 28 percent reduction requirement.

On May 13, 2015 the District elevated our action level to Stage 2 Plus action level which is designed to achieve a new water use reduction of 28%. The Stage 2 Plus restrictions include:

- Irrigation is limited to two days a week, designated by the property address
- All irrigation is prohibited between 10 AM and 8 PM
- No irrigation is permitted during or up to 48 hours after measurable rainfall

- No runoff or gutter flooding is permitted
- No use of a hose to wash a motor vehicle, unless the hose is fitted with a shut off nozzle
- No washing down driveways or sidewalks
- Water is served in restaurants only on request

Present Situation

In compliance with the State of California's Emergency Drought Regulations, Elk Grove Water District continues at a Stage 2 Plus – Extreme Water Warning of the Water Shortage Contingency Plan. The table attached to this report (Attachment 1) show the production figures for 2013 and the year to date for 2015 with the reduction percentages both for the month and cumulative for the 2015-2016 year.

The District continues to patrol looking for water waste violations. A total of 14 patrols, once each morning and another in the evening are completed every week. Airborne Securities was contracted to patrol every night from 6 PM until 2 AM. They also patrol on weekends from 4 AM until noon. In-house staff patrols on weekdays from 4 AM until 1:30.

EGWD issued 628 water waste notices in August, which is a reduction of more than 100 notices since July. Nine Administrative Citations were issued in August, but one was reversed on appeal.

Relative to public outreach, The Elk Grove Water District placed a "banner" advertisement on the front page of the Elk Grove Citizen for the August 11 and 12 issues, promoting a new resource for residents and business owners. Staff also delivered a presentation on the drought at Green Acres on August 18.

BeyondTheDrought.com was also launched as a cooperative effort by the Regional Water Authority, the Water Forum, the California Urban Water Conservation Council and EcoLandscape and highlights a number of videos to assist with everything from setting an irrigation controller to helping trees survive the drought. A very special feature is the new Sacramento Region Smart Irrigation Scheduler. The user enters data about their location and the type of landscape they are irrigating and the program provides a proposed irrigation schedule. A sample schedule is attached to this report (Attachment 2).

STRATEGIC PLAN CONFORMITY

Compliance with State regulations is in conformity with the District's Business Practice goals of the 2012-2017 Strategic Plan.

FINANCIAL SUMMARY

There is no direct financial impact associated with this report.

Respectfully submitted,

Ellen Carlson

ELLEN CARLSON
MANAGEMENT ANALYST

Attachments

Elk Grove Water District Water Usage

	Monthly Production (gallons)											
2013	January	February	March	April	May	June	July	August	September	October	November	December
GW (SA1)	68,254,916 *	81,368,191 *	100,542,522	121,613,523	172,623,839	196,557,137	221,335,388	205,830,850	166,997,536	145,352,530	107,186,459	80,494,167
Purchased (SA2)	33,769,956	30,929,052	36,942,972	51,911,200	87,470,372	100,709,224	112,128,192	110,885,764	105,417,136	81,665,892	71,505,060	62,165,532
Total	102,024,872	112,297,243	137,485,494	173,524,723	260,094,211	297,266,361	333,463,580	316,716,614	272,414,672	227,018,422	178,691,519	142,659,699

2015	January	February	March	April	May	June	July	August	September	October	November	December
GW (SA1)	62,684,574	57,365,413	86,489,437	88,984,850	106,158,389	114,555,359	127,038,586	125,052,315				
Purchased (SA2)	28,648,400	30,029,208	36,876,400	51,626,212	52,734,000	62,368,240	71,273,928	75,055,068				
Total	91,332,974	87,394,621	123,365,837	140,611,062	158,892,389	176,923,599	198,312,514	200,107,383				
% Reduction	10.48%	22.18%	10.27%	18.97%	38.91%	40.48%	40.53%	36.82%				
% Cumulative Reduction						**40.48%**	**40.51%**	**39.27%**				

*Notes

SA1 = Service Area 1, SA2 = Service Area 2. SA1 is all groundwater (GW) production. SA2 is all purchased water from SCWA.

Actual Recorded Prod. (Jan. 2013) - Service Area 1 79,361,342 gallons (Includes water delivered to SA2 due to open intertie. Intertie closed end of Feb. 2013)

Actual Recorded Prod. (Feb. 2013) - Service Area 1 94,608,406 gallons (Includes water delivered to SA2 due to open intertie. Intertie closed end of Feb. 2013)

To determine estimate of Feb. 2013 production delivered to Service Area 1, use multiplier from March data which is seasonally similar.)

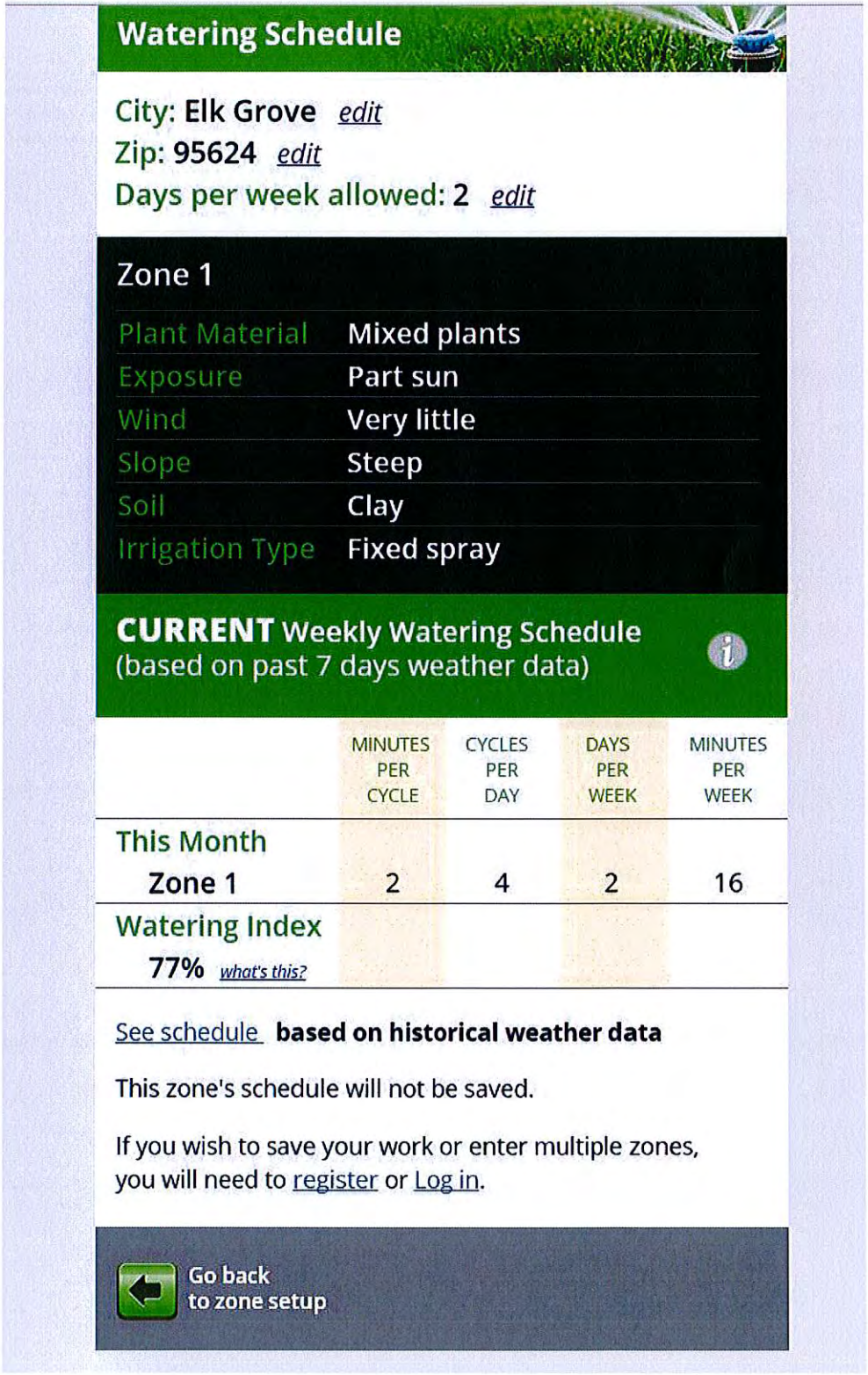
Service Area 1 Multiplier = 1.39 (calculated from March 2013 Prod. Data/March 2014 Prod. Data)

Calc'd Feb. 2013 Prod. = Feb. 2014 Prod. Data x 1.39 = 79,737,924

To determine estimate of Jan. 2013 production, use prorated amount from Feb. 2013 data. (This method due to Jan. 2014 being unseasonably hot.)

Calc'd Jan. 2013 Prod. = (Feb. 2013 Prod. Data Calc'd / Feb. 2013 Prod. Data Actual) x Jan. 2013 Prod. Data Actual = 68,254,916

Attachment 1



Watering Schedule

City: **Elk Grove** *edit*
Zip: **95624** *edit*
Days per week allowed: **2** *edit*

Zone 1

Plant Material	Mixed plants
Exposure	Part sun
Wind	Very little
Slope	Steep
Soil	Clay
Irrigation Type	Fixed spray

CURRENT Weekly Watering Schedule
(based on past 7 days weather data)

	MINUTES PER CYCLE	CYCLES PER DAY	DAYS PER WEEK	MINUTES PER WEEK
This Month				
Zone 1	2	4	2	16
Watering Index				
77% *what's this?*				

See schedule **based on historical weather data**

This zone's schedule will not be saved.

If you wish to save your work or enter multiple zones, you will need to register or Log in.

Go back to zone setup

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Mark J. Madison, General Manager

SUBJECT: **ELK GROVE WATER DISTRICT OPERATIONS REPORT – AUGUST 2015**

RECOMMENDATION

This item is presented for information only. No action by the Board is proposed at this time.

Summary

The Elk Grove Water District (EGWD) Operations Report is a standing item on the regular board meeting agenda.

All regulatory requirements were met for the month of August. Other notable events are described below.

DISCUSSION

Background

Every month, staff presents an update of the activities related to the operations of the District. Included for the Board's review is the EGWD's August 2015 Operations Report.

Present Situation

The EGWD August 2015 Operations Report highlights are as follows:

- **Operations Activities Summary** – Notable items in the activities summary are that the District had no customer complaints for the second month in a row. The District also hung 481 door hangers for past due balances which resulted in 75 shutoffs.

- **Production** – The Combined Total Service Area 1 production graph on page 13 shows that production during the month of August decreased compared to August

2014. The production decrease is expressly related to customer reductions in water consumption due to the drought. The Total Demand/Production for both service areas on page 14 shows that production during the month of August increased slightly compared to August 2014.

- **Static and Pumping Level Graphs** – The 3rd quarter soundings are shown and continue to indicate the static and pumping water levels remain stable. In fact, the static water levels are actually higher than the measurements taken during the same quarter of 2013.

- **Treatment (Compliance Reporting)** – All samples taken during the month are in compliance with all regulatory permit requirements. No exceedances of any maximum contaminant levels were found and all water supplied to the District's customers met or exceeded safe drinking water standards.

- **Preventative Maintenance Program** – The tables included in this section of the report also include certain activities completed to date. Below is a list of out-of-ordinary maintenance work completed in August:

  - Staff installed a new dish on the radio antenna at the Railroad WTP.
  - At Hampton WTP, staff worked with vendors to assess malfunctioning flow control valves, then completed rebuilding the flow control/pilot valve systems. Staff also developed a punch list on process and SCADA controls for Tesco to address.

- **Backflow Prevention Program 2015** –There were 98 notices issued for the month and 74 devices passed on the initial test. A total of 4 devices failed on the initial test and 2 of them passed on the final test performed. There were 4 devices rescheduled or inactivated and 18 secondary notices issued. There are a **total** of 33 outstanding devices as of the date of this report, which will require further investigation.

- **Safety Meetings/Training** – There were 5 safety training sessions conducted for the month. Only 2 safety sessions are required by OSHA standards.

- **Service Line Replacement Map** – The Utility Department installed 26 service lines for residential services for the month.

- **Service and Main Leaks Map** – There were 2 service line leaks and 1 main line leak reported for the month.

STRATEGIC PLAN CONFORMITY

The District's Strategic Plan addresses responsible business practices and the importance of providing the community with safe drinking water. The EGWD Operations Report is a key document for managing the District's distribution and treatment system. The EGWD Operations Report assists the District toward its responsibility of delivering safe drinking water.

FINANCIAL SUMMARY

There is no financial impact associated with this report.

Respectfully Submitted,

MARK J. MADISON, P.E.
GENERAL MANAGER

MJM/ah

EGWD

OPERATIONS REPORT

August 2015

Elk
Grove
Water
District

Elk Grove Water District
A DEPARTMENT OF THE
Florin Resource Conservation District

Elk Grove Water District

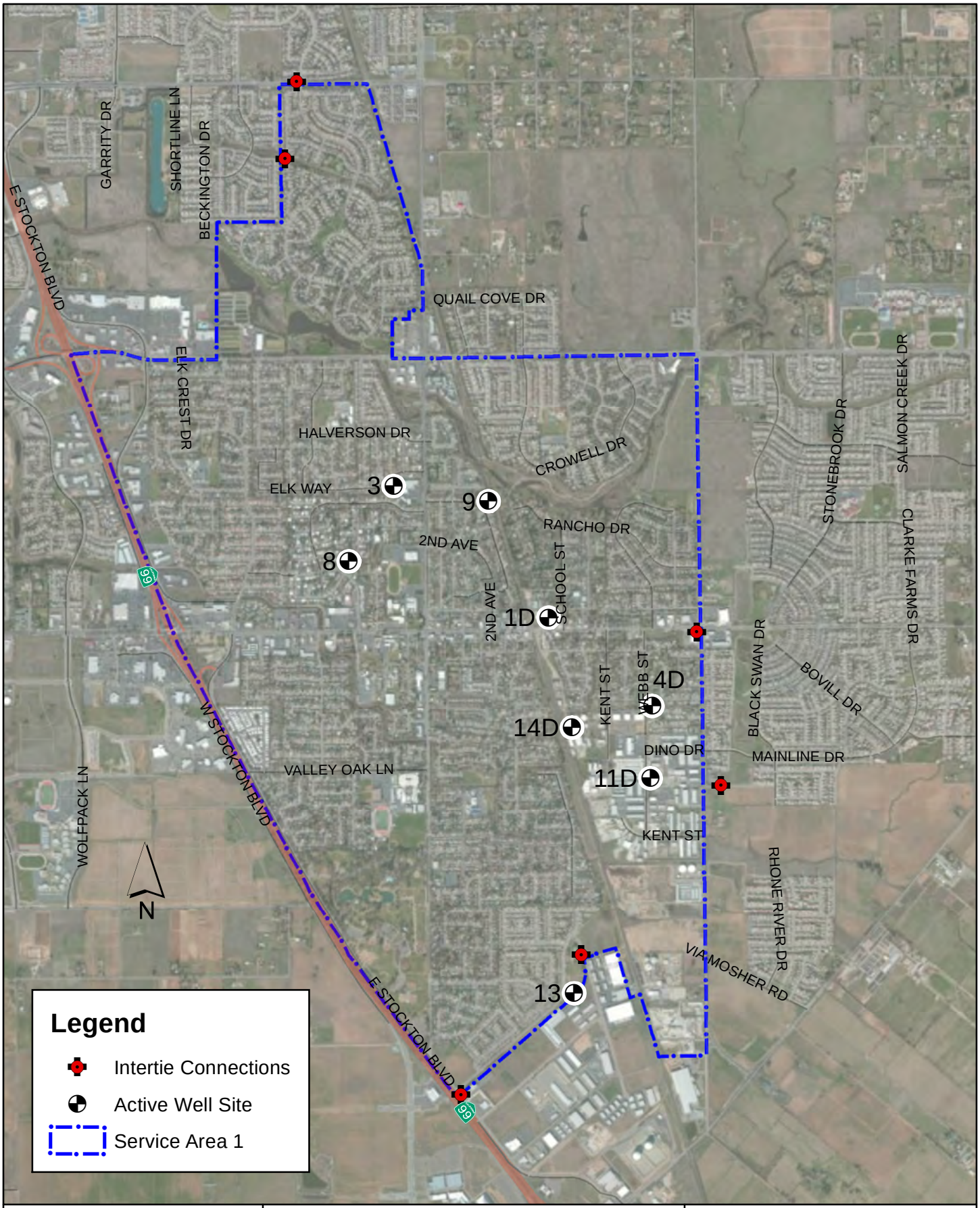
Operations Report

Table of Contents

Operations Activities Summary

Service Requests:	Aug-15		YTD (Since July 1, 2015)	
Department	Service Request	Hours	Service Request	Hours
Distribution				
Door Hangers	481	14.85	957	39.99
Shut offs	75	8.62	105	12.82
Turn ons	76	7	118	18.2
Investigations	36	30.6	71	51.2
USA Locates	99	24.75	216	54
Customer Complaints				
-Pressure	0	0	0	0
-Water Quality	0	0	0	0
-Other	0	0	0	0

Work Orders:	Aug-15		YTD (Since July 1, 2015)	
Department	Work Orders	Hours	Work Orders	Hours
Treatment:				
Preventative Maint.	12	25	16	6
Corrective Maint.	3	20	6	61
Water Samples	8	29	22	59
Distribution:				
Meters Installed	0	0	0	0
Backflow Devices Installed	6	246	8	301
Preventative Maint.				
-Hydrant Flushing Program	0	0	0	0
-Hydrant Maintenance	24	24	80	80
-Valve Exercising	122	36	281	72
-Other	0	0	0	0
Corrective Maint.				
-Leaks	3	50.5	11	169.5
-Other	36	35	54	90.5
Valve Locates	0	0	1	15
Utility:				
Meters Installed	0	0	0	0
Service Line Replacement	26	439.5	52	947
Corrective Maint.	0	0	0	0



Active Well Sites & Intertie Connections

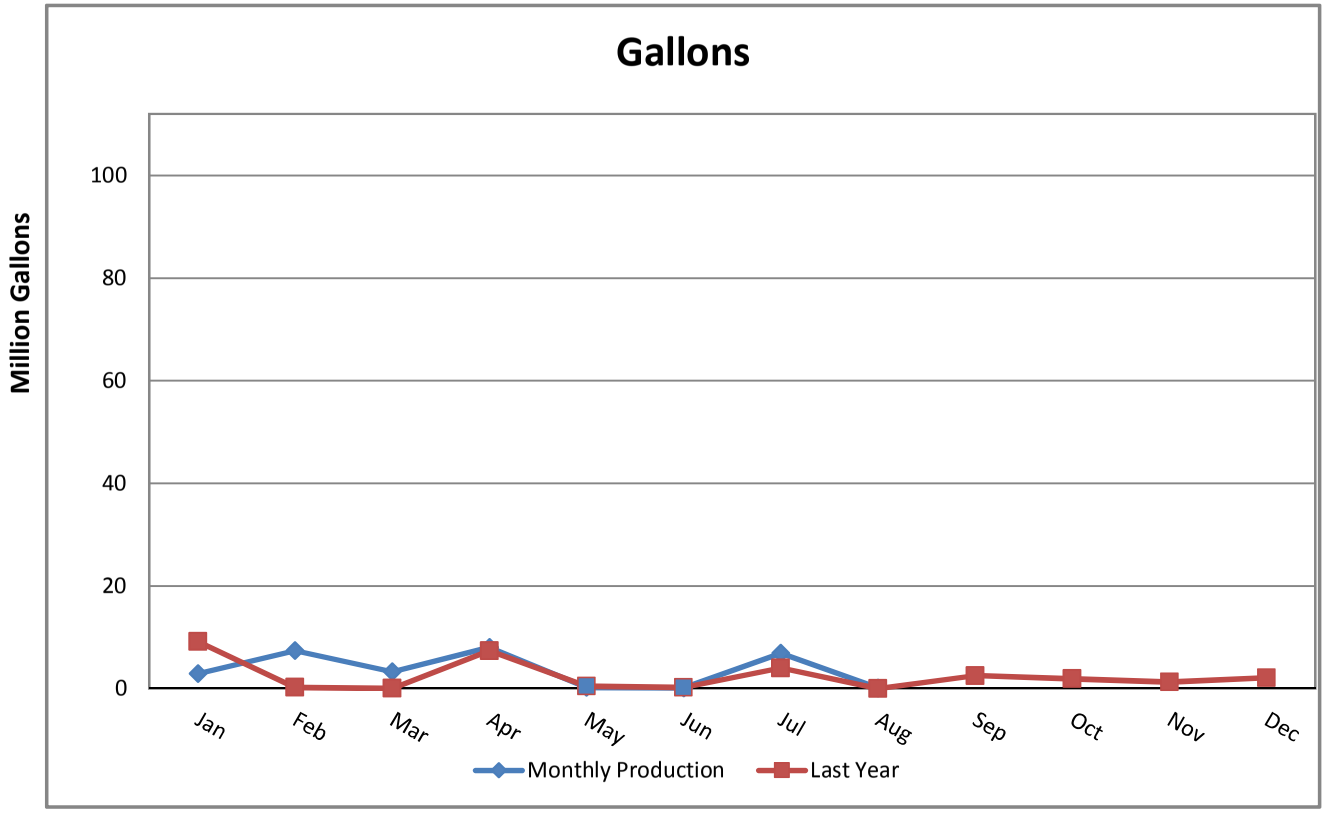
0 1,250 2,500 5,000 Feet

Elk Grove Water District

Elk Grove Water District

Monthly Production

Well 1D School -- Aug. 2015



Selected Month Production
141,590 Gallons

Average GPM:
1,815

Motor:	
Volts:	468
Volts (Rated):	460
RPM:	2120
RPM (Rated):	2115
Amps A:	183
Amps A (Rated):	222
Amps B:	179
Amps B (Rated):	222
Amps C:	172
Amps C (Rated):	222
Motor Temp:	102.2 F
Hour Meter:	1.30
KW Hour Total:	720.00

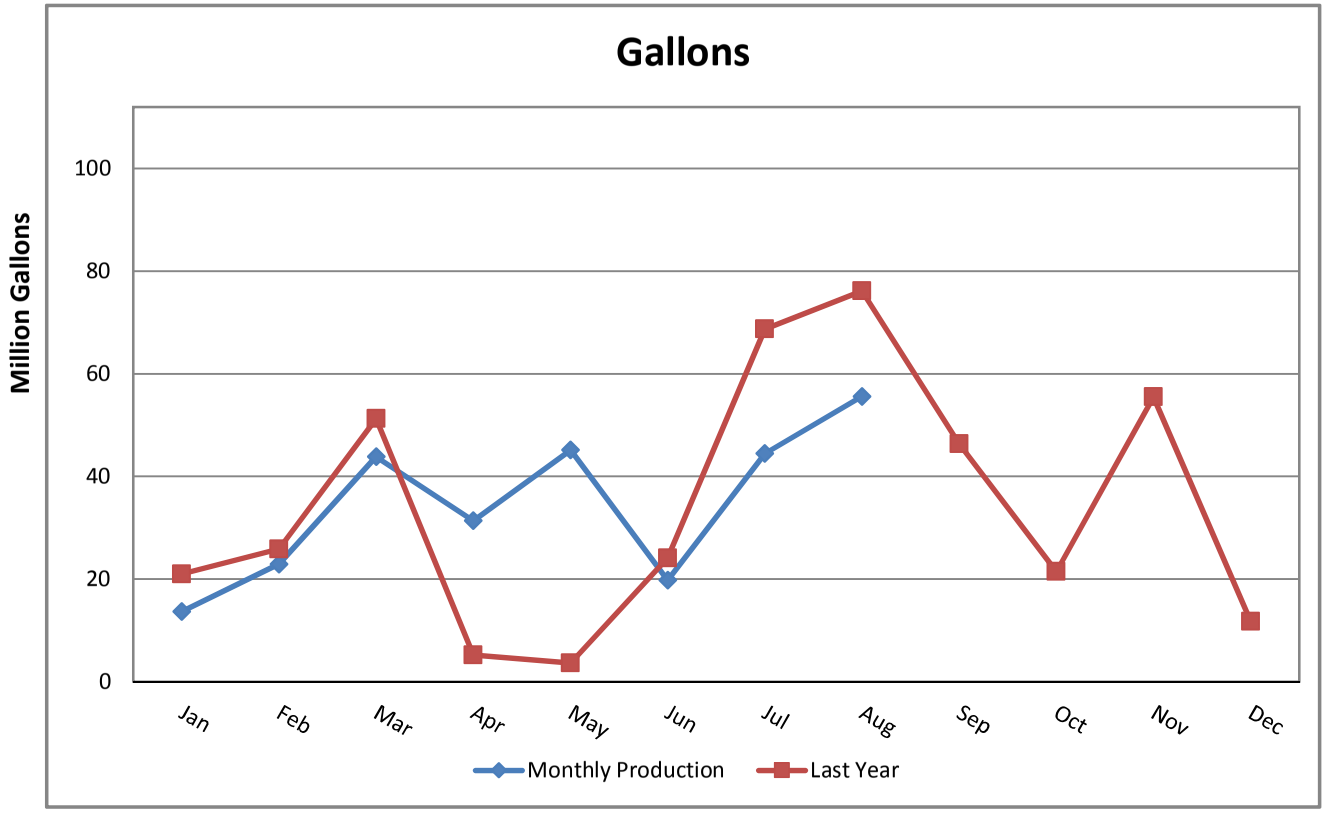
Chlorine:	
Dosing:	1.64
Demand:	0.74
Residual:	0.9

Vibration Reading:	
Base Line:	0.05
Current:	0.03

Elk Grove Water District

Monthly Production

Well 4D Webb -- Aug. 2015



Selected Month Production
55,605,962 Gallons

Average GPM:
1,704

Motor:

Volts:	480
Volts (Rated):	460
RPM:	1894
RPM (Rated):	1775
Amps A:	186
Amps A (Rated):	225
Amps B:	186
Amps B (Rated):	225
Amps C:	187
Amps C (Rated):	225
Motor Temp:	161.6 F
Hour Meter:	543.70
KW Hour Total:	69,180.00

Chlorine:

Dosing:	1.67 mg/L
Demand:	0.71 mg/L
Residual:	0.96 mg/L

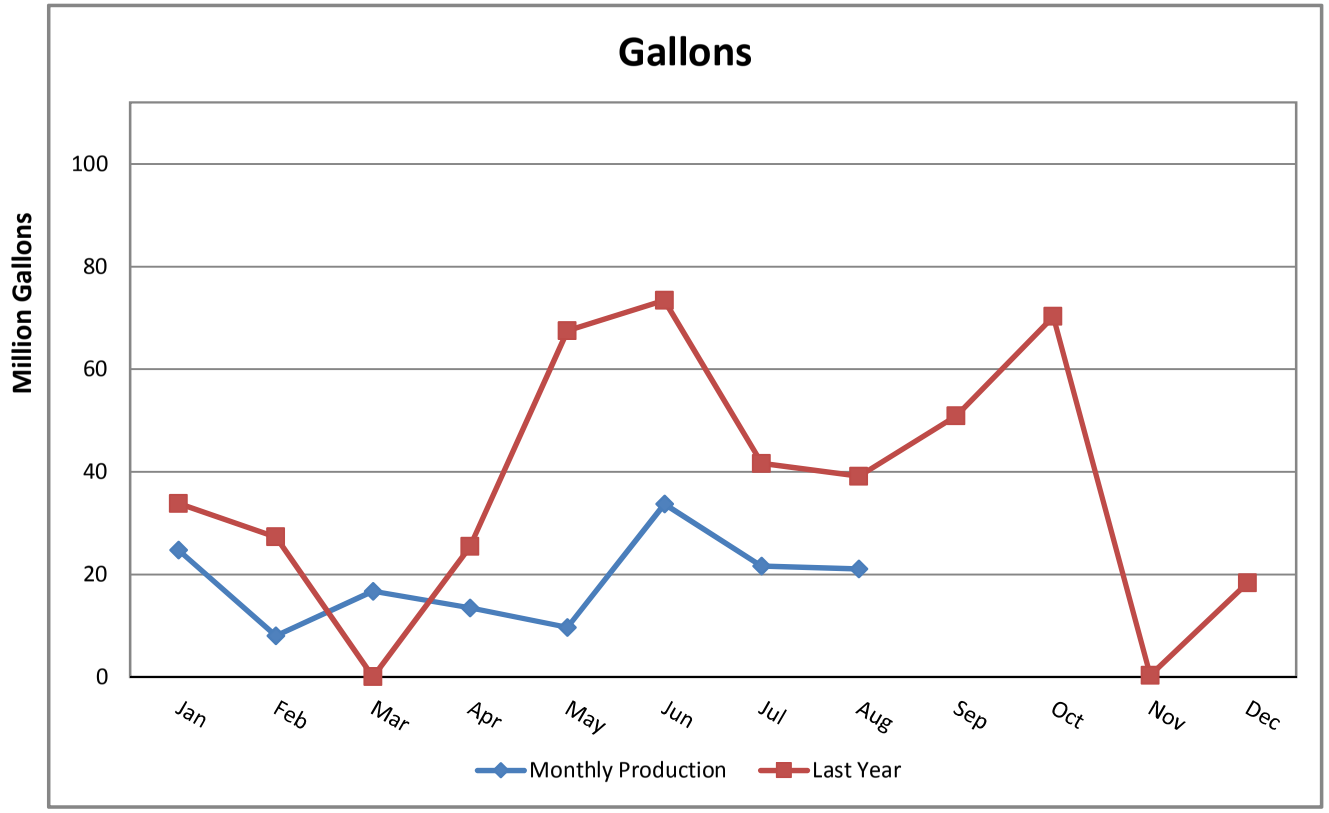
Vibration Reading:

Base Line:	0.05 in/sec
Current:	0.02 in/sec

Elk Grove Water District

Monthly Production

Well 11D Dino -- Aug. 2015



Selected Month Production
21,062,682 Gallons

Average GPM:
1,699

Motor:

Volts:	482
Volts (Rated):	460
RPM:	1994
RPM (Rated):	1775
Amps A:	205
Amps A (Rated):	225
Amps B:	205
Amps B (Rated):	225
Amps C:	207
Amps C (Rated):	225
Motor Temp:	178 F
Hour Meter:	206.60
KW Hour Total:	31,020.00

Chlorine:

Dosing:	1.66 mg/L
Demand:	0.7 mg/L
Residual:	0.96 mg/L

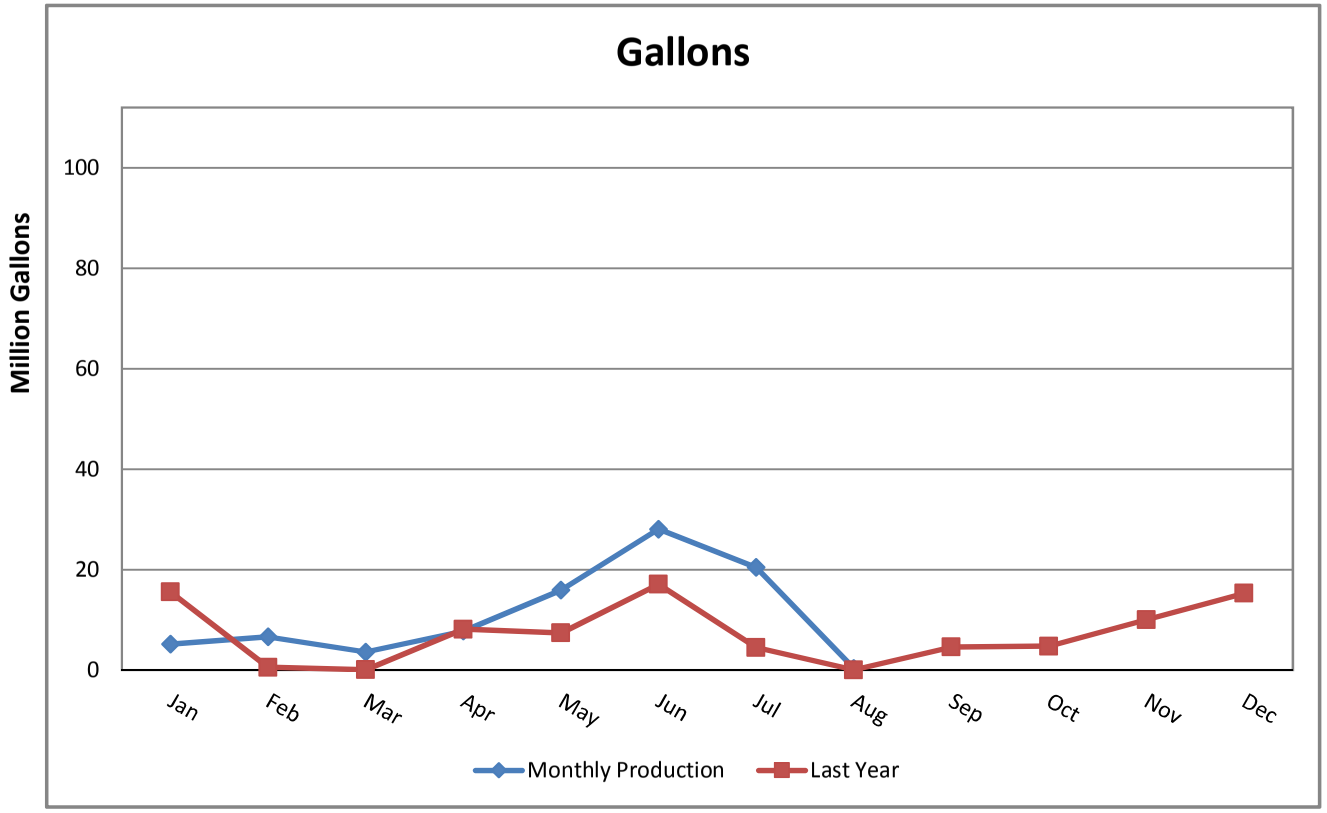
Vibration Reading:

Base Line:	0.05 in/sec
Current:	0.08 in/sec

Elk Grove Water District

Monthly Production

Well 14D Railroad -- Aug. 2015



Selected Month Production
332,814 Gallons

Average GPM:
1,459

Motor:

Volts:	478
Volts (Rated):	479
RPM:	2100
RPM (Rated):	2005
Amps A:	166
Amps A (Rated):	171
Amps B:	162
Amps B (Rated):	171
Amps C:	154
Amps C (Rated):	171

Motor Temp.:	137.8 F
Hour Meter:	3.80
KW Hour Total:	57,440.00

(KWH total is for the entire facility)

Chlorine:

Dosing:	1.8 mg/L
Demand:	0.9 mg/L
Residual:	0.9 mg/L

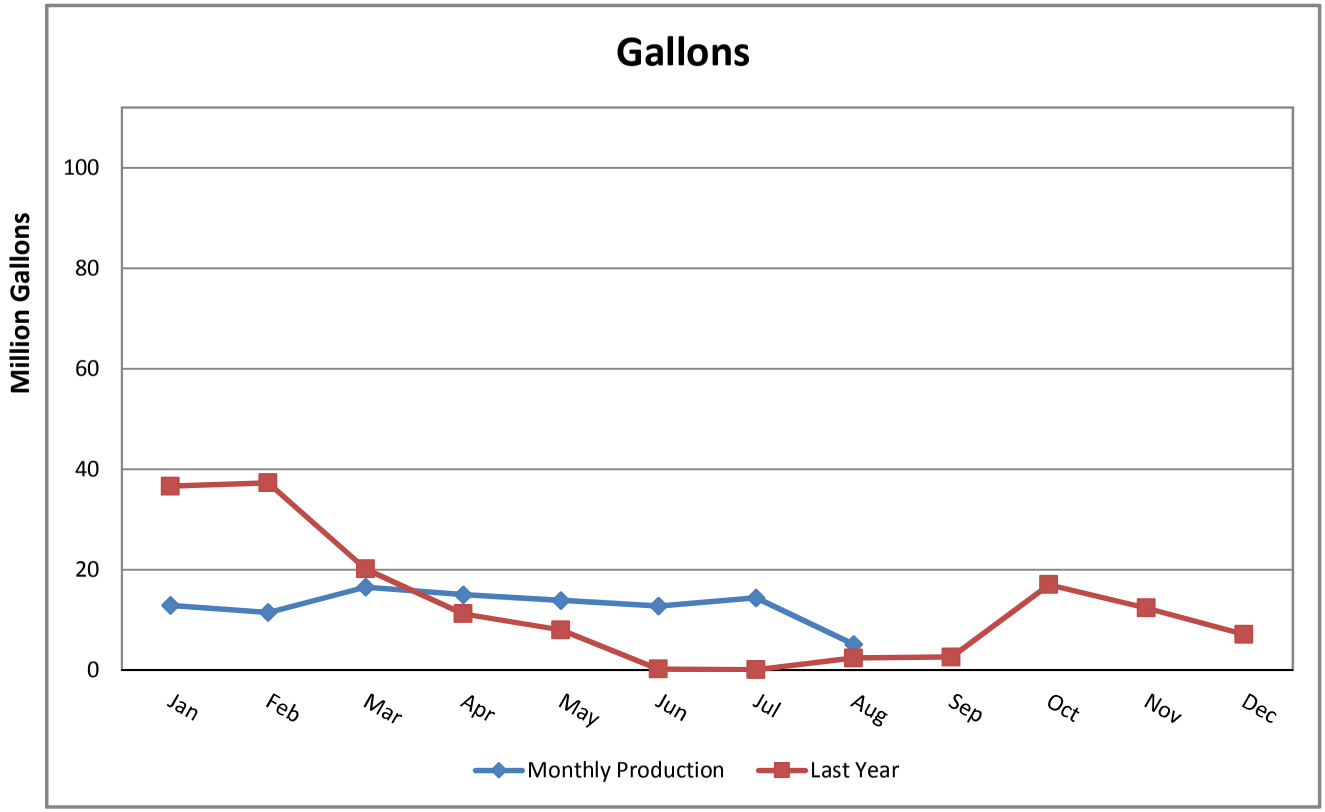
Vibration Reading:

Base Line:	0.02 in/sec
Current:	0.04 in/sec

Elk Grove Water District

Monthly Production

Well 3 Mar-Val -- Aug. 2015



Selected Month Production
5,129,000 Gallons

Average GPM:
936

Motor:

Volts:	478
Volts (Rated):	479
RPM:	2076
RPM (Rated):	1954
Amps A:	89
Amps A (Rated):	88
Amps B:	86
Amps B (Rated):	88
Amps C:	89
Amps C (Rated):	88

Motor Temp.:	207.1 F
Hour Meter:	91.30
KW Hour Total:	5,694.00

Chlorine:

Dosing:	1.11 mg/L
Demand:	0.43 mg/L
Residual:	0.68 mg/L

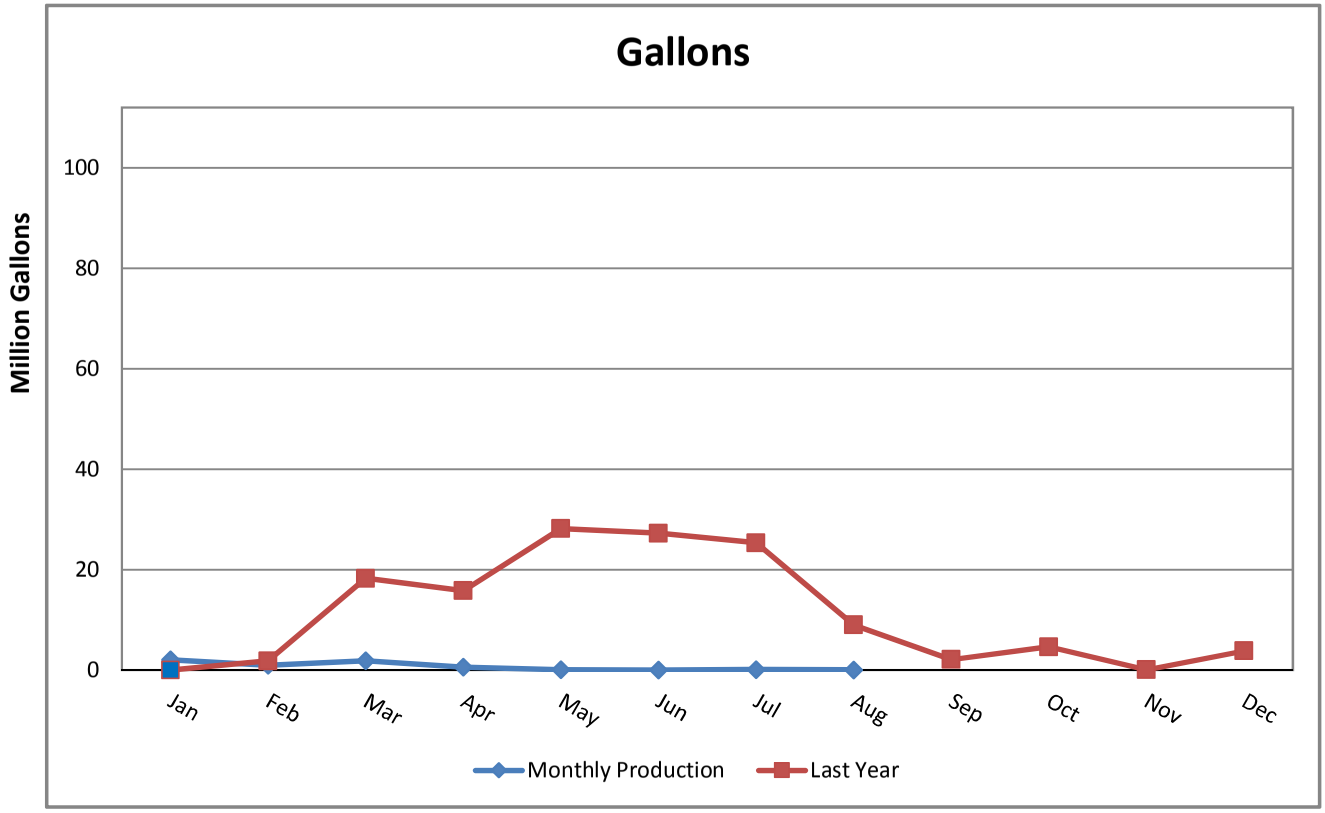
Vibration Reading:

Base Line:	0.02 in/sec
Current:	0.03 in/sec

Elk Grove Water District

Monthly Production

Well 8 Williamson -- Aug. 2015



Selected Month Production
18,000 Gallons

Average GPM:
750

Motor:

Volts:	459
Volts (Rated):	460
RPM:	1942
RPM (Rated):	1780
Amps A:	88
Amps A (Rated):	87
Amps B:	85
Amps B (Rated):	87
Amps C:	84
Amps C (Rated):	87
Motor Temp.:	110.3 F
Hour Meter:	0.40
KW Hour Total:	122.00

Chlorine:

Dosing:	1.31 mg/L
Demand:	0.42 mg/L
Residual:	0.89 mg/L

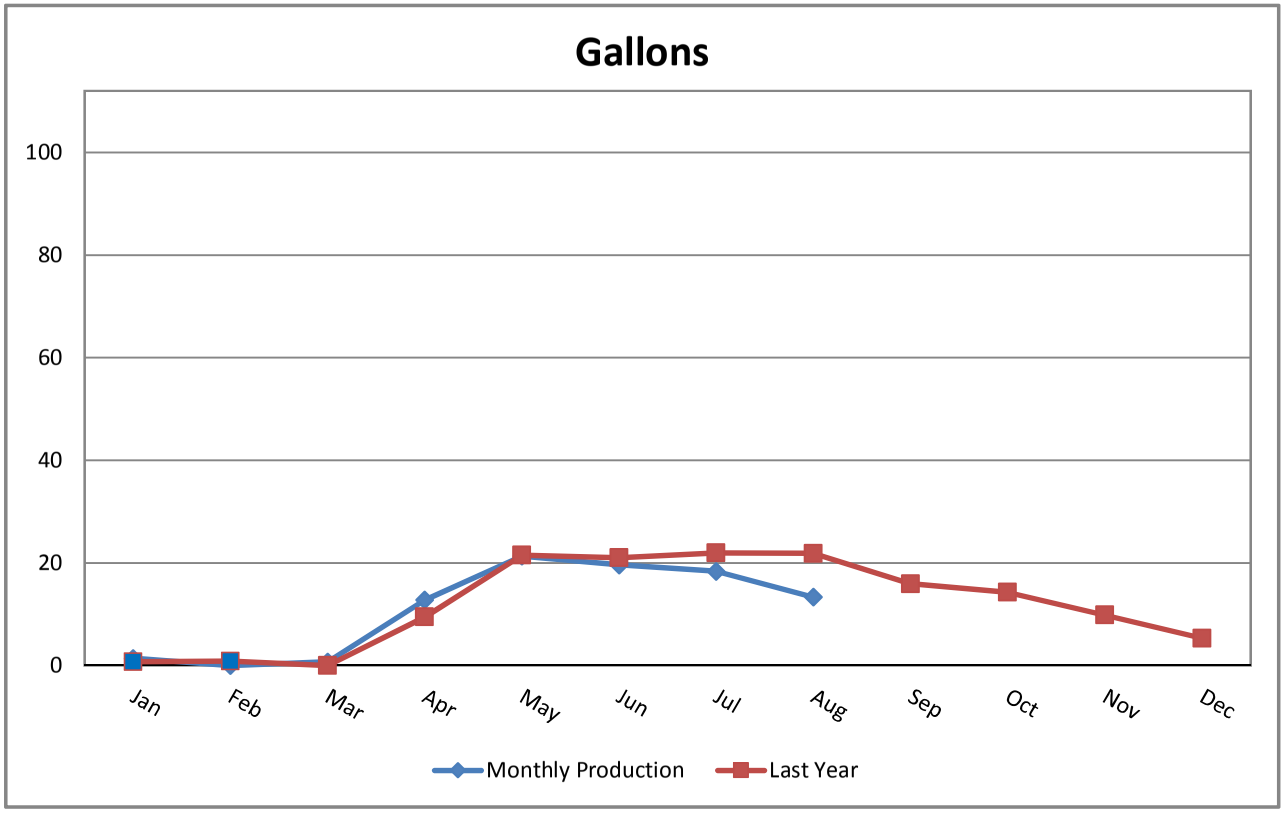
Vibration Reading:

Base Line:	0.03 in/sec
Current:	0.05 in/sec

Elk Grove Water District

Monthly Production

Well 9 Polhemus -- Aug. 2015
(Submersible)



Selected Month Production
13,307,000 Gallons

Average GPM:
502

Motor:

Volts:	480
Volts (Rated):	460
Amps A:	56
Amps A (Rated):	65
Amps B:	58
Amps B (Rated):	65
Amps C:	62
Amps C (Rated):	65
Hour Meter:	441.60
KW Hour Total:	17,697.00

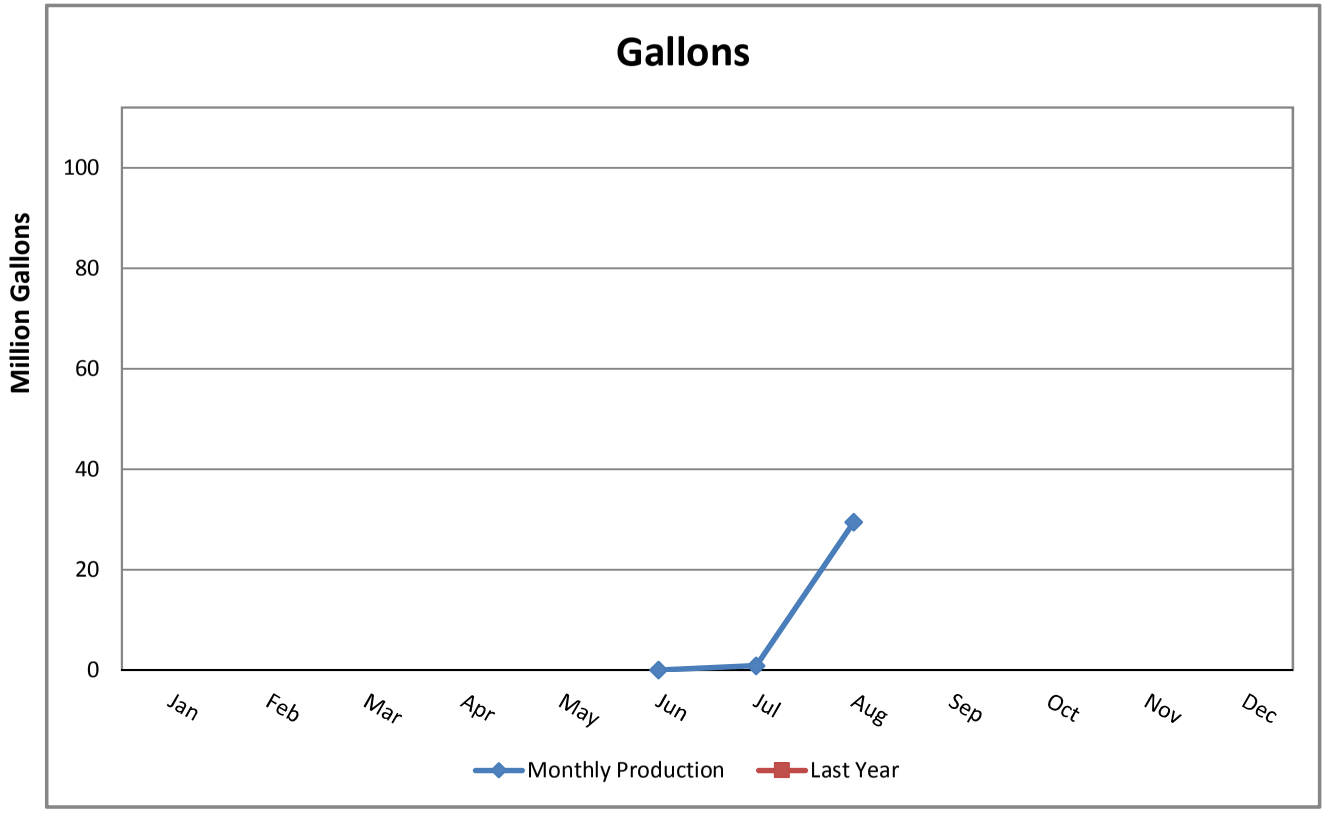
Chlorine:

Dosing:	1.27 mg/L
Demand:	0.37 mg/L
Residual:	0.9 mg/L

Elk Grove Water District

Monthly Production

Well 13 Hampton -- Aug. 2015



Selected Month Production
29,455,267 Gallons

Average GPM:
935

Motor:

Volts:	0
Volts (Rated):	0
RPM:	0
RPM (Rated):	0
Amps A:	0
Amps A (Rated):	0
Amps B:	0
Amps B (Rated):	0
Amps C:	0
Amps C (Rated):	0
Motor Temp.:	0 F
Hour Meter:	524.7 hrs *estimate
KW Hour Total:	0.00

Chlorine:

Dosing:	1.28 mg/L
Demand:	0.2 mg/L
Residual:	1.08 mg/L

Vibration Reading:

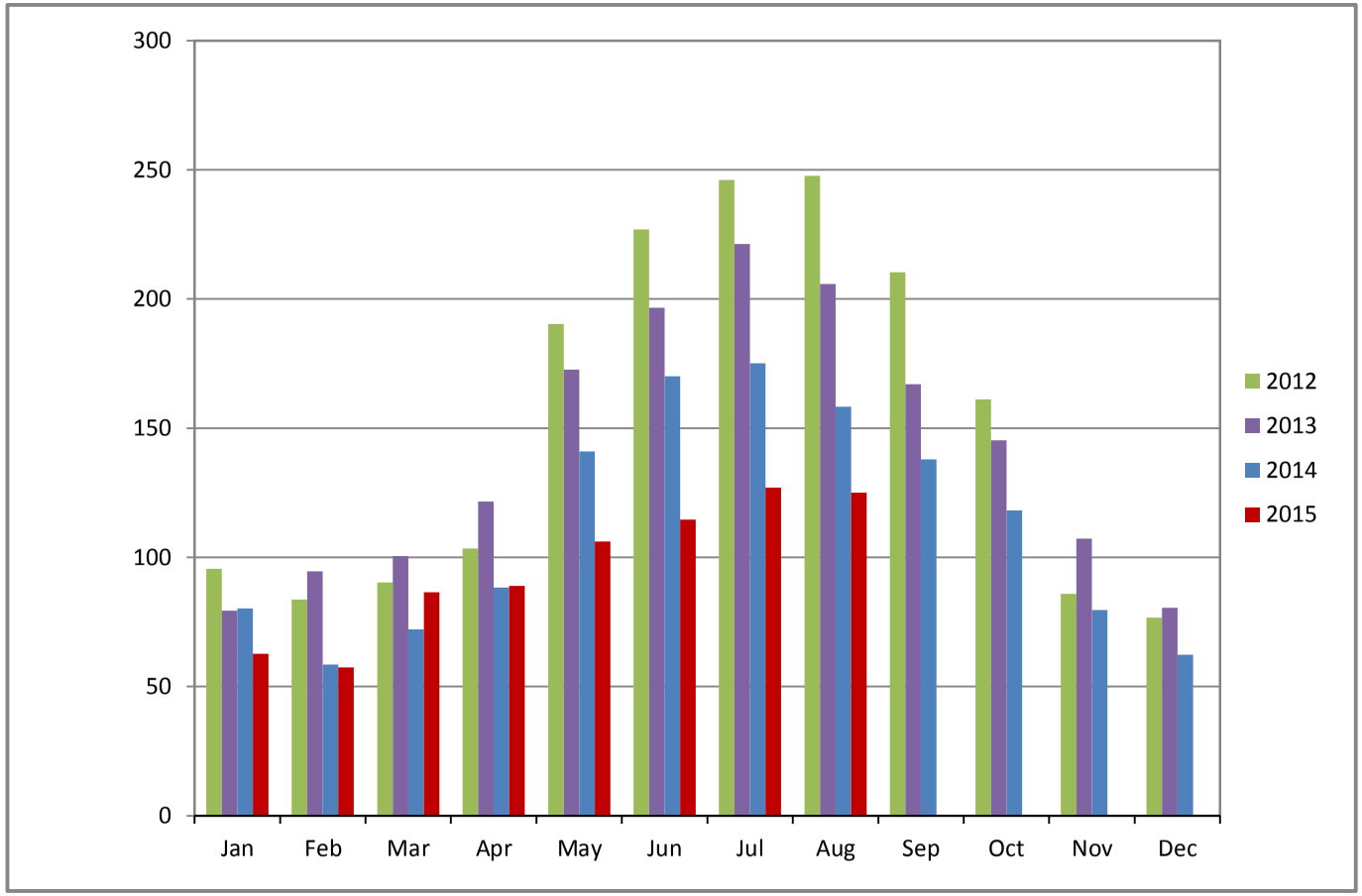
Base Line:	0.05 in/sec
Current:	0 in/sec

Elk Grove Water District

Combined Total Production

Service Area 1

Aug-2015



Current Month Production:
125,052,315 Gallons

Highest Day Demand of the Month:	Date of Occurance
4,941,410	18-Aug-15

Highest Day Demand of the Calender Year:	Date of Occurance
5,279,082	28-Jul-15

"Water Year" Rainfall: (Oct-14 to Sep-15)

Current Month:	0.00 in
Year To Date:	15.41 in

"Water Year" Rainfall: (Oct-13 to Sep-14)

August 2014	0.00 in
Year To Date:	9.21 in
Last Year Total:	9.67 in

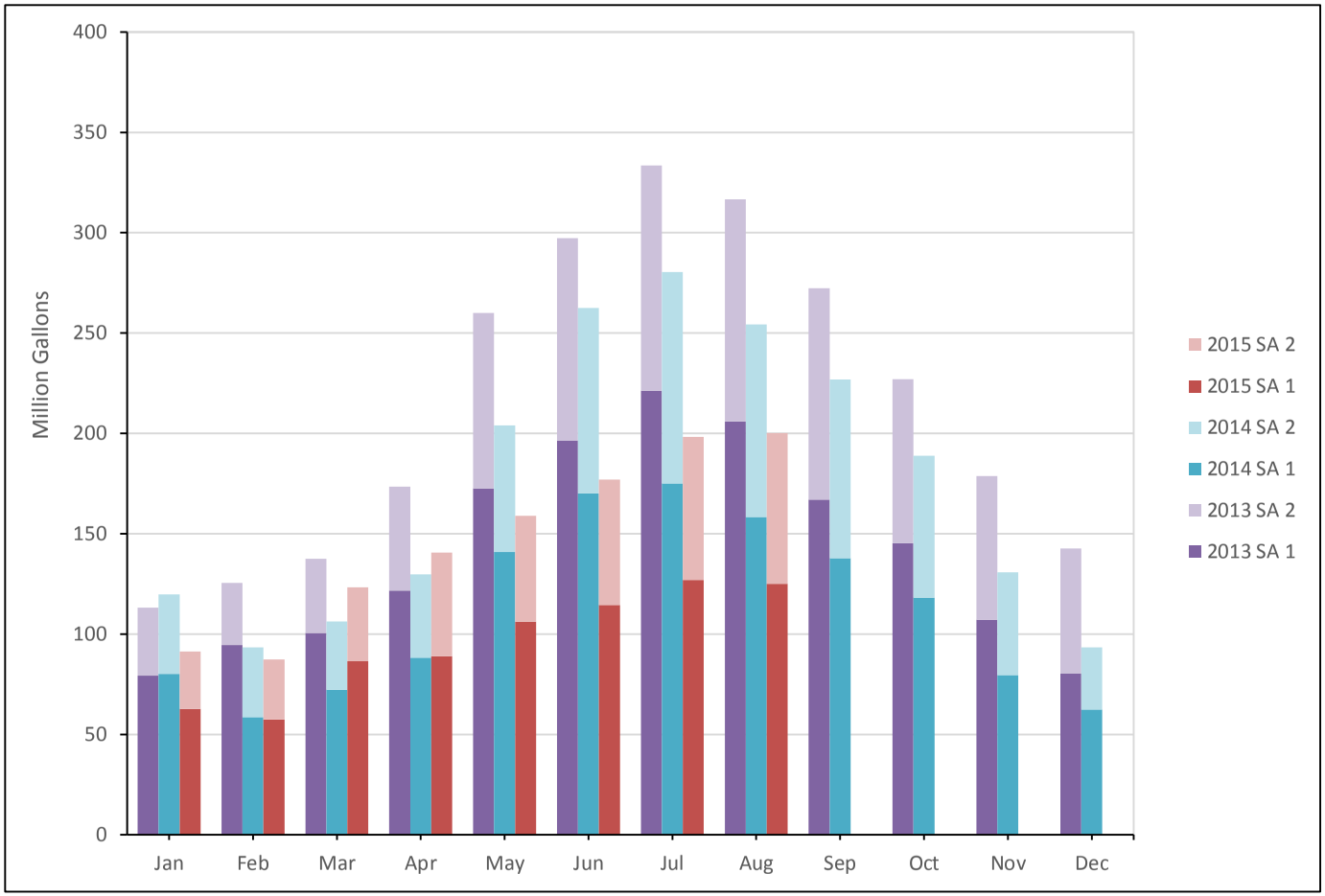
Temperature:

This Month High	106 F
This Month Low	57 F
AUG-14 High	104 F
AUG-14 Low	56 F

Elk Grove Water District

Total Demand/Production

Aug-2015



Current Month Demand/Production:
200,107,383 Gallons
Reduction From August 2013: 36.82%
GPCD: 146.0 Gallons per Day
R-GPCD: 112.4 Gallons per Day

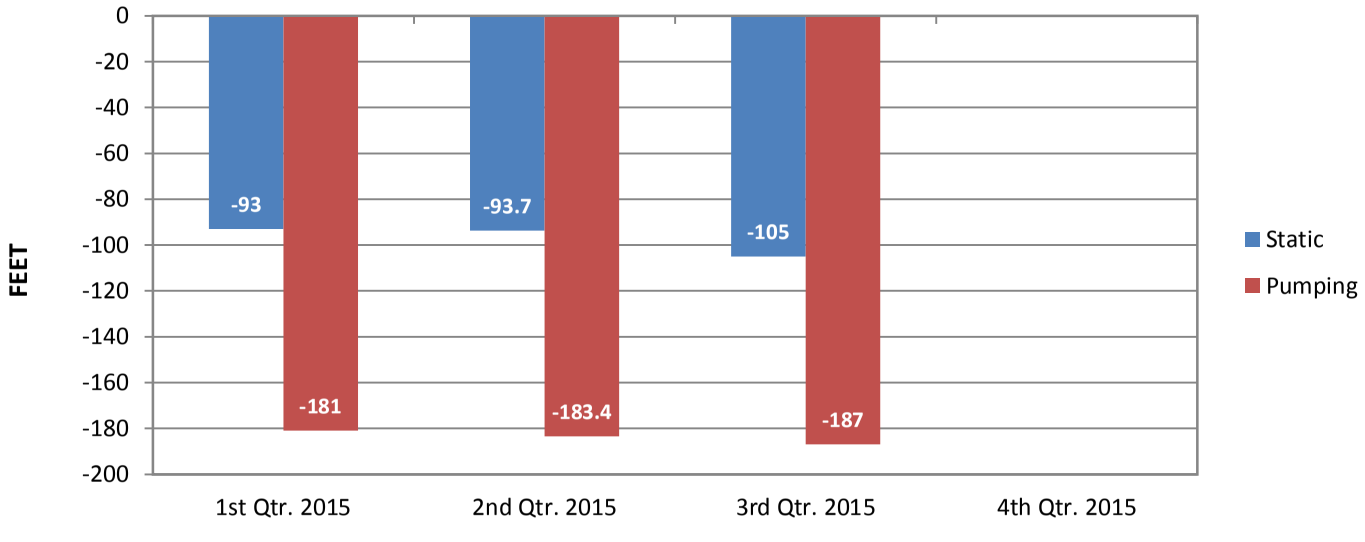
Service Area 1
Active Connections: 7,898
Current Month Demand/Production:
125,052,315 Gallons
GPCD: 142.0 Gallons per Day
R-GPCD: 115.0 Gallons per Day

Service Area 2
Active Connections: 4,264
Current Month Demand/Production:
75,055,068 Gallons
GPCD: 153.3 Gallons per Day
R-GPCD: 110.4 Gallons per Day

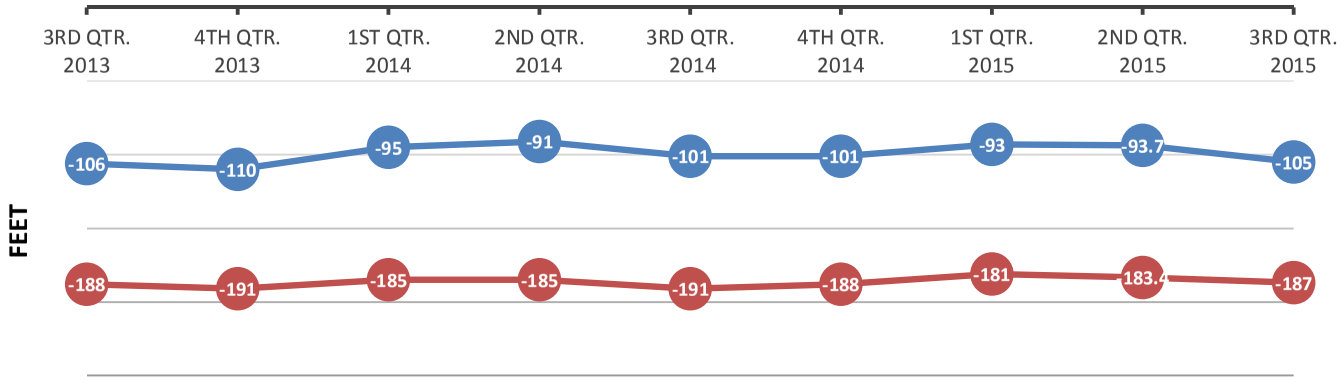
Elk Grove Water District

Static and Pumping Levels

Well 1D School St



Sounding Quarter/Year



Latest Well Sounding

Static:	105 Ft
Pumping:	187 Ft
Drawdown:	82 Ft
GPM:	1,784.00
Specific Capacity:	21.756

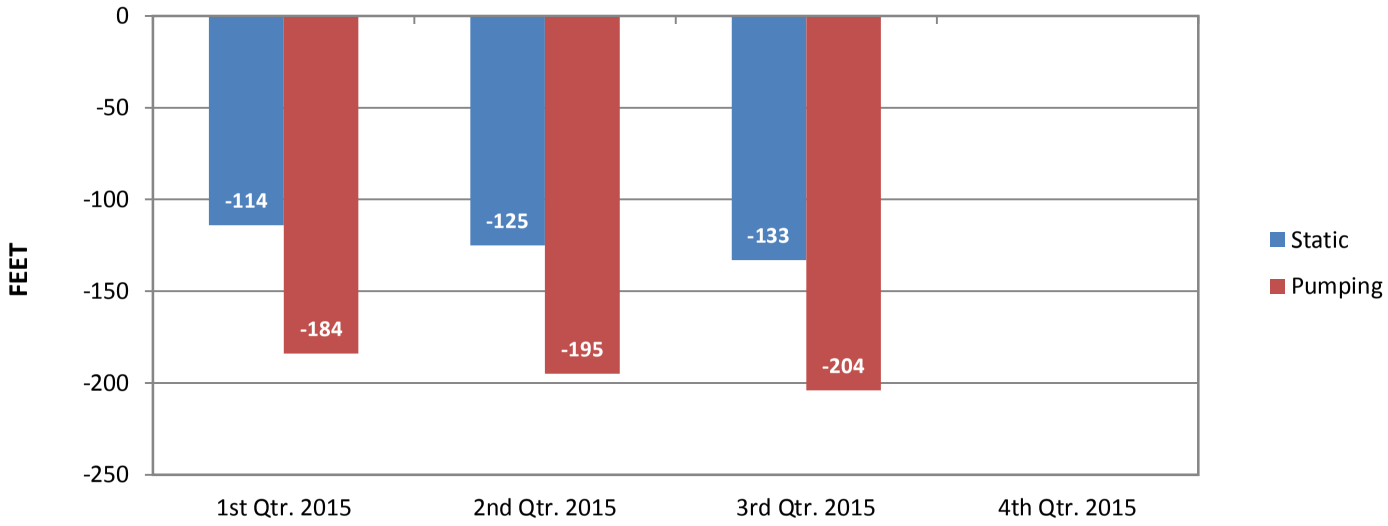
Latest Sand Tester Results:

15 Min:	< 5 ppm

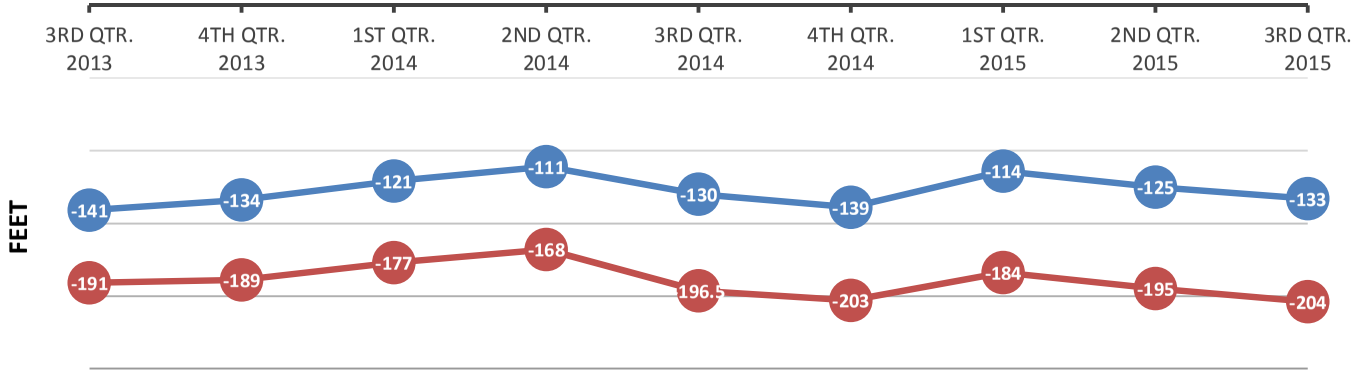
Elk Grove Water District

Static and Pumping Levels

Well 4D Webb St



Sounding Quarter/Year



Latest Well Sounding

Static:	133 Ft
Pumping:	204 Ft
Drawdown:	71 Ft
GPM:	1,603.00
Specific Capacity:	22.577

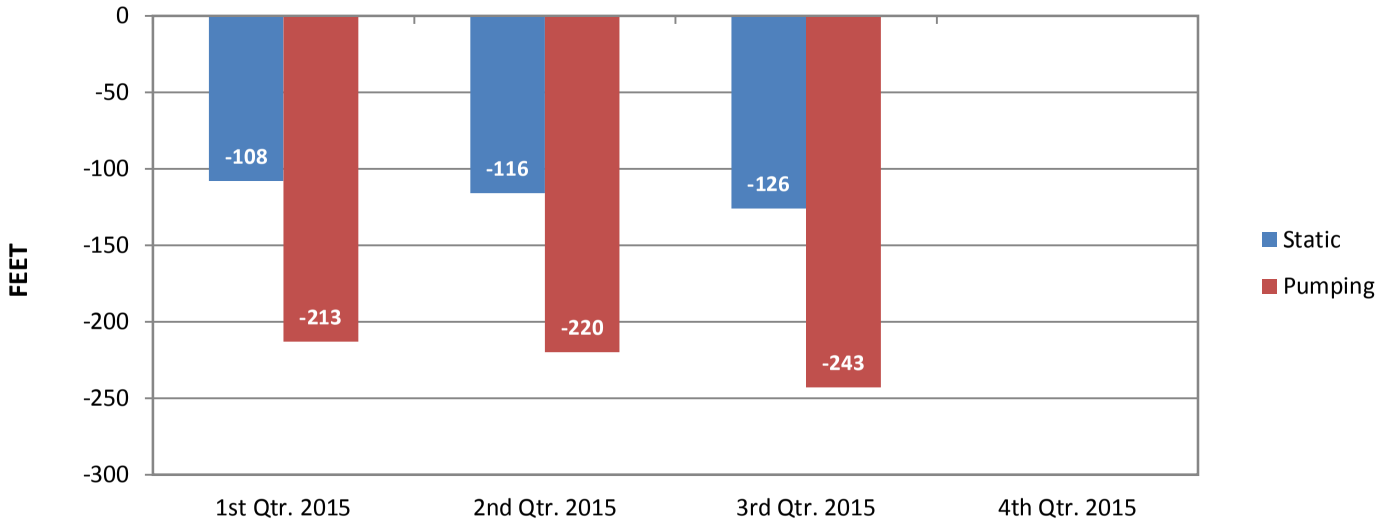
Latest Sand Tester Results:

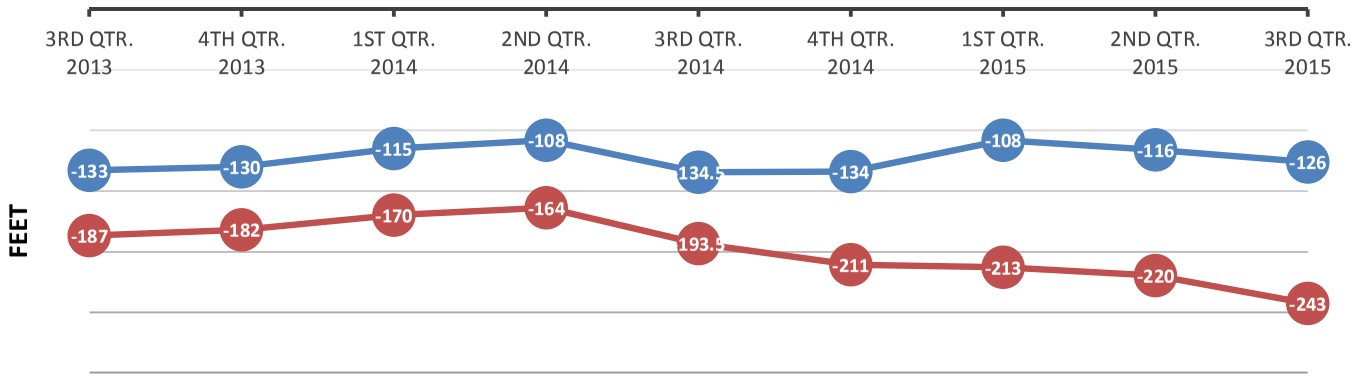
15 Min: < 5 ppm

Elk Grove Water District

Static and Pumping Levels

Well 11D Dino





Latest Well Sounding

Static:	126 Ft
Pumping:	243 Ft
Drawdown:	117 Ft
GPM:	1,690.00
Specific Capacity:	14.444

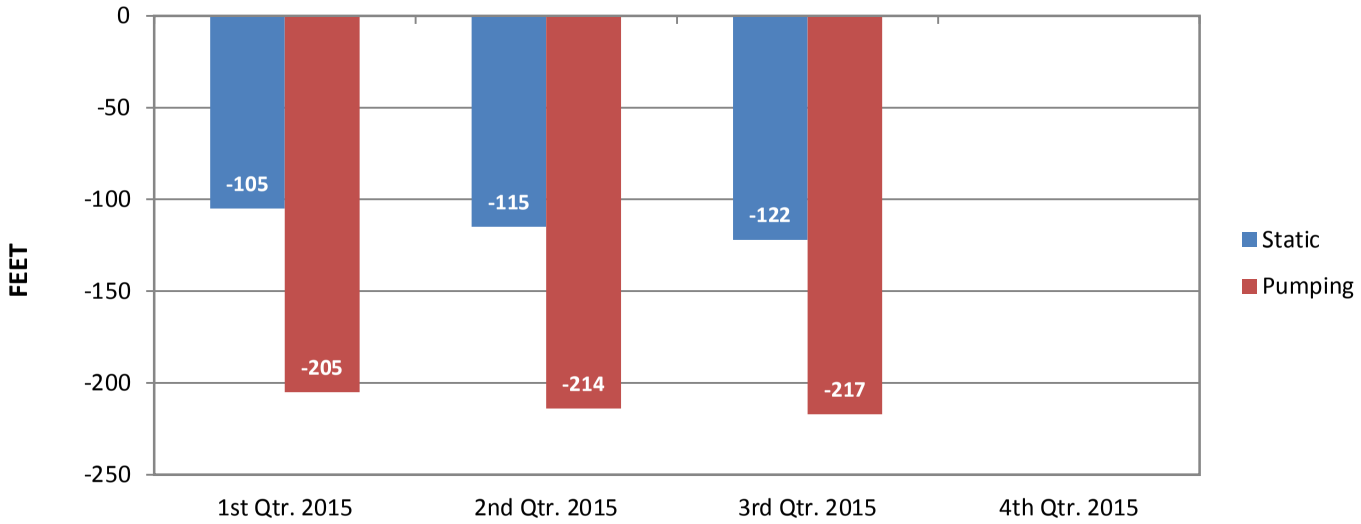
Latest Sand Tester Results:

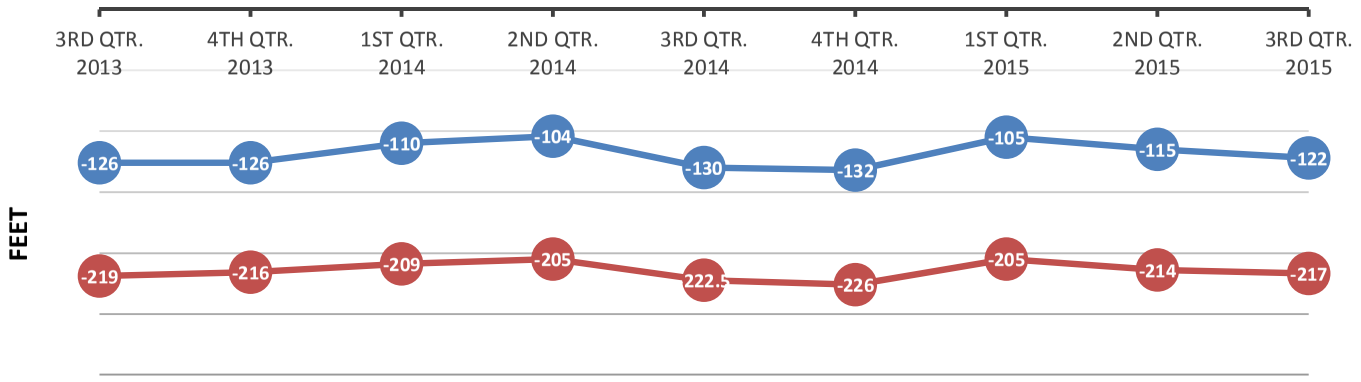
15 Min: < 5 ppm

Elk Grove Water District

Static and Pumping Levels

Well 14D Railroad





Latest Well Sounding

Static:	122 Ft
Pumping:	217 Ft
Drawdown:	95 Ft
GPM:	1,606.00
Specific Capacity:	16.905

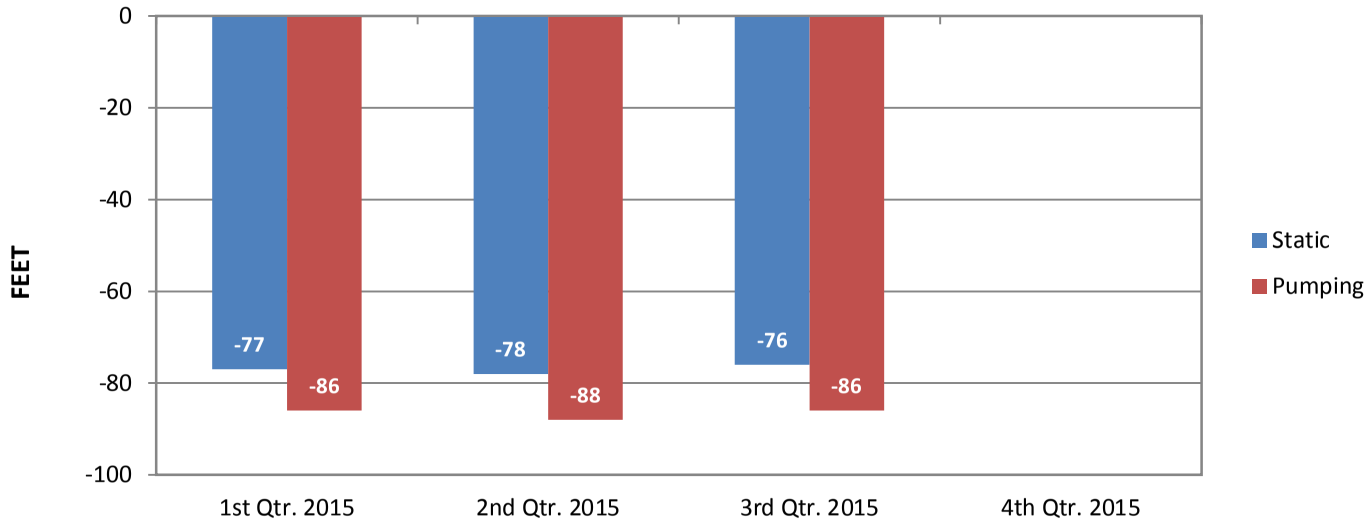
Latest Sand Tester Results:

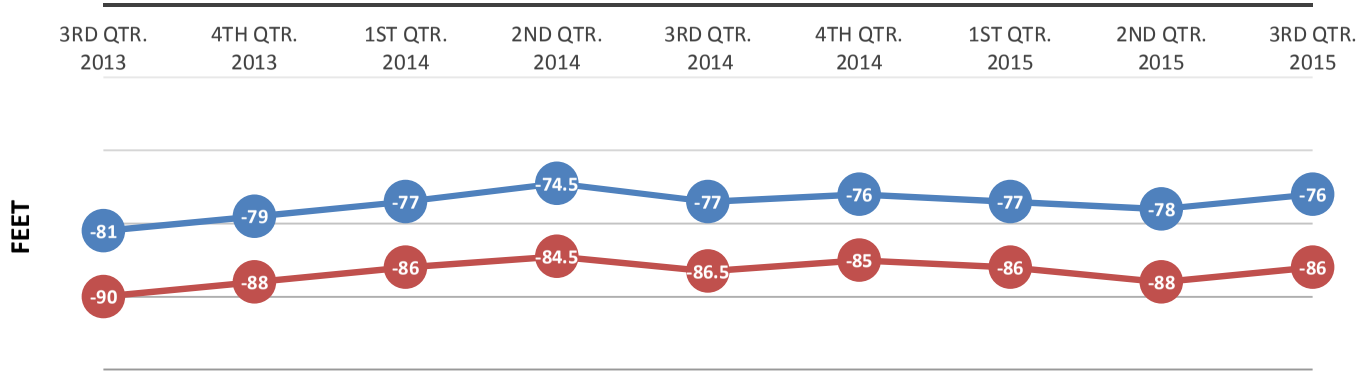
15 Min: < 5 ppm

Elk Grove Water District

Static and Pumping Levels

Well 3 Mar-Val





Latest Well Sounding

Static:	76 Ft
Pumping:	86 Ft
Drawdown:	10 Ft
GPM:	920.00
Specific Capacity:	92.000

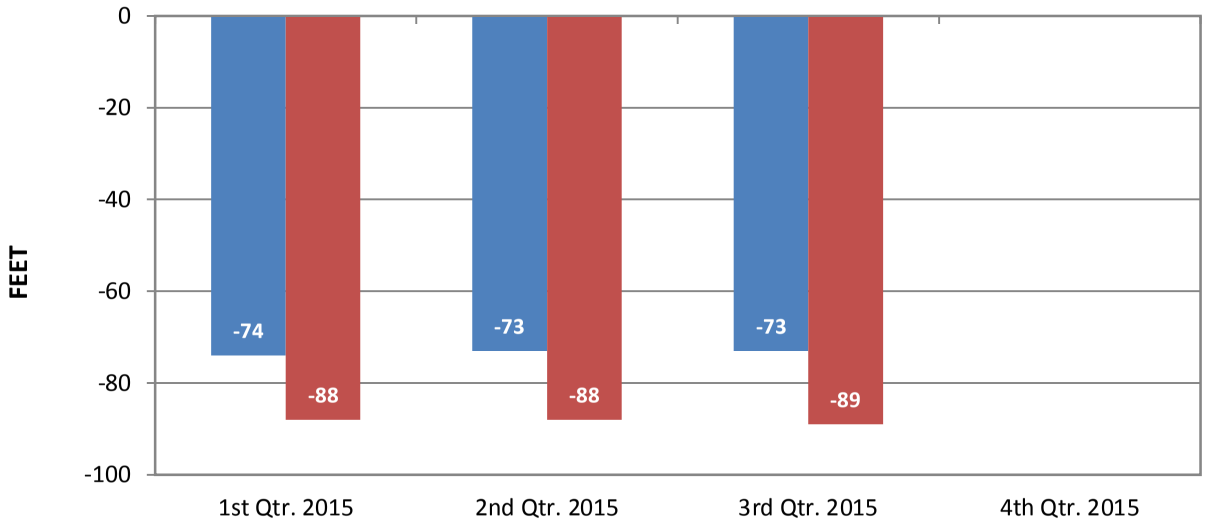
Latest Sand Tester Results:

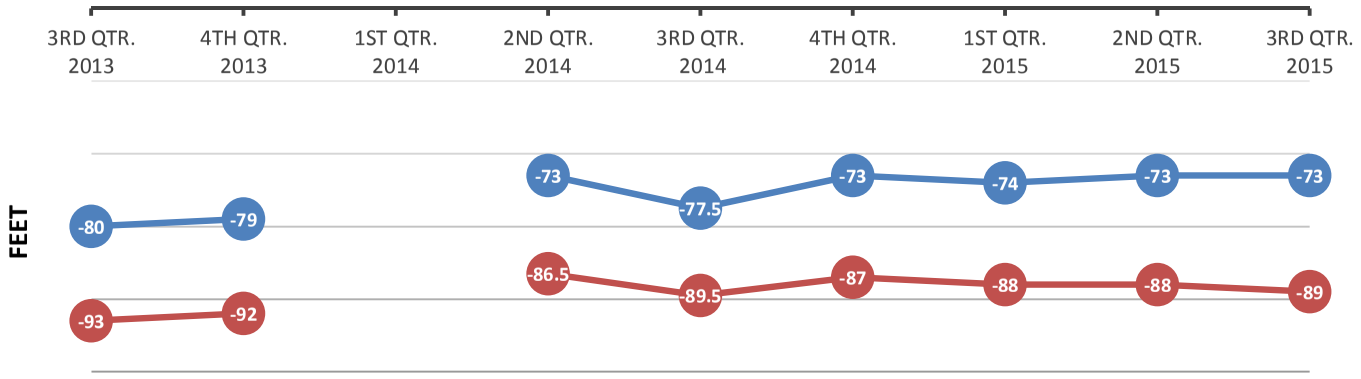
15 Min: 7.04 ppm

Elk Grove Water District

Static and Pumping Levels

Well 8 Williamson





Latest Well Sounding

Static:	73 Ft
Pumping:	89 Ft
Drawdown:	16 Ft
GPM:	880.00
Specific Capacity:	55.000

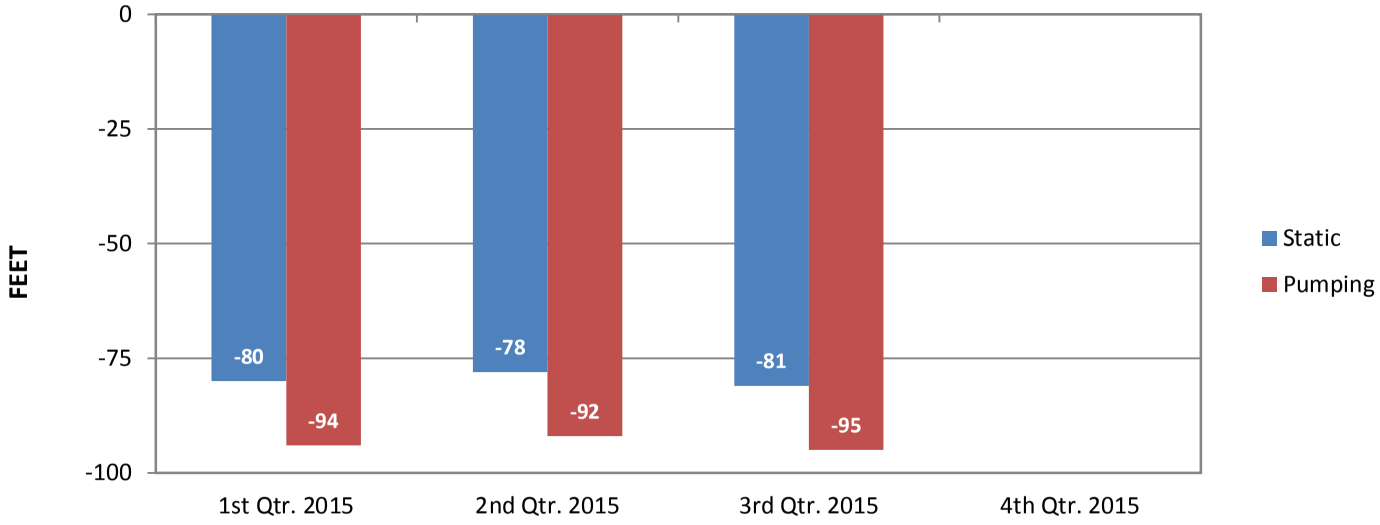
Latest Sand Tester Results:

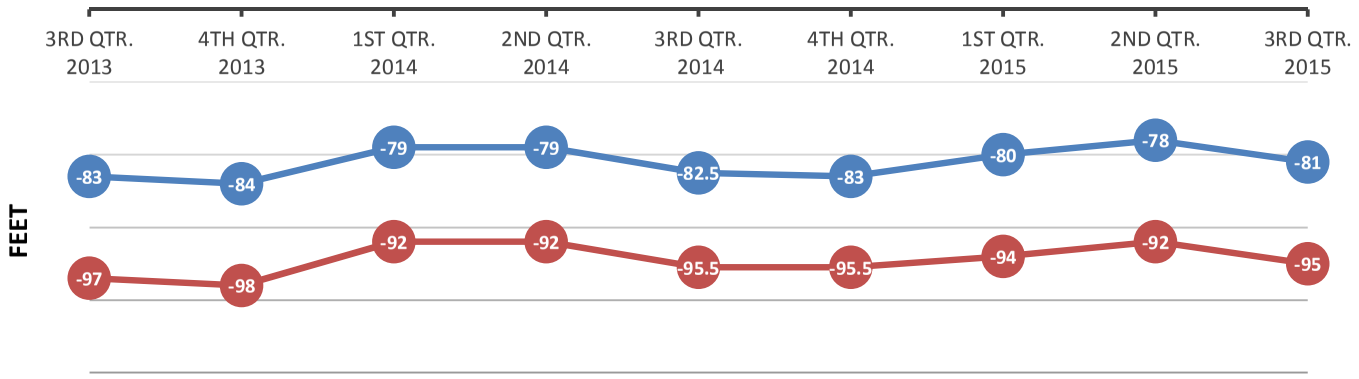
15 Min: < 5 ppm

Elk Grove Water District

Static and Pumping Levels

Well 9 Polhemus





Latest Well Sounding

Static:	81 Ft
Pumping:	95 Ft
Drawdown:	14 Ft
GPM:	480.00
Specific Capacity:	34.286

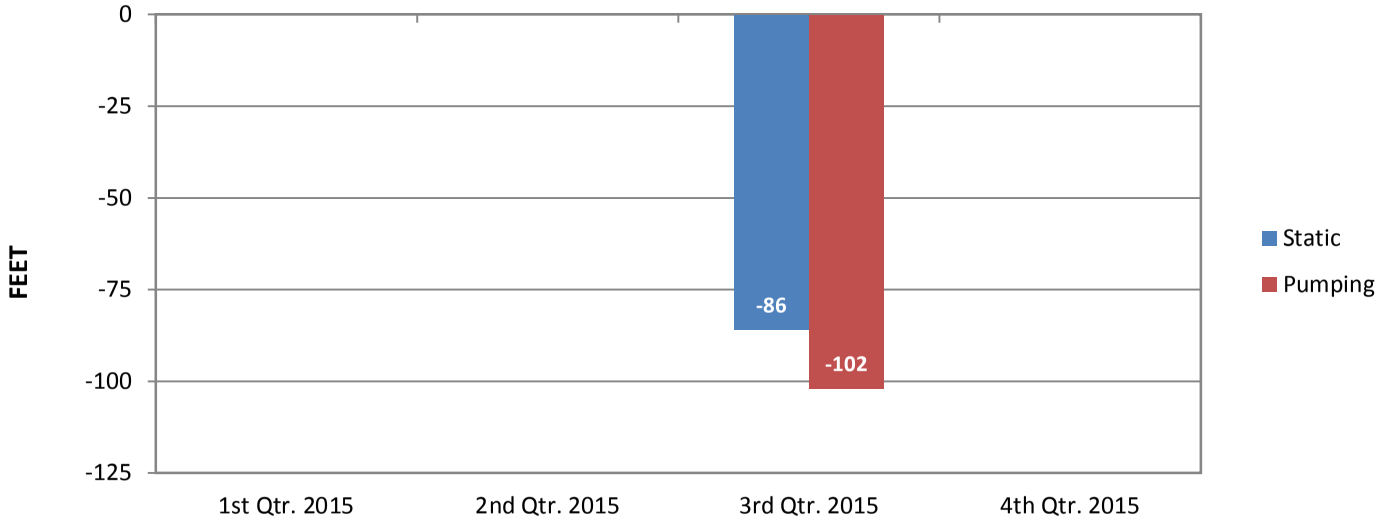
Latest Sand Tester Results:

15 Min:	< 5 ppm

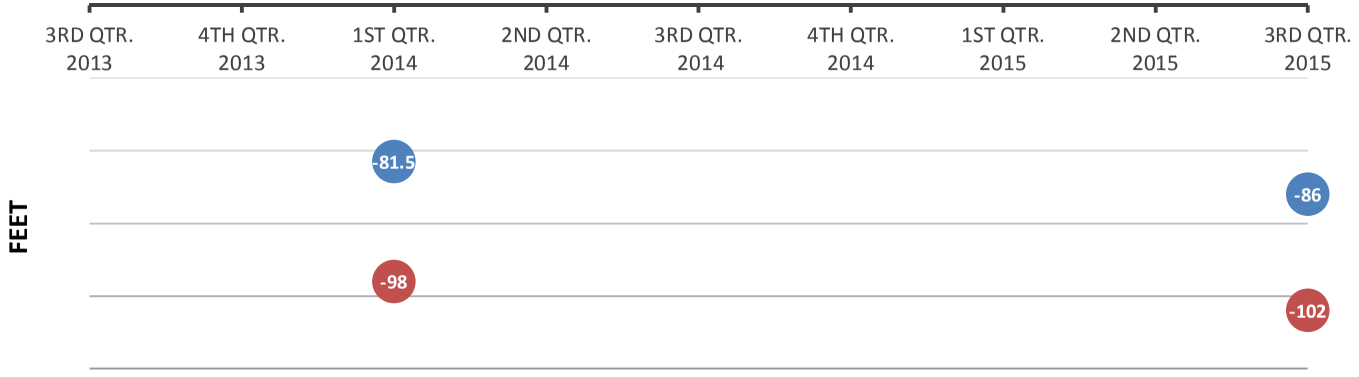
Elk Grove Water District

Static and Pumping Levels

Well 13 Hampton



Sounding Quarter/Year



Latest Well Sounding

Static:	86 Ft
Pumping:	102 Ft
Drawdown:	16 Ft
GPM:	960.70
Specific Capacity:	60.044

Latest Sand Tester Results:

15 Min:	< 5 ppm

Monthly Sample Report - August 2015
Water System: Elk Grove Water System

Sampling Point: 01 - 8693 W. Camden			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: School Well 01D - Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: 02 - 9425 Emerald Vista			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: Mar-Val Well 3 Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: 03 - 8809 Valley Oak			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: Webb Well 04D - Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: 04 - 10122 Glacier Point			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: 05 - 9230 Amsden Ct.			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: 06 - 9227 Rancho Dr.			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: 07 - Al Gates Park Mainline Dr.			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: Williamson Well 8 Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: 09 - 9436 Hollow Springs Wy.			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: Polhemus Well 9 Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: 09 - 8417 Blackman Wy.			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: 10 - 9373 Oreo Ranch Cir.			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Distribution System	Bacteriological	Week
8/11/2015	Distribution System	Bacteriological	Week
8/18/2015	Distribution System	Bacteriological	Week
8/25/2015	Distribution System	Bacteriological	Week

Sampling Point: Dino Well 11D - Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: Hampton Well 13 - Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/11/2015	Source Water	WTP Eff - Fe,Mn,As,Al Total	Month
8/11/2015	Sourse Water	WTP Eff - Fe,Mn,As,Al Dissolved	Month

Sampling Point: Hampton WTP Effluent			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/11/2015	Treated Plant Effluent	WTP Eff - Fe,Mn,As,Al Total	Month
8/11/2015	Treated Plant Effluent	WTP Eff - Fe,Mn,As,Al Dissolved	Month

Sampling Point: Hampton WTP Baskwash Tank			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: Railroad Well 14D - Raw Water			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**

Sampling Point: Railroad WTP Effluent			
Sample Date	**Sample Class**	**Sample Name**	**Collection Occurrence**
8/4/2015	Treated Plant Effluent	WTP Eff - Fe,Mn,As,Al Total	Month
8/4/2015	Treated Plant Effluent	WTP Eff - Fe,Mn,As,Al Dissolved	Month

Sampling Point: Special Distribution/Construction Samples			
Sample Date	**Sample Class**	**Sample Name**	**Collection Description**

Colors	Monthly Total	Yearly Total
Black = Scheduled	43	433
Green = Unscheduled	3	78
Red = Incomplete Sample	0	0

Elk Grove Water District
A DEPARTMENT OF THE
Florin Resource Conservation District

September 8, 2015

State Water Resources Control Board
Division of Drinking Water
Drinking Water Field Operations Branch
P.O. Box 997377, MS 7418
1616 Capitol Avenue
Sacramento, CA 95899-7377

MONTHLY SUMMARY OF DISTRIBUTION SYSTEM COLIFORM MONITORING

Enclosed is the Monthly Summary of Distribution System Coliform Monitoring report from Elk Grove Water District for August 2015.

If you have any further questions, you may contact me at 916-687-3155 ext. 102.

STEVE SHAW
WATER TREATMENT FOREMAN

State of California -- Health and Human Services Agency

Department of Public Health
Drinking Water Program

MONTHLY SUMMARY OF DISTRIBUTION SYSTEM COLIFORM MONITORING
(including triggered source monitoring for systems subject to the Groundwater Rule)

System Name	System Number
Elk Grove Water District	3410008

Sampling Period – Month	Year
August	2015

	Number Required	Number Collected	Number Total Coliform Positives	Number Fecal/ E.coli Positives
1. Routine Samples (see note 1)	40	40	0	0
2. Repeat Samples following Samples that are Total Coliform Positive and Fecal/E.coli ***Negative*** (see notes 5 and 6)		0	0	☐
3. Repeat Samples following Routine Samples that are Total Coliform ***Positive*** and Fecal/E.coli Positive (see notes 5 and 6)		0	☐	☐
4. MCL Computation for Total Coliform Positive Samples				
a. Totals (sum of columns)		40	0	

b. If 40 or more samples collected in month, determine percent of samples that are total coliform positive [(total number positive/total number collected) x 100] = 0 %

c. Is system in compliance.....with fecal/E. coli MCL? (see notes 2 and 3) ☑ Yes ☐ No

.....with monthly MCL? (see note 4) ☑ Yes ☐ No

5. Source Samples Triggered by Routine Samples that are Total Coliform Positive (This applies **only** to systems subject to the Groundwater Rule - see notes 7 and 8)	0	0	☐

6. Invalidated Samples
(Note what samples, if any, were invalidated; who authorized the invalidation; and when replacement samples were collected. Attach additional sheets, if necessary.)

7. Summary Completed By: Steve Shaw

Signature	Title	Date
	Water Treatment Foreman	9/8/2015

NOTES AND INSTRUCTIONS:

1. Routine samples include:
   a. Samples required pursuant to 22 CCR Section 64423 and any additional samples required by an approved routine sample siting plan established pursuant to 22 CCR Section 64422.
   b. Extra samples are required for systems collecting less than five routine samples per month that had one or more total coliform positives in previous month;
   c. Extra samples for systems with high source water turbidities that are using surface water or groundwater under direct influence of surface water and do not practice filtration in compliance with regulations;
2. Note: For a repeat sample following a total coliform positive sample, any fecal/*E.coli* positive repeat (boxed entry) **constitutes an MCL violation and requires immediate notification to the Department** (22, CCR, Section 64426.1).
3. Note: For repeat sample following a fecal/*E.coli* positive sample, any total coliform positive repeat (boxed entry) **constitutes an MCL violation and requires immediate notification to the Department** (22, CCR, Section 64426.1).
4. Total coliform MCL **(Notify Department within 24 hours of MCL violation):**
   a. For systems collecting less than 40 samples, if two or more samples are total coliform positive, then the MCL is violated.
   b. For systems collecting 40 or more samples, if more than 5.0 percent of samples collected are total coliform positive, then the MCL is violated.
5. Positive results and their associated repeat samples are to be tracked on the Coliform Monitoring Worksheet.
6. Repeat samples must be collected within 24 hours of being notified of the positive results. For systems collecting more than one routine sample per month, three repeat samples must be collected for each total coliform positive sample. For systems collecting one or fewer routine samples per month, four repeat samples must be collected for each total coliform positive sample.
7. For systems subject to the Groundwater Rule: Positive results and the associated triggered source samples are to be tracked on the Coliform Monitoring Worksheet.
8. For triggered sample(s) required as a result of a total coliform routine positive sample, an *E.coli,* enterococci, or coliphage positive triggered sample (boxed entry) **requires immediate notification to the Department, Tier 1 public notification, and corrective action.**

10/2009 - 8477

Elk Grove Water District
A DEPARTMENT OF THE
Florin Resource Conservation District

September 8, 2015

Sacramento Regional County
Sanitation District
Environmental Specialist
10060 Goethe Rd.
Sacramento, Ca. 95827

MONTHLY COMPLIANCE REPORT

Enclosed is the Monthly Compliance Report Form from Elk Grove Water District for August 2015.

If you have any further questions, you may contact me at 916-687-3155 ext. 102.

STEVE SHAW
WATER TREATMENT FOREMAN

9257 Elk Grove Blvd. Elk Grove, CA 95624 (916) 685-3556 Fax (916) 685-5376

COMPLIANCE REPORT FORM

Attn: Tom Martin	Wastewater Source Control Section
Phone # (916) 876-7378	Fax # (916) 876-6374
From: Steve Shaw	
Company: Elk Grove Water Service	Permit# **WTP010**

The following reports and information are attached (check all that apply):

Month:	8	Year:	2015

☑ Water use/flow meter report

Railroad WTP: 0

Hampton WTP: 20061

☐ Monitoring results/analytical report

	Date	Time	pH
Hampton WTP			
Railroad WTP			

☐ **Discharge Rate**

Check the statement below that applies to this report:

☐ Based on a review of this facilities flow data, discharge rate limit was exceeded

☑ I certify that this facility is in compliance with the discharge rate limit.

☐ Attached is a description of anticipated changes that may significantly alter the nature, quality, or volume of the wastewater discharged.

☐ Flow monitoring equipment certification (Flow or pH meter, etc.)

☐ Other (describe)

Domestic Calculation

Domestic Usage	Number of Employees	Business Days per Month	Allowance (gallons per day)	Gallons
Production	2	19	25	950
Office	3	19	20	1140
Drivers/Field	19	19	5	1805
			Total	3895

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations".

SIGNATURE of Authorized Representative: 

PRINTED NAME, TITLE: Steve Shaw (Name) Water Treatment Foreman (Title)

DATE: 9/8/2014

Elk Grove Water District Monthly Waste Flow

Month: August 2015

Day:	RRWTP Waste Meter	Gallons	HWTP Waste Meter	Gallons
1	10664688	0	56352.83	0
2	10664688	0	56352.83	0
3	10664688	0	56352.83	0
4	10664688	0	56352.83	0
5	10664688	0	56352.83	0
6	10664688	0	76413.97	20061.14
7	10664688	0	76413.97	0
8	10664688	0	76413.97	0
9	10664688	0	76413.97	0
10	10664688	0	76413.97	0
11	10664688	0	76413.97	0
12	10664688	0	76413.97	0
13	10664688	0	76413.97	0
14	10664688	0	76413.97	0
15	10664688	0	76413.97	0
16	10664688	0	76413.97	0
17	10664688	0	76413.97	0
18	10664688	0	76413.97	0
19	10664688	0	76413.97	0
20	10664688	0	76413.97	0
21	10664688	0	76413.97	0
22	10664688	0	76413.97	0
23	10664688	0	76413.97	0
24	10664688	0	76413.97	0
25	10664688	0	76413.97	0
26	10664688	0	76413.97	0
27	10664688	0	76413.97	0
28	10664688	0	76413.97	0
29	10664688	0	76413.97	0
30	10664688	0	76413.97	0
31	10664688	0	76413.97	0

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

M.C.C. and Lab

Item		Quarterly Refer.	1st	2nd	3rd	4th	Annual Refer.	2015
Fume Hood	Initials	Sect: 1.1.1	AH	AH			Sect: 1.2.3	
	Date		3/31/15	6/11/15				
	W.O. #		12205	12720				
Dulco-meter	Initials	Sect: 1.1.2	AH	AH				
	Date		2/25/15	6/11/15				
	W.O. #		12205	12720				
M.C.C.	Initials						Sect: 1.2.1	
	Date							
	W.O. #							
Circuit Breaker	Initials						Sect: 1.2.2	
	Date							
	W.O. #							
Cl2 DPD Handheld	Initials	Sect: 1.1.3	WQ	WQ/AH				
	Date		2/23/15	6/15/15				
	W.O. #		12205	12720				

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Backwash System and Storage Tanks

Item		MONTHLY												Semi-annual			Annu./Bi-annu.		
		Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer.	1ST 6-MO.	2ND 6-MO.	Refer.	2015	Periodic
Mag meter	Initials																	Sect: 2.3.2		
	Date																			
	W.O. #																			
MCC	Initials																	Sect: TBD		
	Date																			
	W.O. #																			
Pressure Transdcr	Initials																	Sect: 2.2.1		
	Date																			
	W.O. #																			
Backwash Tank	Initials																	Sect: 2.3.4		
	Date																			
	W.O. #																			
Return Pumps	Initials	Sect: TBD	AH	WQ	AH	AH	WQ	AH	AH	WQ					Sect: TBD	AH/WQ				
	Date		1/15/15	2/24/15	3/23/15	4/27/15	5/27/15	6/8/15	7/23/15	8/27/15						6/12/15				
	W.O. #		11842	12210	12302	12520	12603	12718	12840	12975						12719				
Storage Tanks	Initials																	Sect: 2.4.1		
	Date																			
	W.O. #																			
Bray Valves	Initials																	Sect: 2.2.2		
	Date																			
	W.O. #																			

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Booster Pumps

Item		Monthly												Semi-annual			Annual	
		Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer.	1ST 6-MO.	2ND 6-MO.	Refer.	2015
Electric Motor	Initials	Sect: 3.1.1	AH	WQ	AH	AH	WQ	WQ	AH	AH					Sect: 3.2.1	AH			
	Date		1/15/15	2/10/15	3/23/15	4/27/15	5/19/15	6/18/15	7/23/15	8/24/15						6/30/15			
	W.O. #		11846	2196	12303	12519	12605	12721	12837	12974						12722			
PUMP	Initials	Sect: 3.1.2	AH	WQ	AH	AH	WQ	WQ	AH	AH								Sect: 3.2.4	
	Date		1/15/15	2/10/15	3/23/15	4/27/15	5/19/15	6/18/15	7/23/15	8/24/15									
	W.O. #		11846	12196	12303	12519	12605	12721	12837	12974									
A.R.V.	Initials																	Sect: 3.3.1	WQ
	Date																		2/20/15
	W.O. #																		12203
Rising stem Valve	Initials																	Sect: 3.3.3	WQ/AH
	Date																		3/30/15
	W.O. #																		12203

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Clor-Tec System

Item		Monthly Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Quarterly Refer.	1st	2nd	3rd	4th	Annual Refer.	2015
Cl2 Meter System	Initials	Sect: 4.2.1	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ										Sect: 4.4.1	
	Date		1/13/15	2/5/15	3/11/15	4/16/15	5/27/15	6/10/15	7/23/15	8/10/15											
	W.O. #		11624	12190	12294	12517	12607	12714	12841	12973											
Exhaust Fan	Initials														Sect: 4.3.1	WQ	WQ				
	Date															2/25/15	6/30/15				
	W.O. #															12202	12715				
Hydrogen Blow/Det.	Initials																			Section: 4.4.2/4.4.3	
	Date																				
	W.O. #																				
Cell and Electrode	Initials														Sect: 4.3.2	WQ	WQ				
	Date															2/18/15	6/10/15				
	W.O. #															12202	12715				
Hypo/Brine Tank	Initials	Sect: 4.2.3	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ										Sect: 4.4.5	
	Date		1/13/15	2/5/15	3/11/15	4/16/15	5/27/15	6/10/15	7/23/15	8/10/15											
	W.O. #		11624	12190	12294	12517	12607	12714	12841	12973											
Water Softener	Initials																			Sect: 4.4.6	
	Date																				
	W.O. #																				
Rectifier	Initials	Sect: 4.2.4	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ											
	Date		1/13/15	2/5/15	3/11/15	4/16/15	5/27/15	6/10/15	7/23/15	8/10/15											
	W.O. #		11624	12190	12294	12517	12607	12714	12841	12973											
Clor-Tec Unit	Initials	Sect: 4.2.2	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ										Sect: 4.4.4	
	Date		1/13/15	2/5/15	3/11/15	4/16/15	5/27/15	6/10/15	7/23/15	8/10/15											
	W.O. #		11624	12190	12294	12517	12607	12714	12841	12973											

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Filter Vessels

Item		Monthly												Semi-annual			Annual	
		Refer	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer.	1ST 6-MO.	2ND 6-MO.	Refer.	2015
Air/Vac Valves	Initials																	Sect: 5.2.1	
	Date																		
	W.O. #																		
Bray Valves	Initials														Sect: 5.2.2	AH			
	Date															6/18/15			
	W.O. #															12724			
CLA-VAL	Initials																	Sect: 5.3.1	
	Date																		
	W.O. #																		
Pilot Valves	Initials	Sect: 5.1.1	AH	AH/WQ	AH/WQ	AH	WQ	WQ	AH	AH								Sect: 5.3.2	
	Date		1/15/15	2/9/15	3/18/15	4/27/15	5/18/15	6/18/15	7/20/15	8/24/15									
	W.O. #		11845	12194	12299	12508	12606	12723	12838	12976									
Press. Diff. Trnsdcr.	Initials																	Sect: 5.3.3	
	Date																		
	W.O. #																		
Vessels	Initials																	Sect: 5.3.4	
	Date																		
	W.O. #																		

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Standby Generator

Item		Monthly												Semi-annual			Annual/Biannual		
		Refer	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer	1ST 6-MO.	2ND 6-MO.	Refer	2015	Periodic
Fuel Tank	Initials	Sect: 6.1.1	WQ	WQ	AH	WQ	WQ	AH	WQ	WQ					Sect: 6.2.1	AH		Sect: 6.3.1		
	Date		1/8/15	2/6/15	3/30/15	5/1/15	5/27/15	6/17/15	7/2/15	8/10/15						6/17/15				
	W.O. #		11550	12192	12311	12501	12604	12716	12839	12977						12717				
Radiator	Initials														Sect: 6.2.2	AH		Section: 6.3.2/6.4.1		
	Date															6/17/15				
	W.O. #															12717				
Battery/ Charger	Initials	Sect: 6.1.2	WQ	WQ	AH	WQ	WQ	AH	WQ	WQ										
	Date		1/8/15	2/6/15	3/30/15	5/1/15	5/27/15	6/17/15	7/2/15	8/10/15										
	W.O. #		11550	12192	12311	12501	12604	12716	12839	12977										
Coolant Heater	Initials																	Sect: 6.3.3		
	Date																			
	W.O. #																			
Generator	Initials	Sect: 6.1.3	WQ	WQ	AH	WQ	WQ	JD	WQ	WQ										
	Date		1/8/15	2/6/15	3/30/15	5/1/15	5/27/15	6/5/15	7/2/15	8/10/15										
	W.O. #		11550	12192	12311	12501	12604	12716	12839	12977										
Engine	Initials														Sect: 6.2.3	AH		Section: 6.3.4/6.4.2		
	Date															6/17/15				
	W.O. #															12717				

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Well 1D School

Item		Monthly Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Semi-annual Refer.	1ST 6-MO.	2ND 6-MO.	Annual Refer.	2015
Pump	Initials	Sect: 13.1.1	WQ	WQ	WQ	AH	AH	WQ	WQ	WQ					Sect: 13.2.1	AH/WQ			
	Date		1/9/15	2/10/15	3/3/15	4/1/15	5/27/15	6/16/15	7/13/15	8/24/15						6/22/15			
	W.O. #		11831	12195	12310	12514	12599	12727	12845	12979						12728			
Motor	Initials	Sect: 13.1.2	WQ	WQ	WQ	AH	AH	WQ	WQ	WQ					Sect: 13.2.2	AH/WQ			
	Date		1/9/15	2/10/15	3/3/15	4/1/15	5/27/15	6/16/15	7/13/15	8/24/15						6/22/15			
	W.O. #		11831	12195	12310	12514	12599	12727	12845	12979						12728			
Press/Lvl Transdcr.	Initials																	Sect: 13.3.2	
	Date																		
	W.O. #																		
Isolation Valves	Initials																	Sect: 13.3.6	WQ
	Date																		4/13/15
	W.O. #																		12512
Cla-Val	Initials																	Sect: 13.3.1	
	Date																		
	W.O. #																		
Mag-Meter	Initials																	Sect: 13.3.3	
	Date																		
	W.O. #																		
A.R.V.	Initials														Sect: 13.2.3	AH/WQ		Sect: 13.3.4	
	Date															6/22/15			
	W.O. #															12728			
M.C.C.	Initials																	Sect: 13.3.5	
	Date																		
	W.O. #																		

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Well 4D Webb

Item		Monthly													Semi-annual			Annual/Biannual		
		Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer.	1ST 6-MO.	2ND 6-MO.	Refer.	2015	Periodic
Pump	Initials	Sect: 8.1.1	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ					Sect: 8.2.1	WQ				
	Date		1/7/15	2/12/15	3/17/15	4/2/15	5/6/15	6/15/15	7/15/15	8/17/15						6/29/15				
	W.O. #		11829	12198	12300	12502	12602	12731	12847	12983						12732				
Motor	Initials	Sect: 8.1.2	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ					Sect: 8.2.2	WQ				
	Date		1/7/15	2/12/15	3/17/15	4/2/15	5/6/15	6/15/15	7/15/15	8/17/15						6/29/15				
	W.O. #		11829	12198	12300	12502	12602	12731	12847	12983						12732				
Press/Lvl Transdcr.	Initials																	Sect: 8.3.2		
	Date																			
	W.O. #																			
Isolation Valves	Initials																	Sect: 8.3.6	WQ	
	Date																		4/13/15	
	W.O. #																		12207	
Cla-Val	Initials																	Sect: 8.3.1		
	Date																			
	W.O. #																			
Mag-Meter	Initials																	Sect: 8.3.3		
	Date																			
	W.O. #																			
A.R.V.	Initials														Sect: 8.2.3	WQ		Sect: 8.3.4		
	Date															6/29/15				
	W.O. #															12732				
M.C.C.	Initials																	Sect: 8.3.5		
	Date																			
	W.O. #																			
Portable Generator	Initials	Sect: 8.1.3	WQ	WQ	WQ	WQ	WQ	WQ	AH	WQ					Sect: 8.2.4	WQ		Section: 8.3.7/8.4.1		
	Date		1/7/15	2/12/15	3/17/15	4/2/15	5/6/15	6/15/15	7/15/15	8/17/15						6/29/15				
	W.O. #		11829	12198	12300	12502	12602	12731	12847	12983						12732				
Generator Set	Initials																	Sect: 8.4.2		
	Date																			
	W.O. #																			

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Well 11D Dino

Item		Monthly Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Semi-annual Refer.	1ST 6-MO.	2ND 6-MO.	Annual/Biannual Refer.	2015	Periodic
Pump	Initials	Sect: 9.1.1	WQ	WQ	WQ	AH	AH	WQ	WQ	WQ					Sect: 9.2.1	WQ				
	Date		1/6/15	2/2/15	3/24/15	4/2/15	5/27/15	6/15/15	7/15/15	8/17/15						6/29/15				
	W.O. #		11827	12186	12304	12503	12601	12725	12846	12982						12726				
Motor	Initials	Sect: 9.1.2	WQ	WQ	WQ	AH	AH	WQ	WQ	WQ					Sect: 9.2.2	WQ				
	Date		1/6/15	2/2/15	3/24/15	4/2/15	5/27/15	6/15/15	7/15/15	8/17/15						6/29/15				
	W.O. #		11827	12186	12304	12503	12601	12725	12846	12982						12726				
Press/Lvl Transdcr.	Initials																	Sect: 9.3.2		
	Date																			
	W.O. #																			
Isolation Valves	Initials																	Sect: 9.3.6	WQ	
	Date																		4/13/15	
	W.O. #																		12206	
Cla-Val	Initials																	Sect: 9.3.1		
	Date																			
	W.O. #																			
Mag-Meter	Initials																	Sect: 9.3.3		
	Date																			
	W.O. #																			
A.R.V.	Initials														Sect: 9.2.3	WQ		Sect: 9.3.4		
	Date															6/29/15				
	W.O. #															12726				
M.C.C.	Initials																	Sect: 9.3.5		
	Date																			
	W.O. #																			
Portable Generator	Initials	Sect: 9.1.3	WQ	WQ	WQ	AH	AH	WQ	WQ	WQ					Sect: 9.2.4	WQ		Section: 9.3.7/9.4.1		
	Date		1/6/15	2/2/15	3/24/15	4/2/15	5/27/15	6/15/15	7/15/15	8/17/15						6/29/15				
	W.O. #		11827	12186	12304	12503	12601	12725	12846	12982						12726				
Generator Set	Initials																	Sect: 9.4.2		
	Date																			
	W.O. #																			

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Well 14D Railroad

Item		Monthly Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Semi-annual Refer.	1ST 6-MO.	2ND 6-MO.	Annual Refer.	2015
Pump	Initials	Sect: 7.1.1	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ					Sect: 7.2.1	WQ			
	Date		1/8/15	2/4/15	3/30/15	4/1/15	5/20/15	6/17/15	7/2/15	8/24/15						6/29/15			
	W.O. #		11830	12188	12308	12504	12600	12735	12844	12978						12736			
Motor	Initials	Sect: 7.1.2	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ					Sect: 7.2.2	WQ			
	Date		1/8/15	2/4/15	3/30/15	4/1/15	5/20/15	6/17/15	7/2/15	8/24/15						6/29/15			
	W.O. #		11830	12188	12308	12504	12600	12735	12844	12978						12736			
Press/Lvl Transdcr.	Initials																	Sect: 7.3.2	
	Date																		
	W.O. #																		
Isolation Valves	Initials																	Sect: 7.3.6	WQ
	Date																		3/6/15
	W.O. #																		12293
Cla-Val	Initials																	Sect: 7.3.1	
	Date																		
	W.O. #																		
Mag-Meter	Initials																	Sect: 7.3.3	
	Date																		
	W.O. #																		
A.R.V.	Initials														Sect: 7.2.3	WQ		Sect: 7.3.4	
	Date															6/29/15			
	W.O. #															12736			
M.C.C.	Initials																	Sect: 7.3.5	
	Date																		
	W.O. #																		

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

WELL 3 MAR-VAL

Item		Monthly													Quarterly					Semi-annual			Annual	
		Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer.	2010	2nd	3rd	4th	Refer.	1ST 6-MO.	2ND 6-MO.	Refer.	2015
Motor	Initials	Section: 12.1.2	AH	WQ	AH	WQ	WQ	WQ	WQ	WQ										Section: 12.3.2	WQ/AH			
	Date		1/9/15	2/5/15	3/25/15	4/6/15	5/7/15	6/15/15	7/16/15	8/26/15											6/22/15			
	W.O. #		11832	12191	12306	12506	12598	12733	12843	12981											12740			
Pump	Initials	Section: 12.1.1	AH	WQ	AH	WQ	WQ	WQ	WQ	WQ										Section: 12.3.1	WQ			
	Date		1/9/15	2/5/15	3/25/15	4/6/15	5/7/15	6/16/15	7/16/15	8/26/15											6/22/15			
	W.O. #		11832	12191	12306	12506	12598	12733	12843	12981											12740			
Chlorine Pump	Initials														Section: 12.2.1	WQ	WQ							
	Date															2/24/15	6/15/15							
	W.O. #															12208	12734							
Air Charger	Initials														Section: 12.2.2	WQ	WQ							
	Date															2/24/15	6/15/15							
	W.O. #															12208	12734							
Check Valve	Initials																			Section: 12.3.3	WQ			
	Date																				6/22/15			
	W.O. #																				12740			
A.R.V.	Initials																			Section: 12.3.4	WQ		Section: 12.4.4	
	Date																				6/22/15			
	W.O. #																				12740			
M.C.C.	Initials																						Section: 12.4.1	
	Date																							
	W.O. #																							
Pneumat Tank	Initials														Section: 12.2.3	WQ	WQ						Section: 12.4.5	
	Date															2/24/15	6/15/15							
	W.O. #															12208	12734							
Isolation Valves	Initials																						Section: 12.4.3	WQ
	Date																							4/13/15
	W.O. #																							12509
Propeller Meter	Initials																						Section: 12.4.2	
	Date																							
	W.O. #																							

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Well 8 Williamson

Item		Monthly													Quarterly					Semi-annual			Annual	
		Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Refer.	1st	2nd	3rd	4th	Refer.	1ST 6-MO.	2ND 6-MO.	Refer.	2015
Motor	Initials	Section: 11.1.2	WQ	WQ	AH	WQ	WQ	WQ	WQ	WQ										Section: 11.3.2	AH/WQ			
	Date		1/12/15	2/12/15	3/3/15	4/6/15	5/28/15	6/17/15	7/20/15	8/26/15											6/22/15			
	W.O. #		11834	12199	12309	12507	12597	12737	12842	12980											12739			
Pump	Initials	Section: 11.1.1	WQ	WQ	AH	WQ	WQ	WQ	WQ	WQ										Section: 11.3.1	AH/WQ			
	Date		1/12/15	2/12/15	3/3/15	4/6/15	5/28/15	6/17/15	7/20/15	8/26/15											6/22/15			
	W.O. #		11834	12199	12309	12507	12597	12737	12842	12980											12739			
Chlorine Pump	Initials														Section: 11.2.1	WQ	AH/WQ							
	Date															3/24/15	6/22/15							
	W.O. #															12350	12738							
Air Charger	Initials														Section: 11.2.2	WQ	AH/WQ							
	Date															3/24/15	6/22/15							
	W.O. #															12350	12738							
Check Valve	Initials																			Section: 11.3.3	AH/WQ			
	Date																				6/22/15			
	W.O. #																				12739			
A.R.V.	Initials																			Section: 11.3.4	AH/WQ		Section: 11.4.4	
	Date																				6/22/15			
	W.O. #																				12739			
M.C.C.	Initials																						Section: 11.4.1	
	Date																							
	W.O. #																							
Pneumat Tank	Initials														Section: 11.2.3	WQ	AH/WQ						Section: 11.4.5	
	Date															3/24/15	6/22/15							
	W.O. #															12350	12738							
Isolation Valves	Initials																						Section: 11.4.3	WQ
	Date																							4/13/15
	W.O. #																							12510
Propeller Meter	Initials																						Section: 11.4.2	
	Date																							
	W.O. #																							

Year: 2015

Elk Grove Water District

Preventative Maintenance Program

Well 9 Polhemus

Item		Monthly Refer.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Quarterly Refer.	1st	2nd	3rd	4th	Annual Refer.	2015
Check Valve	Initials																				
	Date																				
	W.O. #																				
Chlorine Pump	Initials	Sect: TBD	WQ	WQ	AH	WQ	WQ	WQ	WQ	WQ					Section: TBD	WQ	WQ			Section: TBD	
	Date		1/20/15	2/19/15	3/25/15	4/3/15	5/4/15	6/15/15	7/14/15	8/18/15						2/24/15	6/15/15				
	W.O. #		11764	12203	12307	12505	12596	12729	12848	12984						12209	12730				
Air Charger	Initials														Section: TBD	WQ	WQ				
	Date															2/24/15	6/15/15				
	W.O. #															12209	12730				
Isolation Valves	Initials																			Section: TBD	WQ
	Date																				4/13/15
	W.O. #																				12511
A.R.V.	Initials																			Section: TBD	
	Date																				
	W.O. #																				
M.C.C.	Initials																			Section: TBD	
	Date																				
	W.O. #																				
Pneumat Tank	Initials														Section: TBD	WQ	WQ			Section: TBD	
	Date															2/24/15	6/15/15				
	W.O. #															12209	12730				
Propeller Meter	Initials																			Section: TBD	
	Date																				
	W.O. #																				

Elk Grove Water District
Backflow Prevention Program 2015

Backflow Device Reports		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CURRENT													
Notices Issued		9	24	95	4	56	38	186	98				
	Pass:	4	17	26	2	40	13	152	74				
Results Received	Fail:	0	2	0	0	0	0	5	4				
Failed Devices Retested----Passed			2					2	2				
Outstanding Results Due		5	5	69	2	16	25	37	22				

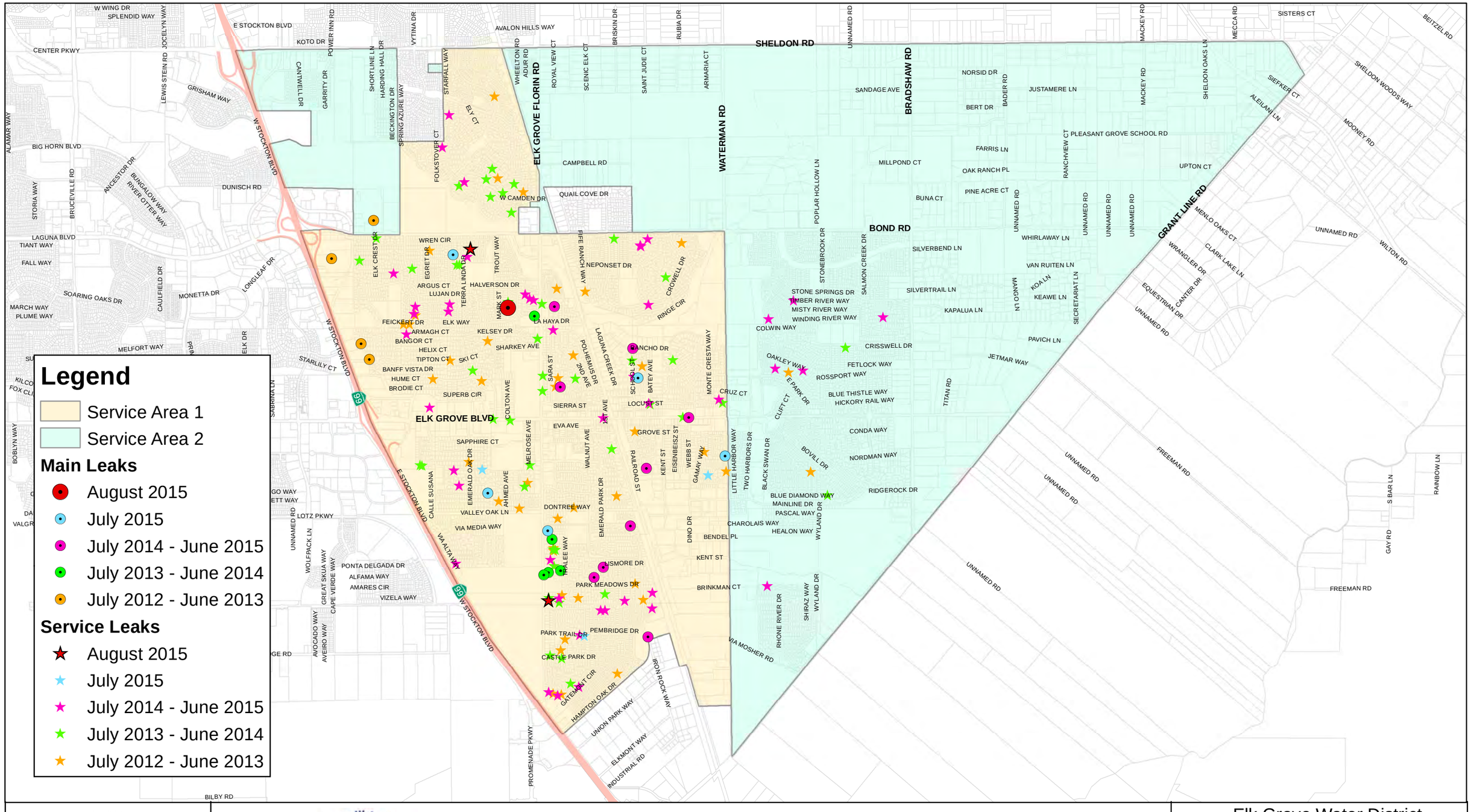
DELINQUENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Investigations													
Deactivated Devices				2				5	1				
	Sent:	5	5	69	2	16	25	32	18				
2nd Notice	Received:	0	4	0	2	8	21	14	1				
	Sent:	5	1	67		8	4	18					
3rd Notice	Received:	4	1	67		4	3	3					
Schedule Code Changed		1				4			3				
Outstanding Delinquents		0	0	0	0	0	1	15	17				
Carryover from 2014	0												

Total Outstanding Delinquents	**33**

Elk Grove Water District
Safety Meetings/Training
Aug-15

Date:	Topic:	Attendees:	Hosted By:
8/3/2015	Energized Electrical Equipment Can Be Deadly	Jose C, John D, Sean, Michael, Justin, Richard, Alan, Chris, Brandon, Steve, Aaron, Travis, Wilfredo	Steve Shaw
8/10/2015	Working Around Water Safely	Jose C, Jose M, John V, Sean, Michael, Justin, Richard, Alan, Brandon, Steve, Aaron, Travis, David	Steve Shaw
8/17/2015	Reducing the Threat of Customer Violence	Jose C, Jose M, John V, John D, Sean, Michael, Justin, Richard, Chris, Sal, Brandon, Steve, Aaron, Travis, Wilfredo, David	Steve Shaw
8/24/2015	Good Hygiene Keeps Viruses at Bay	Jose C, Jose M, John V, John D, Sean, Michael, Justin, Richard, Alan, Chris, Sal, Steve, Aaron, Travis, Wilfredo, David	Steve Shaw
8/31/2015	Hazard Awareness: Ready Day One	All Staff Required to Attend	Ellen Carlson


ASTER CREST CT
JASMINE CREST CT
EGRET DR
LUJAN DR
LOS TORRES DR
MOYNELLO CT
MARK ST
EMILY ST
BARTH ST
AMETHYST WAY
SUMERLIN CT
CRUCERO DR
CELTIC WAY
FEICKERT DR
ARMAGH CT
GREAT CT
JESTER CT
BANGOR CT
LORNA CT
DIAMOND OAK WAY
HEPPNER CT
HELIX CT
CELERY CT
GRIMSBY CT
TIPTON CT
MILO CT
SKI CT
BANFF VISTA DR
CULLEN CT
SECKEL CT
ELBO CT
HUME CT
EMERALD VISTA DR
HUGO CT
ORTON ST
BRODIE CT
BRAY VISTA WAY
KIND CT
SUPERB CIR
WILLIAMSON DR
COLTON AVE
RANCH PARK WAY
SHARKEY AVE
ELK GROVE FLORIN RD
ELK GROVE FLOR ALY
LA HAYA DR
CAMADA CT
DEVER CIR
COLLISTON DR
LANGDON CT
CARROLTON PL
SAVIN PL
RONAN CT
RINGE CIR
ACAPULCO WAY
MAZATLAN WAY
SARA ST
DURANGO WAY
NUTTREE CT
HIGH ST
SIERRA ST
3RD AVE
1ST AVE
LAGUNA CREEK DR
CLYDESDALE CT
BUCKSKIN CT
SHETLAND CT
VOOS CT
BATEY AVE
YOUNT CT
SUMMIT ST
BELLA VISTA PL
CUPERTINO DR
MONTE CRESTA WAY
SAN PAULO CIR
WATERMAN RD
PORTO BELLA WAY
PORTO VISTA CT
CRUZ CT
PACER CT
LOCUST ST
DERR ST
THOROUGHBRED WAY
ELK GROVE BLVD
EVA AVE
KAMARI ST
TRUMAN ST
GAGE ST
WALNUT AVE
LA NUEZ DR
RAILROAD ST
JAN MARIE WAY
GROVE ST
MARDELLE WAY
EISENBEISZ ST
LOUCLARE LN
GRUWELL WAY
GAMAY WAY
CHIANTI WAY
LARK ST
LITTLE HARBOR WAY
TWO HARBORS DR
MUFFY CT
CHABLIS WAY
ONYX PARK PL
FOUNDERS WAY
TRADESMAN LN
SAPPHIRE CT
SANTA RIDGE CIR
JADESTONE CT
ELK RIDGE WAY
UNNAMED RD
UNNAMED RD
MELROSE AVE
MELROSE AVEE ELK GROVE FLO
EMERALD PARK DR
EL MIRADOR DR
EL MEASA CT
EL CARRILO CT
EL ORO PLAZA DR
MOHAMED CIR
CALLE LINDA
EMERALD OAK DR
AQUARIUS AVE
AHMED AVE
MINNIE CIR
KILKENNY CT
CADURA CIR
PARKTREE WAY
DONTREE WAY
PLAZA PARK DR
LA VALENCIA CT
LOTZ PKWY
VIA ALTA WAY
AUT
E CIR
99
99
Legend
Services to Replace
Replaced Services in August 2015
Replaced Services
Services to Replace: 478
Services Replaced in August 2015: 26
Total Service Replaced: 140
Elk Grove Water District
Service Line Replacement
0
500
1,000
2,000 Feet
N
W
E
S
Projected Coordinate System: NAD 83 State Plane, Californa II, FIPS 0420
Source: City of Elk Grove, EGWD and Sacramento County GIS databases
Created by: Travis Franklin
Date: September 9, 2015



July 2015	
Main Line Leaks: 1	YTD: 6
Service Line Leaks: 2	YTD: 5
Total Leaks: 3	YTD: 11

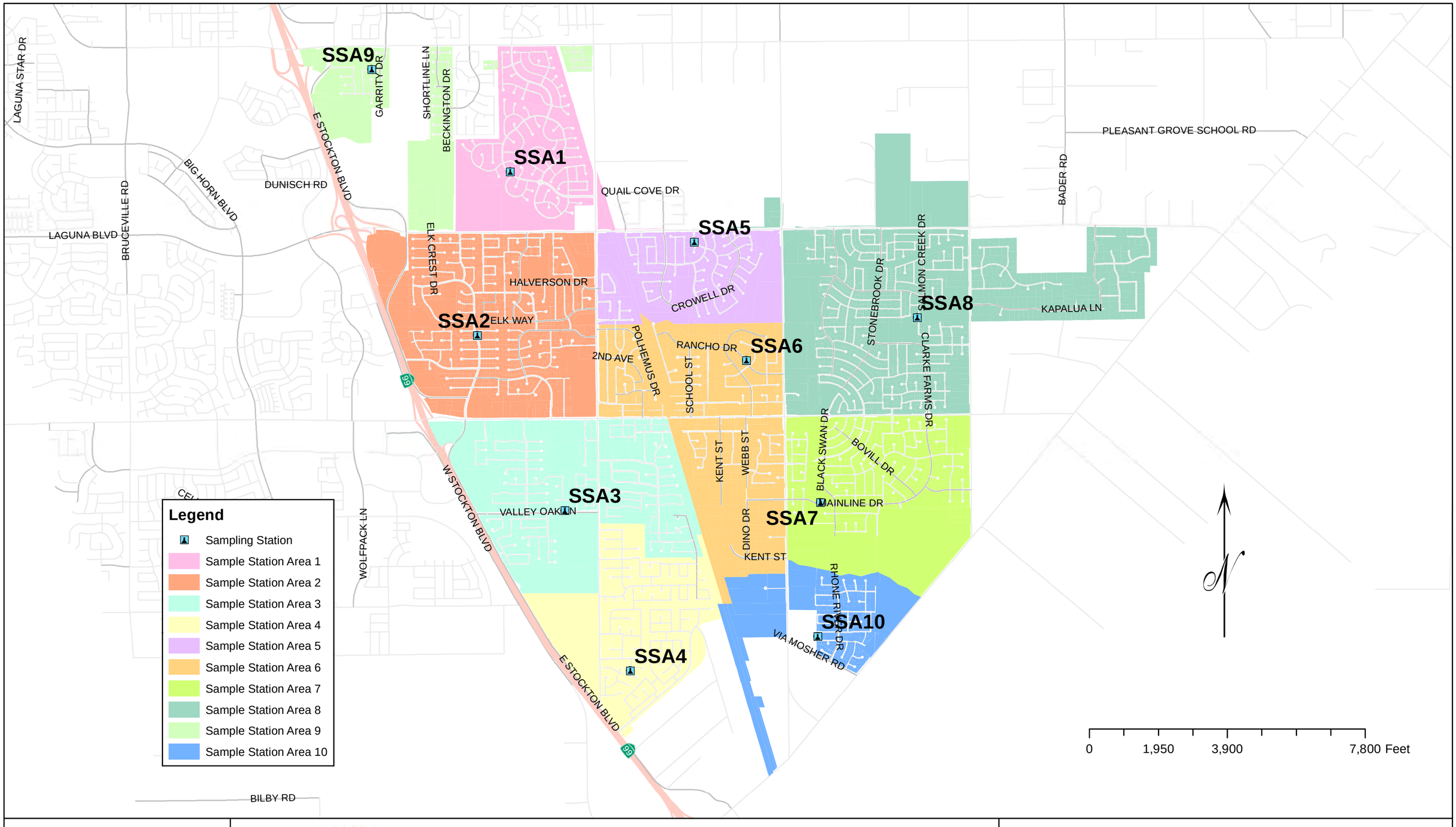
Elk Grove Water District

Service and Main Leaks Map

0 3,500 7,000 Feet

N W E S

Elk Grove Water District
Service / Main Leaks
Created by: Travis Franklin
Date: September 9, 2015



Sample Stations: 10

Elk Grove Water District

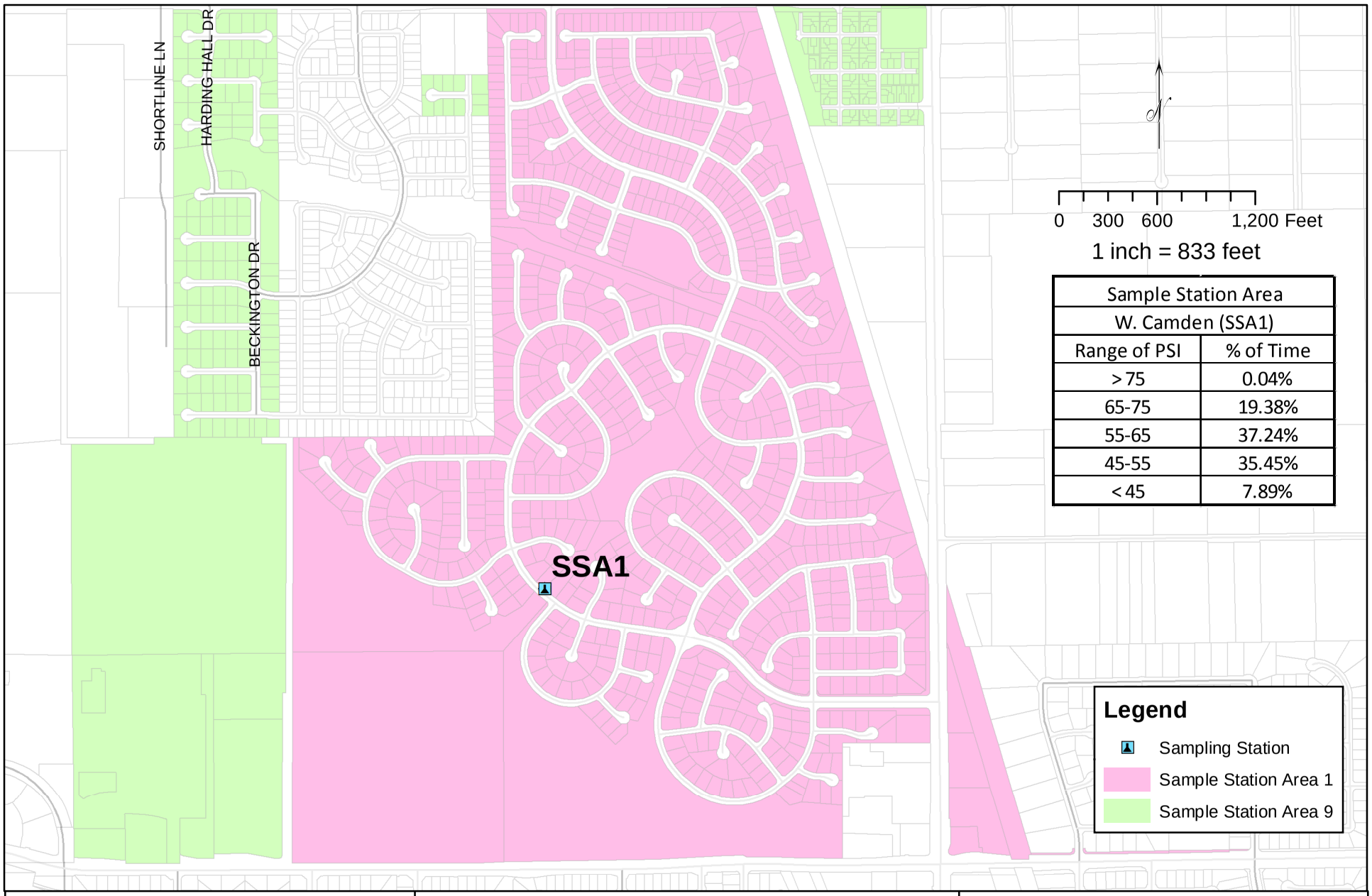
Sample Station Areas

Projected Coordinate System: NAD 83 State Plane CA II FIPS 0402

Source: EGWD GIS database

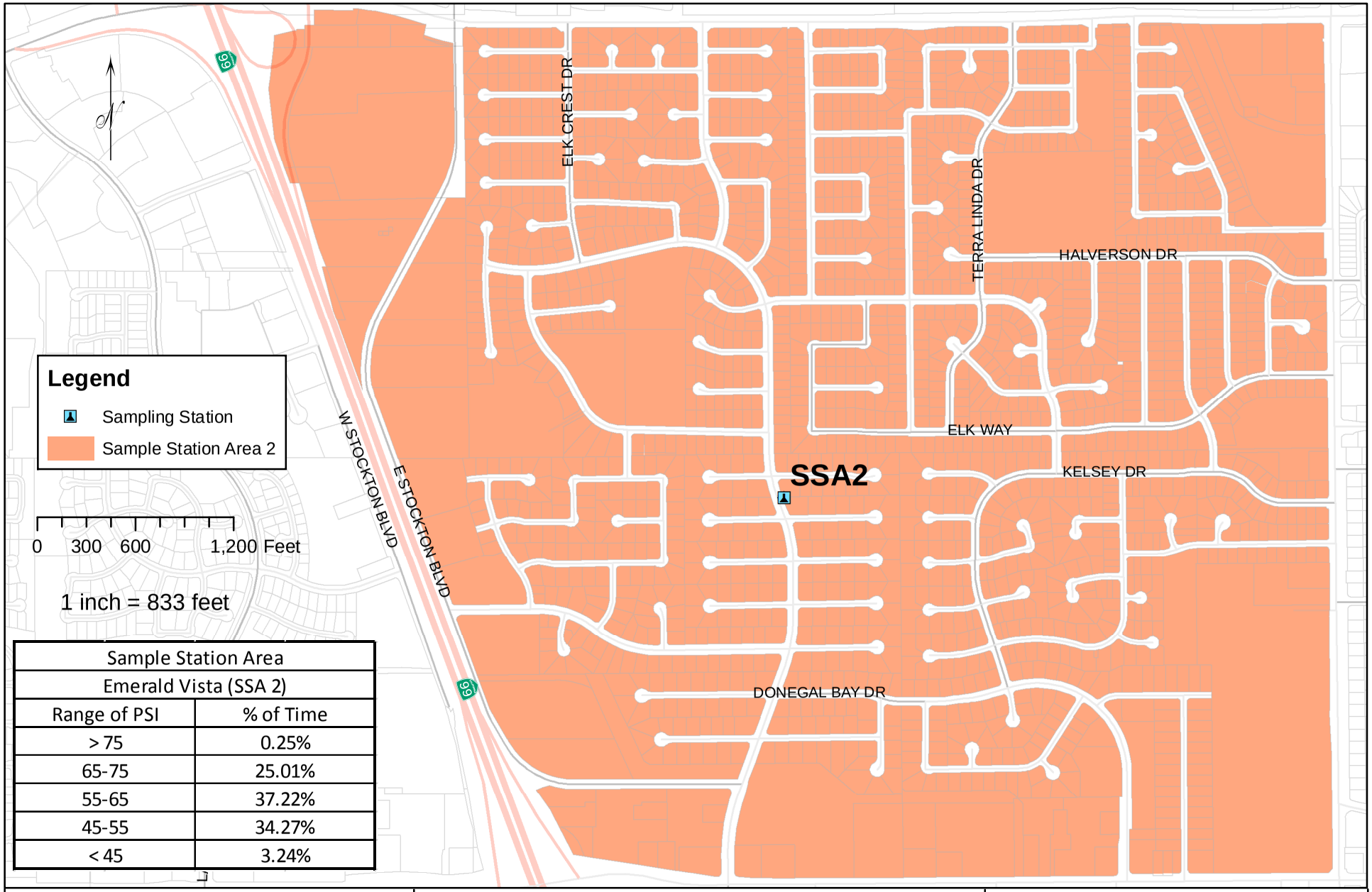
Modified by: Travis Franklin

September 9, 2015



Sample Station Area	
W. Camden (SSA1)	
Range of PSI	% of Time
> 75	0.04%
65-75	19.38%
55-65	37.24%
45-55	35.45%
< 45	7.89%

Sample Station #1	Elk Grove Water District	Projected Coordinate System: NAD 83 State Plane CA II FIPS 0402
Note: Sample Station takes a reading every 5 minutes.	System Pressure Monitoring	Source:EGWD GIS database
August 2015		Created by: Travis Franklin September 9, 2015



Sample Station Area	
Emerald Vista (SSA 2)	
Range of PSI	% of Time
> 75	0.25%
65-75	25.01%
55-65	37.22%
45-55	34.27%
< 45	3.24%

Sample Station #2

Note: Sample Station takes a reading every 5 minutes.

August 2015

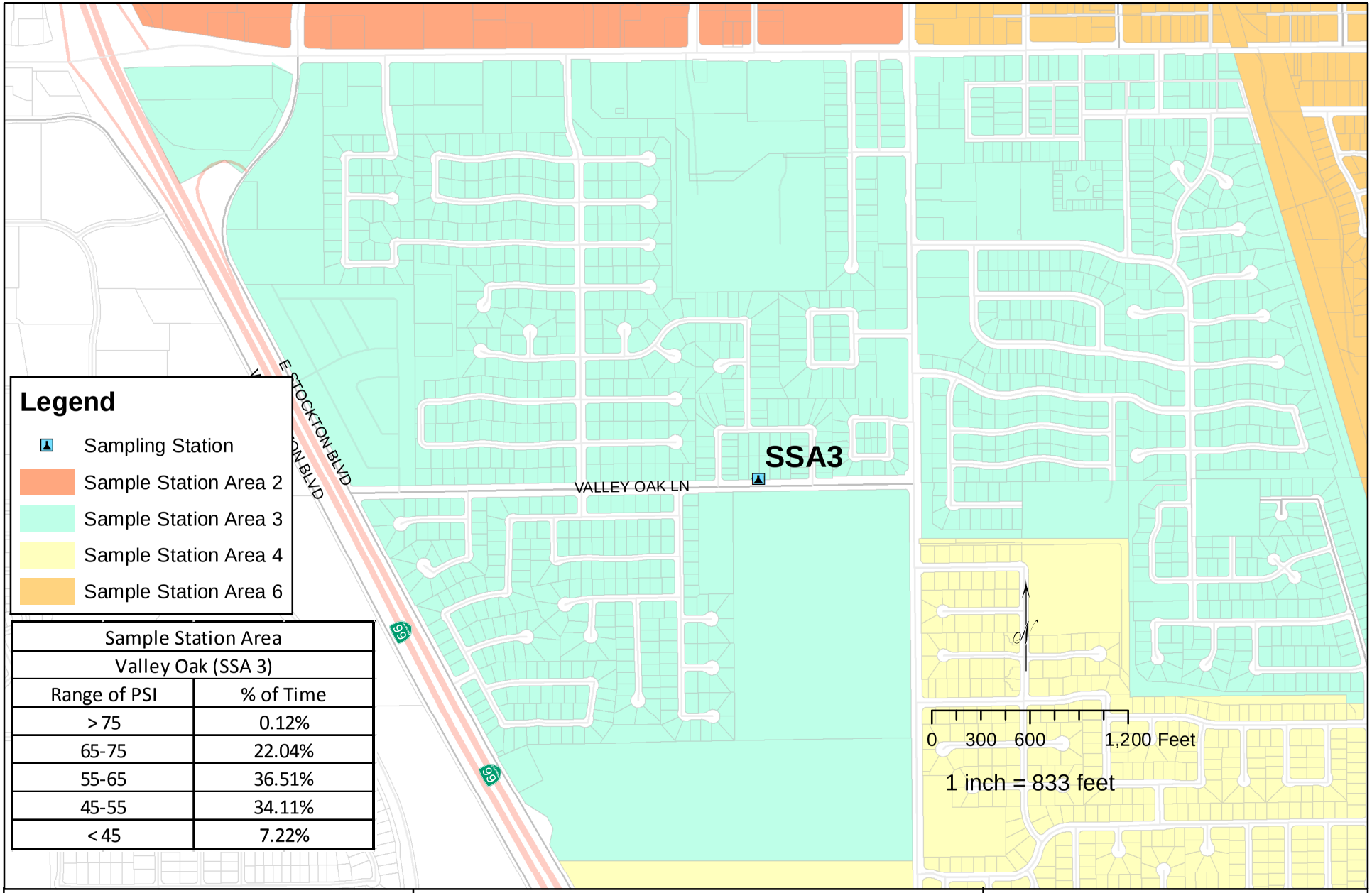
Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402

Source: EGWD GIS database

Created by: Travis Franklin
September 9, 2015



Legend

- Sampling Station
- Sample Station Area 2
- Sample Station Area 3
- Sample Station Area 4
- Sample Station Area 6

Sample Station Area	
Valley Oak (SSA 3)	
Range of PSI	% of Time
> 75	0.12%
65-75	22.04%
55-65	36.51%
45-55	34.11%
< 45	7.22%

Sample Station #3

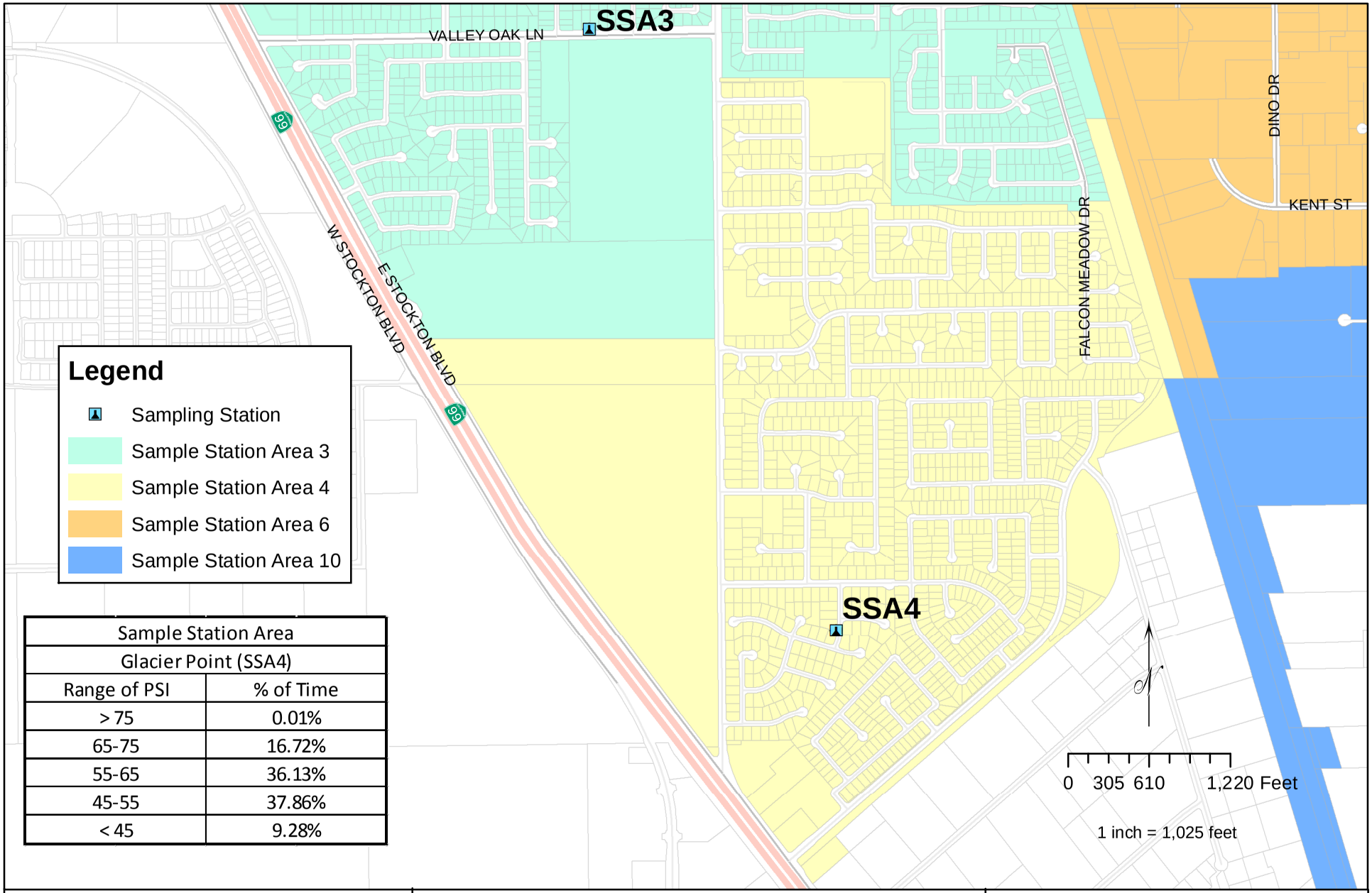
Note: Sample Station takes a reading every 5 minutes.

August 2015

Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402
Source: EGWD GIS database
Created by: Travis Franklin
September 9, 2015



Sample Station Area	
Glacier Point (SSA4)	
Range of PSI	% of Time
> 75	0.01%
65-75	16.72%
55-65	36.13%
45-55	37.86%
< 45	9.28%

Sample Station #4

Note: Sample Station takes a reading every 5 minutes.

August 2015

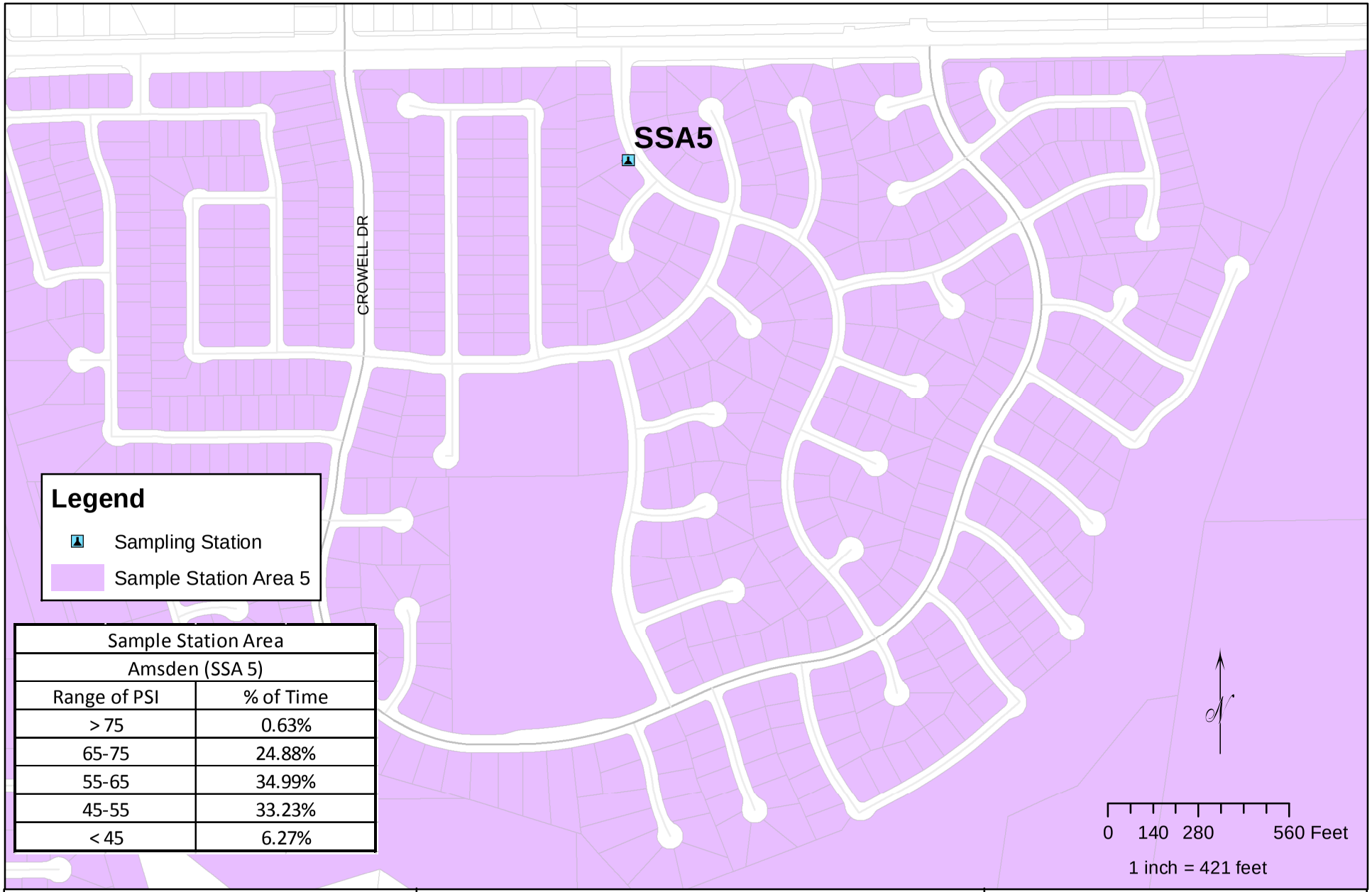
Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402

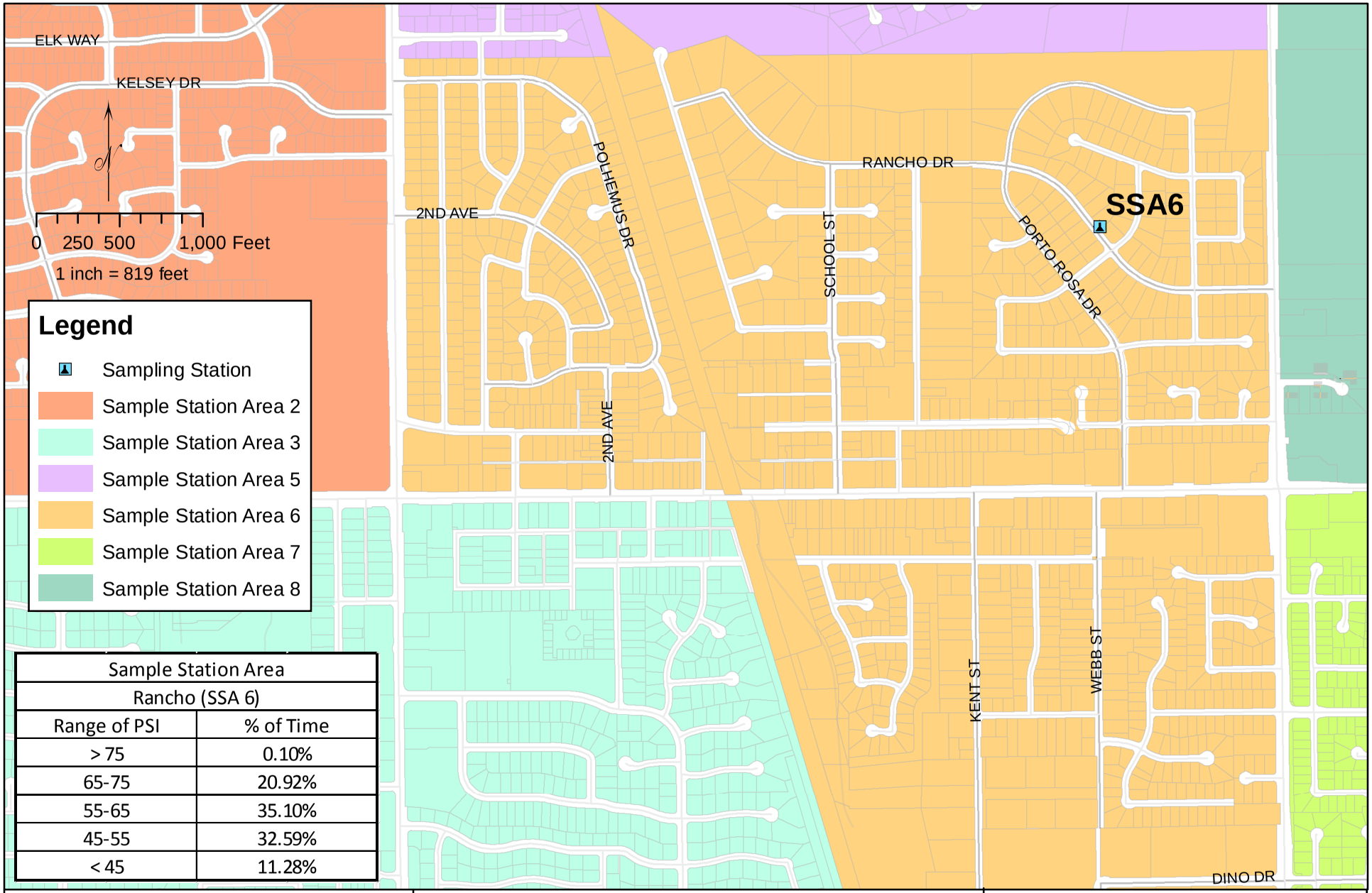
Source: EGWD GIS database

Created by: Travis Franklin
September 9, 2015



Sample Station Area	
Amsden (SSA 5)	
Range of PSI	% of Time
> 75	0.63%
65-75	24.88%
55-65	34.99%
45-55	33.23%
< 45	6.27%

Sample Station #5	**Elk Grove Water District**	Projected Coordinate System: NAD 83 State Plane CA II FIPS 0402
Notes: Sample Station takes a reading every 5 minutes.	System Pressure Monitoring	Source: EGWD GIS database
August 2015		Created by: Travis Franklin September 9, 2015



Sample Station Area	
Rancho (SSA 6)	
Range of PSI	% of Time
> 75	0.10%
65-75	20.92%
55-65	35.10%
45-55	32.59%
< 45	11.28%

Sample Station #6

Note: Sample Station takes a reading every 5 minutes.

August 2015

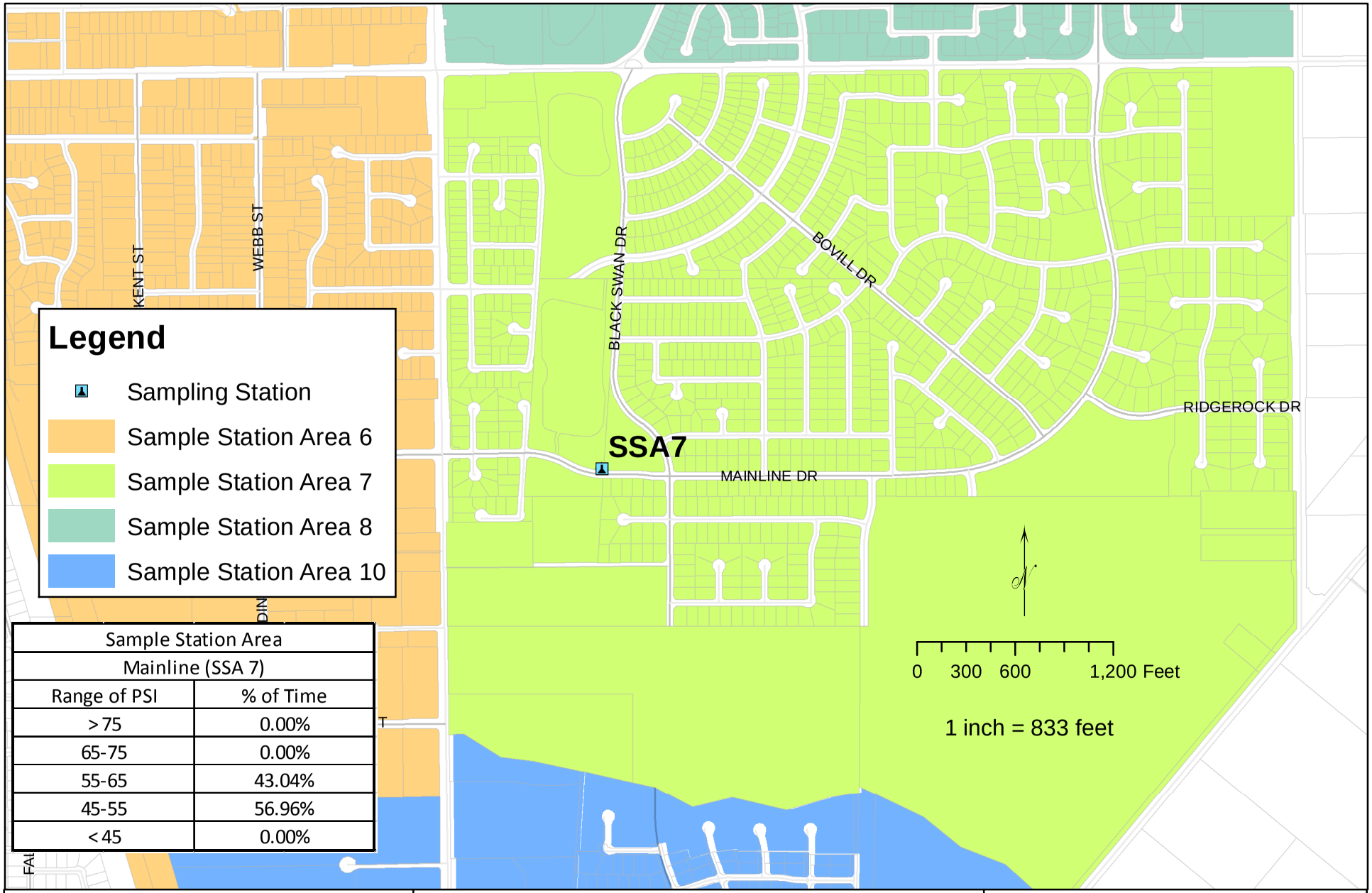
Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402

Source: EGWD GIS database

Created by: Travis Franklin
September 9, 2015



Sample Station Area	
Mainline (SSA 7)	
Range of PSI	% of Time
> 75	0.00%
65-75	0.00%
55-65	43.04%
45-55	56.96%
< 45	0.00%

Sample Station #7

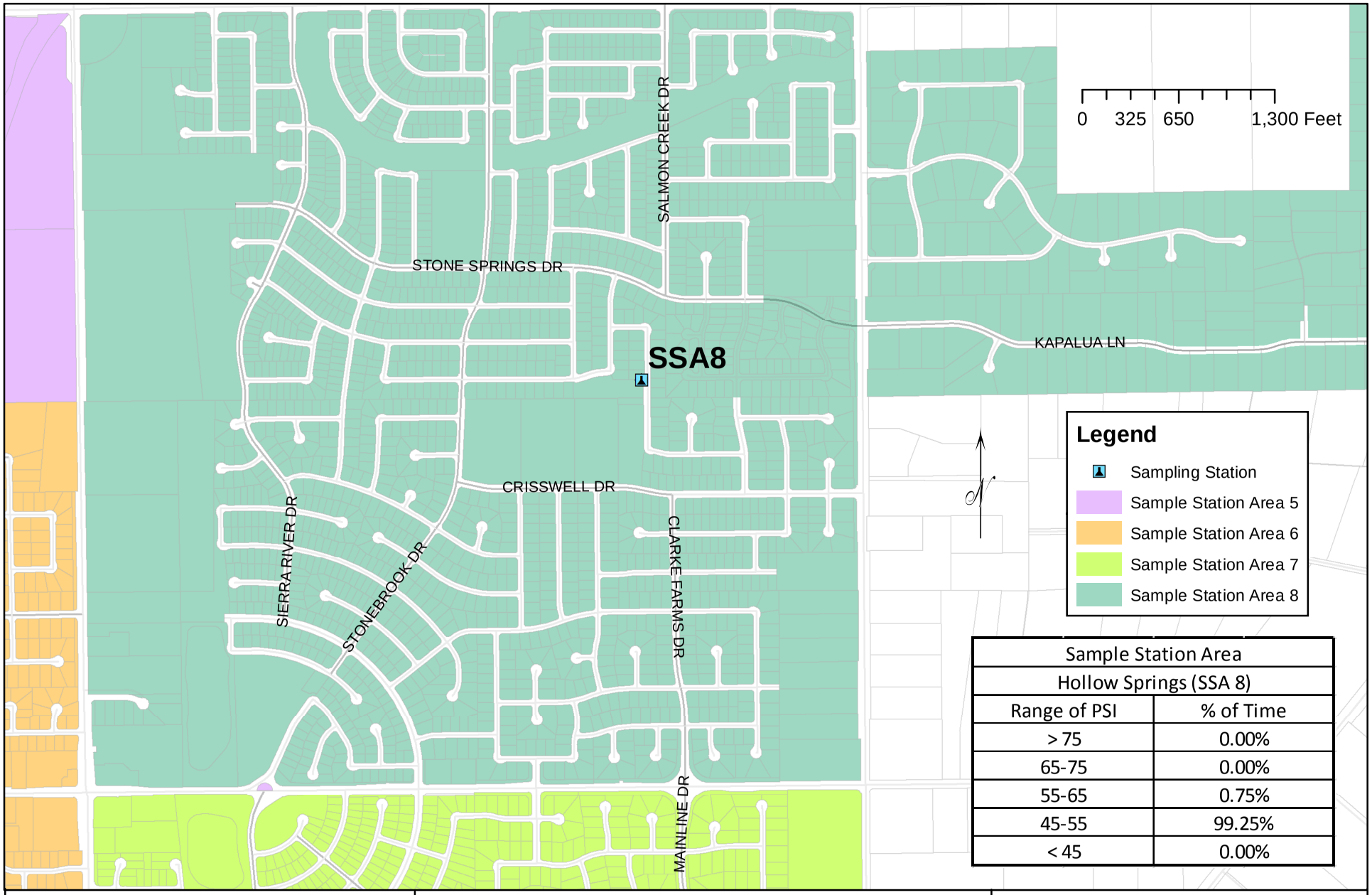
Note: Sample Station takes a reading every 5 minutes.

August 2015

Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402
Source: EGWD GIS database
Created by: Travis Franklin
September 9, 2015



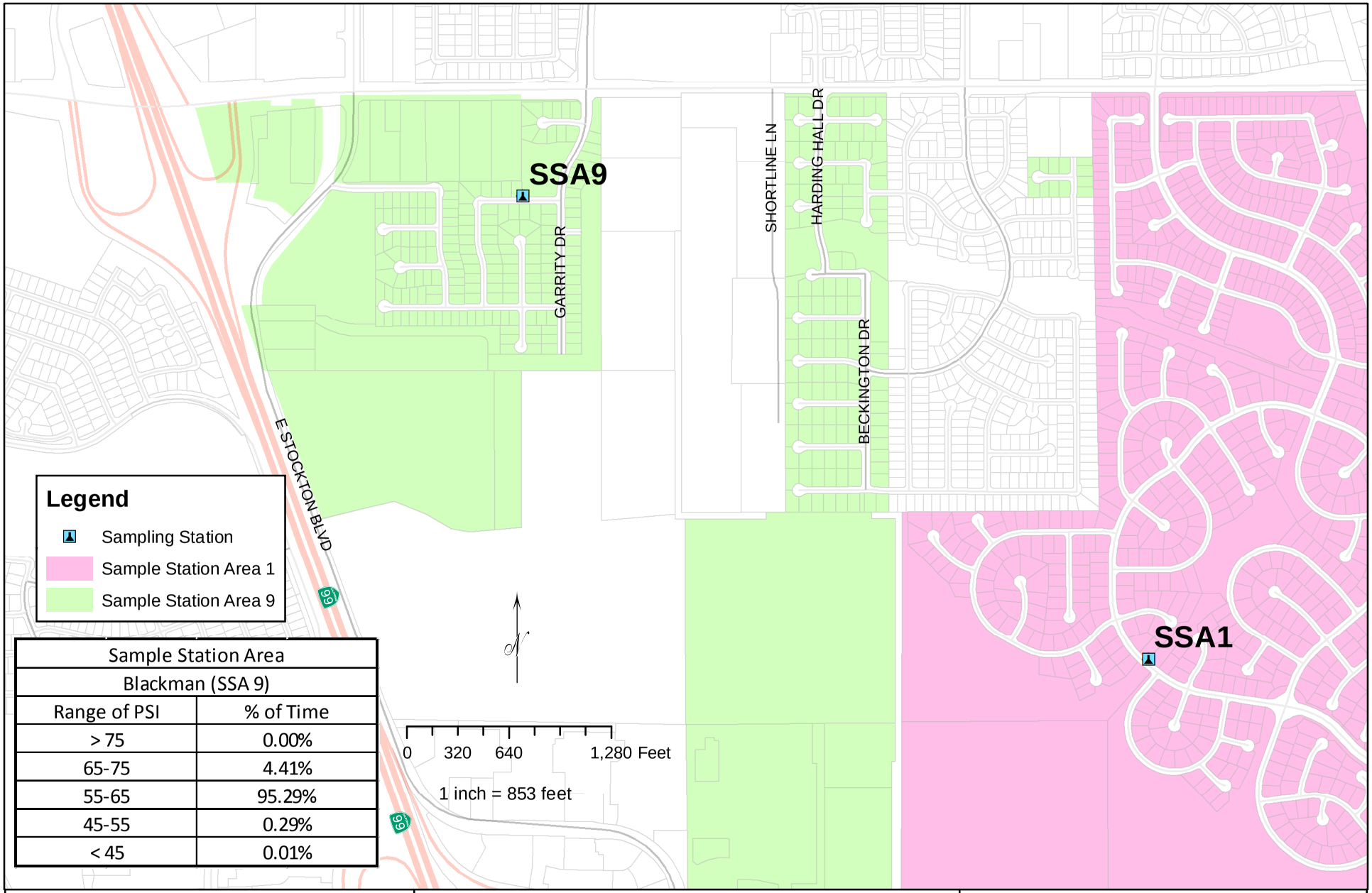
Sample Station Area	
Hollow Springs (SSA 8)	
Range of PSI	% of Time
> 75	0.00%
65-75	0.00%
55-65	0.75%
45-55	99.25%
< 45	0.00%

Sample Station #8
Note: Sample Station takes a reading every 5 minutes.
August 2015

Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402
Source: EGWD GIS database
Created by: Travis Franklin
September 9, 2015



Sample Station Area	
Blackman (SSA 9)	
Range of PSI	% of Time
> 75	0.00%
65-75	4.41%
55-65	95.29%
45-55	0.29%
< 45	0.01%

Sample Station #9

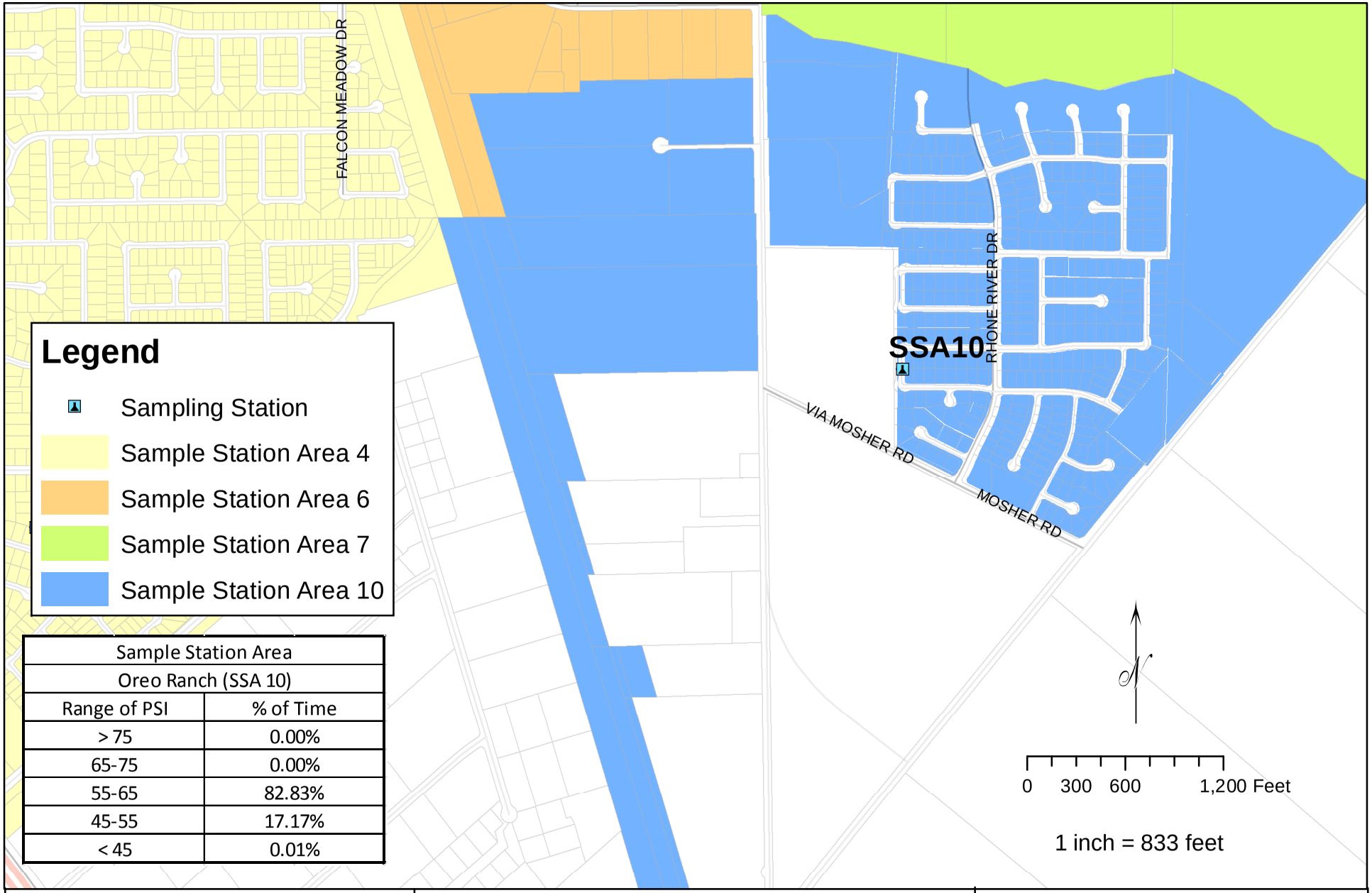
Note: Sample Station takes a reading every 5 minutes.

August 2015

Elk Grove Water District

System Pressure Monitoring

Projected coordinate system:
NAD 83 State Plane CA II FIPS 0402
Source: EGWD GIS database
Created by: Travis Franklin
September 9, 2015



Sample Station Area	
Oreo Ranch (SSA 10)	
Range of PSI	% of Time
> 75	0.00%
65-75	0.00%
55-65	82.83%
45-55	17.17%
< 45	0.01%

Sample Station #10

Note: Sample Station takes a reading every 5 minutes.

August 2015

Elk Grove Water District

System Pressure Monitoring

Projected Coordinate System:
NAD 83 State Plane CA II FIPS 0402

Source: EGWD GIS database

Created by: Travis Franklin

September 9, 2015

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Stefani Phillips, Secretary of the FRCD Board of Directors

SUBJECT: **APPOINTMENT OF LISA MEDINA AS ASSOCIATE DIRECTOR TO THE FLORIN RESOURCE CONSERVATION DISTRICT BOARD OF DIRECTORS**

RECOMMENDATION

It is recommended that the Florin Resource Conservation District Board of Directors consider the appointment of Lisa Medina as Associate Director to the Florin Resource Conservation District Board of Directors.

Summary

The Florin Resource Conservation District (FRCD) has received the required applicant documents from Lisa Medina, who is interested in becoming an Associate Director to the FRCD Board of Directors (Board).

By this action, the Board will consider the appointment of Lisa Medina as an Associate Director to the Board.

DISCUSSION

Background

On March 25, 2009, the Board adopted Resolution No. 03.25.09.01 adopting Policy No. 12, which detailed the appointment and qualifications, term and responsibilities, and the application process. The Board has amended the policy several times in the past to provide clarity, the most recent revision on August 26, 2015

On June 24, 2015, the FRCD Board re-appointed Associate Board Directors Davies Ononiwu and Mike Schmitz consistent with past practice and according to the Associate Director Policy for a two-year term beginning on July 1, 2015. There were no additional individuals interested in becoming Associate Directors to consider at that time.

Present Situation

On July 29, 2015, Director Elliot Mulberg commented that he knew of an individual that was interested in becoming an Associate Director and stated that the Board should be able to fill Associate Director vacancies when there is a viable candidate. The Board requested that staff amend the Associate Director Policy, to permit the Board to fill Associate Director vacancies throughout the year. At the Regular Board Meeting on August 26, 2015, the Board adopted the revised Associate Director Policy reflecting this change.

Following that Board Meeting, Lisa Medina submitted the attached letter of interest, resume and three letters of recommendation by individuals familiar with her work and qualifications. Ms. Medina's submittal meets all requirements and qualifications set forth in the attached Associate Director Policy.

FINANCIAL SUMMARY

There is no financial impact associated with this agenda item.

Respectfully submitted,

STEFANI PHILLIPS
SECRETARY TO THE FLORIN RESOURCE CONSERVATION BOARD OF DIRECTORS

Attachments

Lisa Medina
9169 Lujan Drive
Elk Grove, CA 95624
Cell Phone: (916) 207-7967
Work Phone: (209) 468-3455

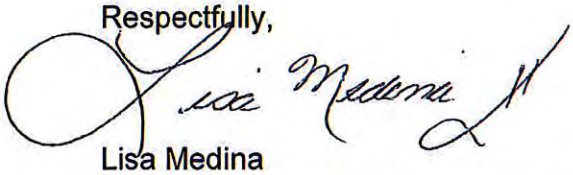
August 31, 2015

Mark Madison, General Manager
Florin Resource Conservation District/Elk Grove Water District
9257 Elk Grove Blvd., Elk Grove, CA 95624

Mr. Madison,

I attended the last scheduled Elk Grove Water District board meeting held on August 26, 2015. The reason for my attendance was for an interest in applying for the Associate Director Board member position that is currently open. I believe my expertise and experience as a Registered Environmental Health Specialist represents qualifications the board is seeking. My strong dedication to our community and protection of our environment and sustainability of our resources would enhance and create diversity to the board. I have attached my resume and letters of recommendations for your review. I look forward to future participation as a community representative of Elk Grove, CA.

Respectfully,



Lisa Medina
Senior Registered Environmental Health Specialist
San Joaquin County Environmental Health Department
1868 E. Hazelton Avenue
Stockton, CA 95205
(209) 468-3455
lmedina@sjcehd.com

Lisa Medina

9169 Lujan Drive

Elk Grove, CA 95624

(916) 207-7967 (cell)

email: mamasitalisa@hotmail.com

Senior Registered Environmental Health Specialist, San Joaquin County (SJC) Environmental Health Department (EHD), Stockton, CA

August, 1998 – Present

Experience

Current Assignment:

- Management of EHD's Operations Unit including processing public requests at the public counter for education and technical information related to EHD's twenty-seven environmental programs
- Assists in supervising staff; assigns and reviews work, trains staff, acts in the absence of supervisor
- Enforces and secures compliance with federal, state, and local laws, ordinances, regulations and standards in the area of environmental health
- Chair EHD's Safety and Health Committee and assist the Department Safety and Health representative in implementation of Injury and Illness Prevention Plan, Facility Threat Plan and Department Emergency Plan
- Acts as EHD's Emergency Preparedness Trainer and Coordinator
- Acts as EHD's Community Outreach representative and Public Information Officer (PIO) including training for clients and businesses
- Assist clients and business representatives in management of their California Environmental Reporting Systems (CERS) accounts and provides education and consultation for food, and hazardous materials programs
- Acts as Training Officer for the department and conducts Safety & Health presentations routinely at General Staff meetings as mandated by EHD's Injury and Illness Prevention Program
- Reviews and processes complaints from the public and provides direction for corrective action

Past Experience includes:

- Conduct routine inspection of food facilities including restaurants, mobile food preparation units and related food facilities in which food is provided or sold to the public, review plan checks and investigate and abate public complaints
- Provided oversight, investigation and inspection of petroleum contaminated sites
- Review and analyses of technical reports

- Development and preparation of comment letters to the responsible parties and upload of documentation to the State of California's Geotracker website regarding leaking underground storage tanks
- Process and issue permit applications for the construction, repair and destruction of monitoring groundwater wells
- Act as emergency backup staff for the Small Public Water Systems
- Assist the EHD training officer and act as a training coordinator by providing training and presentations to the public and EHD staff
- Conduct training and develop presentations for EHD staff including Heat Stress Management, Cold Stress Indicators, Emergency Training - Emergency Response for Environmental Health Specialists, California Onsite Wastewater Association, Lifting Techniques, Dog Bite Precautions and Safety, Personal Safety and Awareness and organized employee training for PC832, Arrest and Firearms
- Assist EHD's Safety and Health representative in the review, development and implementation of the EHD's Injury, Illness and Prevention Plan (IIPP), Emergency Response Plan and Facility Threat Plan
- Attended Emergency Preparedness Advisory Committee (EPAC) for SJC
- Schedule, coordinate and present mandated health and safety training presentations to staff at general staff meetings as required by EHD's IIPP
- Serves as the Health and Safety Committee chairperson for past seven years
- Conducted routine inspection of Small Public Water Systems for compliance with California Water Code and San Joaquin County Well Standards
- Conducted routine inspection of sewage disposal systems including the construction, repair and destruction of systems and compliance with SJC's On-Site Wastewater Disposal Standards
- Conducted routine inspection of sewage package treatment plants, pumper truck vehicles and yards, chemical toilets and processed complaints
- Processed and issued permit applications for septic and well, consultations, provided information to the public, constituents and stakeholders acting as a Lead EHD representative at SJC's public service counter
- Conducted evaluation and assessment of land use applications involving subdivisions, parcel maps, site plans, use permits and business applications for compliance with applicable laws, ordinances and regulations
- Attended joint meetings with the Community Development Department staff for compliance with the San Joaquin County (SJC) Development Title 9
- Conducted routine inspection of solid waste facilities for compliance of laws, regulations as they relate to the handling, storage and transportation of solid waste, conducted inspection of kennels and egg laying facilities for vector control
- Conducted inspection and processed complaints related to Hazardous and or Dangerous residential housing and compliance with California State Housing Law and California Health and Safety Code and Building Code
- Conducted routine inspections of hotel/motel and detention permitted facilities for compliance with the California Health and Safety Code and California State Housing Law and Employees Housing Act

- Conducted routine inspection of public recreational swimming facilities for compliance with California Health and Safety Code, California Code of Regulation, Title 24, processed and investigated public complaints

August 2012 to Present

Lifestyle, Insight, Networking, Knowledge and Skills (L.I.N.K.S.) Certified Trainer, United States Marine Corps, 12th Marine Corp District, MCRD/WRR, San Diego, CA

Provide course training to Marine Corps personnel and families regarding history of the Marine Corps, Marine Corps Structure, Separation and Deployment, Marine Air/Ground Task Force (MAGTF), Emergency Preparedness, Resources and Services

Education

Bachelor of Science, Health and Safety Studies and Occupation Health, Sacramento, CA

Associates of Science, Sacramento, CA

Certificates

L.I.N.K.S. Certified Trainer, United States Marine Corps, 12th Marine Corp District, MCRD/WRR, San Diego, CA

Registered Environmental Health Specialist, State of California Department of Health Services # 6969

Hazardous Waste Operations 40 hour (HAZWOPR) 29 CFR 1910.120

Jeff Carruesco
5573 Lilyview Way
Elk Grove, CA 95758

September 3, 2015

Elk Grove Water District
9257 Elk Grove Blvd.
Elk Grove, CA 95624

To whom it may Concern,

I am writing on behalf of Lisa Medina regarding the position of Associate Board Member with the Elk Grove Water District. Lisa and I have worked at the same department— San Joaquin County Environmental Health—for approximately 17 years. During that time, I have gotten to know Lisa well and can attest to her character and abilities.

Lisa is a pleasure to work with because of her pleasant and positive attitude. Lisa has worked in several different programs within the department since starting here in 1998. In her current position as operations staff, Lisa is tasked with many things, including direct communication with the public. She leans on her pleasant attitude and her ability to problem solve while providing excellent customer service.

As her direct supervisor from 2012 to 2015, I was impressed by Lisa's ability to efficiently and professionally complete her assigned workload in the retail food and public swimming pool programs. Lisa continues to strive to gain more knowledge related her profession. She makes herself available for many training opportunities as well as special projects where her communication skills are put on display. Lisa holds many public speaking engagements in house and at offsite locations. Lisa champions the environmental health profession by coordinating speaking engagements with students, trainees, interns, and co-workers. She is also our in-house Safety Committee Chairperson.

Given Lisa's many positive attributes, I believe she would be an excellent fit for your board. If you have any questions, feel free to contact me at (916) 208-5663.

Best,

J. Carruesco

Jeff Carruesco

San Joaquin County
Environmental Health Department
1868 East Hazelton Avenue
Stockton, California 95205-6232

Website: www.sjgov.org/ehd
Phone: (209) 468-3420
Fax: (209) 464-0138

DIRECTOR
Linda Turkatte, REHS

PROGRAM COORDINATORS
Robert McClellon, REHS
Jeff Carruesco, REHS, RDI
Kasey Foley, REHS
Rodney Estrada, REHS
Adrienne Ellsaesser, REHS

September 1, 2015

To whom it may concern,

I would like to recommend Lisa Medina, for the Associate Board Member position with the Elk Grove Water District. I have worked with Lisa for the past twelve years in the Domestic Water Well, Land Use, and Liquid Waste programs with the San Joaquin County Environmental Health Department. Her experience includes enforcing and securing compliance with federal, state, and local ordinances, regulations, and standards in the areas of domestic and public water well systems, to ensure safe and potable domestic water supplies and the protection of groundwater through regulation of well construction, repair and destruction. Lisa's experience also includes oversight of liquid waste and land use development programs which protect the environment and mitigate environmental degradation. Lisa has developed a strong sense of public relation skills and currently acts as our department's Public Information Officer in addition to her other duties managing Counter Operations at EHD's public counter. Lisa is an asset to our department and she will bring the expertise of a strong environmental knowledge background to the Elk Grove Water District agency.

Respectfully,

Rodney Estrada, REHS
Program Coordinator
Domestic Water Well, Liquid Waste & Land Use Programs
San Joaquin County Environmental Health Department
1868 E. Hazelton Avenue
Stockton, CA 95205
(209) 468-0331
restrada@sjcehd.com

San Joaquin County
Environmental Health Department
1868 East Hazelton Avenue
Stockton, California 95205-6232

Website: www.sjgov.org/ehd
Phone: (209) 468-3420
Fax: (209) 464-0138

DIRECTOR
Linda Turkatte, REHS

PROGRAM COORDINATORS
Robert McClellon, REHS
Jeff Carruesco, REHS, RDI
Kasey Foley, REHS
Rodney Estrada, REHS
Adrienne Ellsaesser, REHS

September 4, 2015

To whom it may Concern,

Lisa Medina has informed me of her interest in the position of the Associate Director Board member position with your agency. Lisa has worked for our department for over eighteen years and has experience in several of our Environmental Health Programs. Lisa has been a dedicated, conscientious and professional employee throughout her career with our department and strives to represent our department daily in such a manner. Lisa's current duties include assistance in the management of our newly formed Operations Unit at our public counter. Her duties include assisting the public, business representatives, government officials, and constituents in the education of our twenty-seven Environmental Health Programs. Lisa also acts as the department's community outreach coordinator and routinely presents the department's Environmental Health Programs at various locations including schools, other government organizations, and businesses. Lisa is responsible for other duties including the coordination of Emergency Preparedness activities and chairs the Health and Safety Committee. I believe Lisa would be a positive addition to the committee and can lend her expertise and experience to your agency with professionalism and enthusiasm. If you should have any questions please call me at (209) 468-3912.

Regards,

Linda Turkatte

Linda Turkatte, REHS, Director
San Joaquin County Environmental Health Department
1868 E. Hazelton Avenue
Stockton, CA 95205

San Joaquin County
Environmental Health Department
1868 East Hazelton Avenue
Stockton, California 95205-6232

Website: www.sjgov.org/ehd
Phone: (209) 468-3420
Fax: (209) 464-0138

DIRECTOR
Linda Turkatte, REHS

PROGRAM COORDINATORS
Robert McClellon, REHS
Jeff Carruesco, REHS, RDI
Kasey Foley, REHS
Rodney Estrada, REHS
Adrienne Ellsaesser, REHS

September 8, 2015

To Whom It May Concern:

It is my pleasure to recommend Lisa Medina for the Associate Director position for the Elk Grove Water District Board. I have known Lisa for about 15 years during which time she worked as a Registered Environmental Health Specialist. The last five months, I have been her direct supervisor and I have been impressed with Lisa's attitude and productivity in the office.

Lisa is a quick learner, is extremely motivated, and has strong communication and interpersonal skills. As head of our department's Safety and Health Committee, she provides training to all the employees on a monthly basis showing that she can absorb large amounts of information and in turn teach it to others in both verbal and written formats. Lisa also oversees our front counter area, where she is required to interact with the public and at times different public agencies. Because of her strong communication and interpersonal skills, she excels at her position.

I am happy to act as a reference for Lisa and can speak to her customer service skills, work ethic, and professionalism. Please feel free to contact me if you require further information.

Sincerely,

Willy Ng, REHS
Program Coordinator, Operations Unit
San Joaquin County Environmental Health Department
1868 E. Hazelton Ave.
Stockton, CA 95205
(209) 468-3448
wng@sjcehd.con

FLORIN RESOURCE CONSERVATION DISTRICT

POLICY NO. 12

ADOPTED BY FRCD RESOLUTION NO. 03.25.09.01
AMENDED AND RESTATED BY FRCD RESOLUTION NO. 08.26.15.01

Associate Directors Policy

Purpose:

The Resource Conservation District law allows for associate directors appointed by the Board of Directors. Associate Directors (Associate(s)) offer unique expertise to the Board of Directors in areas that included but are not limited to: finance, government accounting, agricultural practices, education, public relations, engineering, geochemistry, environmental health, conservation, geology, water resources, water service delivery, local government, environmental issues, land use, and real estate.

Appointment and qualifications:

1) The Florin Resource Conservation District (FRCD Board) may appoint up to five (5) Associate(s).
2) Associate(s) must be a registered voter or land owner within the FRCD boundaries.
3) Associate(s) must possess expertise in one of the areas of interest to the FRCD.
4) Associate(s) are appointed by a vote of the FRCD Board.

Term and Responsibilities

1) Associate(s) shall be appointed for two-year terms beginning on July 1. There are no term limits. The FRCD Board may fill vacancies at any time for the remainder of the two (2) year term. The recruitment for Associate Directors will be publicized in a local newspaper of general circulation throughout the FRCD boundaries during the month of May. The FRCD Board Secretary shall contact the active Associate(s) no later than May 1st prior to the expiration of his or her two (2) year term to ascertain the Associate(s) interest in serving another term. Any associate who has stated a desire to serve another two (2) year term will be considered for reappointment at the next FRCD Regular Board Meeting held in June.
2) Associate(s) will be encouraged to attend and participate in the discussion at board meeting but may not vote.
3) Associate(s) may participate in committees of the FRCD Board.
4) Associate(s) may be removed at any time by a majority vote of the FRCD Board.
5) Associate(s) will be subject to the conflict of interest code and should complete an approved ethics course similar to the requirements of the FRCD Board.
6) Associate(s) may not participate in closed session items unless their knowledge and expertise is appropriate for the subject.
7) All Associate(s) activities must be consistent with FRCD policy, purpose, and direction.
8) Associate(s) will not at any time make agreements, contracts, or representations to any party, other organizations, or government agencies.

Application Process

1) Applicants shall include a letter of interest, highlighting the applicant's experience, qualifications, and background in one of the areas of interest to the District; a resume; and three letters of recommendation by individuals familiar with the applicant's work or qualifications.
2) Applicants shall submit the required documents to the district office, with attention to the FRCD Board Secretary.
3) Applicant documents received prior to the second Thursday of the month will be considered at that month's regular board meeting. Applicant documents received after the second Thursday of the month will be brought to the following month's regular board meeting for consideration.

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Stefani Phillips, Secretary

SUBJECT: **ASSOCIATION OF CALIFORNIA WATER AGENCIES COMMITTEE APPOINTMENT NOMINATIONS FOR THE 2016-2017 TERM**

RECOMMENDATION

It is recommended that the Florin Resource Conservation District Board of Directors consider nominating directors or salaried staff members to the Association of California Water Agencies committees.

Summary

The Association of California Water Agencies (ACWA) is calling for committee (see attached ACWA Committees Purposes and Responsibilities) nominations from ACWA member agencies for the 2016-2017 term. The new ACWA president will be elected at the fall conference and subsequently he/she will be making the committee appointments. All nominations must be submitted by midnight on Wednesday, September 30, 2015.

By this action, the Board may nominate directors or salaried staff members to represent the Florin Resource Conservation District/Elk Grove Water District (FRCD/EGWD) by serving on the ACWA committees.

DISCUSSION

Background

ACWA committee members serve a two-year term beginning January 1, 2016 and ending on December 31, 2017. ACWA member agency representatives are encouraged to attend all committee meetings to function effectively as a committee. According to the ACWA bylaws, "Two consecutive, unexcused absences from an ACWA limited committee shall constitute a resignation and a replacement will be named as soon as possible." Also, those with a record of repeated absences will be reviewed and considered for replacement.

All ACWA member agencies may nominate an agency director or salaried staff member to serve on a committee. Some of the ACWA committees have limited memberships and only one representative from an agency may be appointed. However, ACWA does not count the chairperson in the maximum count; therefore, one individual could be on the committee that is from the same agency as the chairperson. The ACWA region chairs and vice chairs present their

recommendations to the ACWA president who makes the committee appointments after the fall conference.

ACWA member agencies that have representatives sitting on a committee are responsible for all associated meeting costs.

Present Situation

The FRCD/EGWD does not currently have directors or salaried staff members that serve on any ACWA committees.

ACWA is calling for nominations from ACWA member agencies for the following committees:

- Business Development Committee – Standing
- Communications Committee – Standing (Limited)
- Energy Committee – Standing
- Federal Affairs Committee – Standing (Limited)
- Finance Committee – Standing (Limited)
- Grassroots Outreach Committee – (Limited)
- Groundwater Committee – Standing
- Legal Affairs Committee – Standing (Limited)
- Local Government Committee – Standing (Limited)
- Membership Committee – Standing
- State Legislative Committee – Standing (Limited)
- Water Management Committee – Standing (Limited)
- Water Quality Committee – Standing

The Committee Consideration Form (attached) for ACWA committee nominations are due by midnight on Wednesday, September 30, 2015, to be eligible for consideration.

STRATEGIC PLAN CONFORMITY

Serving on ACWA committees complies with both the Florin Resource Conservation District's Cooperative Programs and the Elk Grove Water District's Financial Stability sections of the 2012-2017 Strategic Plan.

FINANCIAL SUMMARY

The District shall cover the cost of all associated committee meetings.

Respectfully submitted,

STEFANI PHILLIPS
Secretary

SP

ACWA COMMITTEES
PURPOSES AND RESPONSIBILITIES

IMPORTANT COMMITTEE INFORMATION

ATTENDANCE REQUIREMENTS FOR LIMITED COMMITTEES:
Two consecutive, unexcused absences from an ACWA limited committee shall constitute a resignation and a replacement will be named as soon as possible. Travel required to any area of the state where a committee meeting is being held, and lack of a travel budget will not constitute an excused absence.

****NOTE: When a committee member is "unable" to attend a meeting and has asked for an excused absence in advance of the meeting, they may send a representative from their agency for monitoring purposes only. However, the committee member will still be recorded with an excused absence from the meeting. The representative does not have a voting right.****

STATE LEGISLATIVE COMMITTEE ONLY: The State Legislative Committee will allow a member of the committee with an excused absence to designate an alternate. The committee member will be required to secure the concurrence of the appropriate ACWA Region Chair for the alternate. The committee member should provide the name of the alternate to ACWA's Director of State Relations prior to the committee meeting. The alternate will be authorized to fully participate in all discussions of the committee and to vote on issues before the committee. Committee members, including alternates, act on behalf of the region for which they were appointed to represent.

GRASSROOTS OUTREACH:
As a member of the committee, you will be enrolled as an active participant in ACWA's Grassroots Outreach Program. See ACWA's website for more information on the grassroots outreach program which supports ACWA's legislative and regulatory efforts.

COMMITTEE VACANCIES WILL NOT BE FILLED AFTER THE SPRING CONFERENCE OF AN UPCOMING ELECTION YEAR.

BLUE INDICATES BYLAW COMMITTEE LANGUAGE.

- Recommended positions regarding state and federal legislation to the State Legislative and Federal Affairs Committees
- Assistance with the development, direction and work associated with representation before the Public Utilities Commission, the Federal Energy Regulatory Commission and other regulatory agencies dealing with energy
- Educate members on all energy matters having impact on their operations

FEDERAL AFFAIRS COMMITTEE - *STANDING/LIMITED (5 PER REGION)*
ACWA COMMITTEE STAFF LIAISON: DAVID REYNOLDS

MEETINGS ARE HELD 4 TIMES A YEAR

- One at both the Fall and Spring conferences
- Two between conferences (Jan & Sept) in the Sacramento office
- DC Conference ~ Attendance is not REQUIRED, but STRONGLY encouraged

The purpose of the Federal Affairs Committee is to review all federal legislative proposals and regulatory proposals affecting members of the Association, after consulting with other appropriate committees, and to develop Association positions consistent with existing policy, where it has been established; recommend sponsorship of bills that will resolve problems or improve conditions for members of the Association; and assist in the establishment of the Association's federal legislative program. The committee shall consist of at least one and no more than five individuals from each region. Coordinates with other ACWA committees regarding their input on any issues directly related to federal issues before both Congress and the Federal administrative branches.

The committee currently has four separate subcommittees. Committee members have the opportunity to sign-up for as many of the subcommittees as they want, plus being supplemented by other members with interest in a focused area. The subcommittees with areas of responsibility are:

- Drinking Water & Energy Subcommittee: Responsible for the oversight and policy direction on Environmental Protection Agency and Energy-Water Nexus.
- Water Supply Subcommittee: Responsible for oversight and policy direction on the Safe Drinking Water Act and Endangered Species Act.
- Infrastructure & Agriculture Subcommittee: Responsible for oversight and policy direction on the Clean Water Act, and agricultural issues.
- Finance, Technology & Research Subcommittee: Responsible for oversight and policy direction on financing water infrastructure legislation.

LEGAL AFFAIRS COMMITTEE - *STANDING/LIMITED (45 MAXIMUM)*

ACWA COMMITTEE STAFF LIAISON: WHITNIE WILEY

MEETINGS ARE HELD APPROXIMATELY 2-3 TIMES A YEAR

- One at both the Fall and Spring conferences
- As needed in between the conferences

The purpose of the Legal Affairs Committee is to support the mission of the Association, and more particularly to deal with requests for assistance involving legal matters of significance to members of the Association, including but not limited to state and federal court litigation, water rights matters, selected regulatory and resources agency matters, proposed bylaw revisions, review of legislation as requested by the State Legislative Committee, etc. The committee shall consider matters and issues submitted to it in order to determine which ones are of major significance to members of the Association and, assuming a finding of major significance, recommend to the Board of Directors the position(s) which the committee believes the Association should take with respect thereto. The committee shall be composed of between 35 and 45 attorneys, each of whom shall be, or act as, counsel for a member of the Association, representing diverse interests within the Association, including but not limited to, different geographical areas throughout the state, large and small agencies, agricultural and urban agencies, agencies created under the various enabling statues, etc. The committee's primary purpose is to support the mission of the Association, and more particularly, to deal with requests for assistance involving legal matters of significance to ACWA member agencies, water rights matters, proposed ACWA bylaw revisions, etc. The committee also works with staff to produce publications to assist water agency officials in complying with applicable state and federal laws. The committee's areas of responsibility include:

- Amicus curia filings on important cases
- Commenting on proposed regulations and guidelines of state agencies such as Fair Political Practices Commission regulations or opinions and CEQA implementation guidelines
- Entering a suit as primary litigant
- Dealing with any water rights matters of interest to member agencies
- Reviewing all proposed ACWA bylaws for technical competence and consistency with the nonprofit corporation law and other bylaws

STATE LEGISLATIVE COMMITTEE - *STANDING/LIMITED (4 PER REGION)*
ACWA STAFF LIAISON: WENDY RIDDERBUSCH

MEETINGS ARE HELD APPROXIMATELY 10-12 TIMES A YEAR

- Every three weeks during Session in the Sacramento Office
- One planning meeting at the end of the year in the Sacramento Office

The purpose of the State Legislative Committee is to review all state legislative proposals affecting members of the Association and to establish Association positions, consistent with existing policy, where it has been established; sponsor bills that will resolve problems or improve conditions for members of the Association; and assist in the establishment of the Association's legislative program. Sets state legislative policy for the Associations. Committee members are responsible for reading relevant legislation, developing positions, working with staff to draft appropriate amendments to bills, providing input to the ACWA Board of Directors, and directing ACWA legislative staff on legislative matters.

WATER MANAGEMENT COMMITTEE - *STANDING/LIMITED (4 PER REGION)*
ACWA COMMITTEE STAFF LIAISON: DAVE BOLLAND

MEETINGS ARE HELD 4 TIMES A YEAR

- One at both the Fall and Spring conferences
- Two between conferences in the Sacramento office

The purpose of the Water Management Committee is to recommend policy and programs to the Board of Directors on any area of concern in water management. Work with staff in developing and making recommendations to the Board of Directors regarding policy and programs on significant areas of concern in water management, review and recommend positions regarding legislation and regulations as requested by other committees.

The committee is also responsible for the gathering and dissemination of information regarding management of agricultural and domestic water, conjunctive use, water management and conservation activities, development and use of water resources, and wastewater treatment and its reclamation and reuse.

WATER QUALITY COMMITTEE - *STANDING/UNLIMITED*
ACWA COMMITTEE STAFF LIAISON: ADAM WALUKIEWICZ

MEETINGS ARE HELD 4 TIMES A YEAR

- One at both Fall and Spring conferences
- One in Northern California between conferences
- One in Southern California between conferences

Meeting time is allocated among three subcommittees: Aquatic Resources, Clean Water and Safe Drinking Water.

Association of
California Water Agencies
Since 1910
Leadership • Advocacy • Information • Science

COMMITTEE CONSIDERATION FORM
ASSOCIATION OF CALIFORNIA WATER AGENCIES

910 K Street, Suite 100
Sacramento, California 95814-3577
(916) 441-4545 Fax (916) 325-4856

NAME, TITLE & EMAIL ADDRESS Please print legibly	COMMITTEE	Rank*

***Rank**
1=1st choice
2=2nd choice
3=3rd choice

QUESTIONS? Please call Paula Quinn at ACWA (916) 441-4545.

RECOMMENDATION SUBMITTED BY:

Official District/Company Name _____

PLEASE WRITE IN YOUR DISTRICT/COMPANY'S OFFICIAL NAME. PLEASE DO NOT USE ACRONYMS OR ABBREVIATIONS.

Official District/Company Address: _____

Phone_____

SIGNATURE: _____ Title _____

Either the Agency/District General manager or Board President must sign this form.

September 30, 2015

TO: Chairman and Directors of the Florin Resource Conservation District

FROM: Ellen Carlson, Management Analyst

SUBJECT: **LEGISLATIVE UPDATE**

RECOMMENDATION

This item is presented for information only. No action by the Board is proposed at this time.

Summary

The Interim Recess for the California Legislature began at close of day on September 11. The Governor has until October 11 to sign or veto bills passed by the Legislature. The State's legislators are on recess until January 4, 2016.

DISCUSSION

Background

The Board requests monthly updates of legislation items related to the District.

Present Situation

The State Legislators went into their Interim Recess on September 11th, so no additional action can be expected of any bills in this report that are not already sent to engrossing and enrollment. The 2016-2017 Legislative Session will convene on January 4, 2016.

SB 13 by Senator Pavley was signed into law by Governor Brown on September 3. This law addresses groundwater sustainability and management and directs the Department of Water Resources to develop and adopt regulations regarding the methodology and criteria for assessing groundwater basins' priorities. The law also contains language pertaining to the formation of groundwater sustainability agencies by local parties. Governor Brown also signed SB 385 regarding Hexavalent Chromium standards

Most Senate Republicans signed on as sponsors for Senator Ernst's new Senate Joint Resolution, proposed on September 17th. This resolution would negate the new EPA rule regarding the federal government's authority over waterways and that the rule is disadvantageous to agricultural interests. The resolution is listed on the table as S.J. Res 22.

STRATEGIC PLAN CONFORMITY

Tracking active legislation complies with the District's Regulatory Compliance goals of the 2012-2017 Strategic Plan.

FINANCIAL SUMMARY

There is no direct financial impact associated with the legislative items at this time.

Respectfully submitted,

Ellen Carlson

ELLEN R. CARLSON
MANAGEMENT ANALYST

Attachment

Current Legislation

Federal Bills

Bill	HR 2898
Author (s)	Valadao
Title	Western Water and American Food Security Act of 2015
Introduced	6/25/2015
Summary	Promotes water delivery to Central Valley farmers and supports financing of new dams, redirects water currently allocated for fish
Status	7/21/2015 Referred to committee on Energy and Natural Resources
Support	
Opponents	

Bill	HR 2983
Author (s)	Huffman
Title	Drought Relief and Resilience Act
Introduced	7/8/2015
Summary	Funds water recycling, storm water capture and cleanup of polluted groundwater, provides a tax credit to homeowners who install water saving devices
Status	7/29/2015 in House subcommittee on Crime, Terrorism, Homeland Security and Investigations
Support	
Opponents	

Bill	HR 2993
Author (s)	Matsui
Title	Water Recycling Acceleration Act of 2015
Introduced	7/9/2015
Summary	Authorizes funding for water recycling projects in areas experiencing extreme drought
Status	7/24/2015 Referred to House subcommittee on Water, Power and Oceans
Support	
Opponents	

Bill	HR 2997
Author (s)	Ross
Title	Private Investment in Housing Act of 2015
Introduced	7/9/2015
Summary	Directs Housing and Urban Development to establish a program for 12 years that establishes agreements for water and energy conservation projects in elderly, disabled multifamily housing units
Status	7/15/2015 Referred to Senate committee on Banking, Housing and Urban Affairs
Support	
Opponents	

Bill	HR 3045
Author (s)	McNerney
Title	California Water Recycling and Drought Relief Act
Introduced	7/13/2015
Summary	Authorizes 27 water recycling projects in California, mostly in the Bay Area or Fresno
Status	8/31/2015 Referred to House subcommittee on Water, Power and Oceans
Support	
Opponents	

Bill	S 1894
Author (s)	Feinstein and Boxer
Title	California Emergency Drought Relief Act of 2015
Introduced	7/29/2015
Summary	Allocates funding for fish protection and restoration projects, directs the Secretary of the Interior and the Secretary of Commerce to provide the maximum quantity of water available to Central Valley agriculture, provides assistance to drought-stricken communities, authorizes desalination projects, storage projects and water recycling and recharge projects. Also supports water project loans, WaterSMART funding and Bureau of Reclamation funding
Status	7/29/2015 referred to Energy and Natural Resources Committee
Support	
Opponents	

Bill	S.J. Res 22 (Senate Joint Resolution)
Author (s)	Ernst
Title	Congressional disapproval of the rule submitted by the Corps of Engineers and the Environmental Protection Agency relating to the definition of the "waters of the United States" under the Federal Water Pollution Control Act
Introduced	9/17/2015
Summary	Would overturn the current administration's regulation asserting its authority over streams and wetlands
Status	9/17/2015 referred to Senate committee on Environment and Public Works
Support	
Opponents	

California Assembly

Bill	AB 21
Author (s)	Perea
Title	California Global Warming Solutions Act of 2006
Introduced	12/1/2014
Summary	Requires the state board by January 2018 to recommend a target for statewide emissions reduction for 2030
Status	9/11/2015 in Senate Environmental Quality committee, ordered to third reading
Support	California Chamber of Commerce, California Independent Oil Marketers Assoc., Agricultural Council of California, Industrial Environmental Association
Opponents	

Bill	AB 33
Author (s)	Quirk
Title	~~California Global Warming Solutions Act of 2006: Sector Emissions Reduction Advisory Council~~ Electrical corporations: procurement plans
Introduced	12/1/2014
Summary	Amended to a bill dealing with the Public Utilities Commission and electric companies, will be removed from report
Status	9/8/2015 in Senate Rules committee
Support	
Opponents	

Bill	AB 88
Author (s)	Gomez
Title	Sales and use tax exemptions
Introduced	1/7/2015
Summary	Exempts taxes for purchases of energy efficient or water efficient appliances by utilities for the installation in low income participants in an efficiency program
Status	9/2/2015 to Engrossing and Enrolling
Support	California Building Industry Association, California League of Conservation Voters, Central Basin Municipal Water District, Community Water Center, San Diego County Water Authority, State Board of Equalization, Sierra Club
Opponents	California State Association of Counties, League of California Cities

Bill	AB 259
Author (s)	Dababneh
Title	Personal information privacy
Introduced	2/9/2015
Summary	Requires that agencies held responsible for the compromise of a person's social security number or driver's license provide identity theft protection and related services
Status	8/27/2015 held under submission in Senate Appropriations
Support	AFL-CIO, California Chamber of Commerce, American Federation of State, County, and Municipal Employees
Opponents	CSDA, California Association of Joint Powers Authorities

Bill	AB 434
Author (s)	Garcia
Title	Drinking water: point of entry and point of use treatment
Introduced	2/19/2015
Summary	Requires the SWRCB to adopt regulations similar to those of the CDPH governing the use of point of entry and point of use treatment by a public water system
Status	9/10/2015 Enrolled and presented to Governor Brown
Support	ACWA
Opponents	

Bill	AB 453
Author (s)	Bigelow
Title	Groundwater Management
Introduced	2/23/2015
Summary	Authorizes the expenditure of moneys collected in the Water Rights Fund through fees imposed for the administration of the Sustainable Groundwater Management Act for the Sustainable Groundwater Management Act and certain groundwater reporting requirements.
Status	9/11/2015 failed deadline (2 year bill according to ACWA)
Support	ACWA, Valley Ag Water Coalition, Kings River Water Association, Regional Water Authority, Rural County Representative of California, California Citrus Mutual
Opponents	Center for Biological Diversity, Clean Water Action, Community Water Center

Bill	AB 585
Author (s)	Melendez
Title	Outdoor Water Efficiency Act of 2015: income tax credits
Introduced	2/24/2015
Summary	Would allow a 25% personal tax credit for water efficient improvements for qualified landowners up to $2,500
Status	8/27/2015 Held under submission
Support	ACWA, CSDA, Metropolitan Water District of Southern California, California Apartment Association, California Landscape Contractors Association, California Municipal Utilities Association, Sierra Club
Opponents	

Bill	AB 606
Author (s)	Levine
Title	Water conservation: public properties
Introduced	2/24/2015
Summary	Requires state agencies that owns or buys property or replaces landscaping or irrigation to reduce water consumption and increase water efficiencies
Status	9/10/2015 Enrolled and presented to Governor Brown
Support	ACWA, Ms. Honda's fourth grade class, Manor Elementary, Fairfax, CA; Regional Water Authority, San Diego County Water Authority, Water Reuse California
Opponents	

Bill	AB 647
Author (s)	Eggman
Title	Beneficial use: diversion of water underground
Introduced	2/24/2015
Summary	Finds that the diversion of water underground constitutes a beneficial use of water for which an appropriation may be made
Status	7/17/2015 failed deadline (2 year bill according to ACWA)
Support	San Joaquin County Board of Supervisors, Stockton East Water District
Opponents	Metropolitan Water District of Southern California, Sierra Club, Center for Biological Diversity, Clean Water Action, Community Water Center, Natural Resources Defense Council, Leadership Counsel for Justice and Accountability

Bill	AB 723
Author (s)	Rendon
Title	Rental property: plumbing fixtures replacement
Introduced	2/25/2015
Summary	Requires rental or lease agreements for either a single family home or a multifamily residential property or a commercial property entered into or amended after July 1, 2016 or January 1, 2014 to include a written disclosure of the property owners requirement to replace all noncompliant plumbing fixtures with water conserving fixtures
Status	8/17/2015 failed deadline (2 year bill according to ACWA)
Support	ACWA, San Diego County Water Authority
Opponents	California Association of Realtors, California Southern Cities

Bill	AB 761
Author (s)	Levine
Title	Carbon sequestration: working lands
Introduced	2/25/2015
Summary	Would require the Food and Drug Administration to establish a grant program to fund voluntary projects that increase carbon sequestration
Status	8/27/2015 Held under submission in Senate Appropriations
Support	Audubon California, California State Grange, California's Cattlemen's Association
Opponents	

Bill	AB 935
Author (s)	Salas
Title	Water Projects
Introduced	2/26/2015
Summary	Would require the Department of Water Resources to fund a project on the Friant-Kern Canal restoration project and a project for the Delta-Mendota Canal
Status	9/10/2015 failed deadline (2 year bill according to ACWA)
Support	California Citrus Mutual, Desert Water Agency
Opponents	

Bill	AB 937
Author (s)	Salas
Title	Groundwater planning: technical assistance to disadvantaged communities
Introduced	2/26/2015
Summary	Requires the Department of Water Resources to provide technical assistance to disadvantaged communities so that they may participate in groundwater planning
Status	8/28/2015 Failed deadline (2 year bill according to ACWA)
Support	ACWA
Opponents	Center for Biological Diversity, Clean Water Action, Community Water Center, Leadership Counsel for Justice and Accountability

Bill	AB 938
Author (s)	Salas
Title	Groundwater basin reprioritization
Introduced	2/26/2015
Summary	Requires the establishment of a groundwater sustainability agency or submission of an alternative after the reprioritization of agencies overlying a groundwater basin
Status	7/17/2015 failed deadline (2 year bill according to ACWA)
Support	ACWA, Rural County Representatives of California
Opponents	

Bill	AB 939
Author (s)	Salas
Title	Financial authority of groundwater sustainability agencies
Introduced	2/26/2015
Summary	Imposes the requirement of the establishment of a groundwater sustainability agency and requires groundwater sustainability agencies to make fee information available 20 days before a public meeting is held to discuss implementing or increasing this fee
Status	9/10/2015 Enrolled and presented to Governor Brown
Support	
Opponents	

Bill	AB 954
Author (s)	Mathis
Title	Water and Wastewater Loan and Grant Pilot Program
Introduced	2/26/2015
Summary	Amended subject to a pilot program to provide low interest loans and grants for drinking water and wastewater treatment, transferring $10,000,000 from the General Fund for that purpose
Status	8/27/2015 held under submission
Support	California State Association of Counties, California League of Conservation Voters, Clean Water Action, Community Water Center, Friends of the River, Wholly H2O
Opponents	

Bill	AB 1164
Author (s)	Gatto
Title	Drought tolerant landscaping
Introduced	2/27/2015 (as autonomous vehicle bill)
Summary	Prohibits cities and counties from enacting regulations against the installation of synthetic turf
Status	9/11/2015 to Engrossing and Enrolling
Support	ACWA, City of Los Angeles, Metropolitan Water District of Southern California, Three Valleys MWD, California Association of Realtors
Opponents	

Bill	AB 1173
Author (s)	Williams
Title	Backflow prevention devices testing: certification
Introduced	2/27/2015
Summary	In the event that the local health officer does not maintain a backflow certification program, testing and maintenance of backflow devices may be performed by a person with a California-specific backflow certification deemed acceptable
Status	7/17/2015 failed deadline (2 year bill according to ACWA)
Support	California State Association of Electrical Workers, International Association of Plumbing and Mechanical Officials, Western States Council of Sheet Metal Workers
Opponents	ACWA, California Municipal Utilities Association, California Water Association, Sacramento County Board of Supervisors

Bill	AB 1242
Author (s)	Gray
Title	Groundwater impacts
Introduced	2/27/2015
Summary	Requires State Board to take into consideration in formulating state policy for water quality control the requirements of the California Environmental Quality Act, any applicable groundwater sustainability plan or alternative
Status	9/11/2015 failed deadline (2 year bill according to ACWA)
Support	ACWA, Coalition of California Utility Employees, Regional Water Authority, California Farm Bureau Federation, League of California Cities – Central Valley Division
Opponents	California League of Conservation Voters, Clean Water Action, Friends of the River, Center for Biological Diversity, The Nature Conservancy

Bill	AB 1251
Author (s)	Gomez
Title	Greenway Development and Sustainment Act
Introduced	2/27/2015
Summary	Enacts the Greenway Development and Sustainment Act and applies to greenway easements certain creation and transfer provisions similar to those of conservation easements. Also defines greenways
Status	9/11/2015 to Engrossing and Enrolling
Support	California League of Conservation Voters, California Trout, Los Angeles County Board of Supervisors, Sierra Club
Opponents	Central Coast Forestry Association

Bill	AB 1390
Author (s)	Alejo and Perea
Title	Groundwater adjudication
Introduced	2/27/2015
Summary	Establishes procedures to streamline the groundwater adjudication process
Status	9/10/2015 to Engrossing and Enrolling
Support	ACWA, if amended, California Chamber of Commerce, Agricultural Council of California, California Cattlemen's Association, California Chamber of Commerce
Opponents	California League of Conservation Voters, California State Association of Counties, Clean Water Action, Sierra Club

Bill	AB 1463
Author (s)	Gatto
Title	Onsite recycled water
Introduced	2/27/2015
Summary	Requires the SWRCB, with the Department of Public Health and the California Buildling Standards Commission, to establish water quality standards and requirements for onsite water recycling systems prior to authorizing their use for commercial and residential buildings
Status	9/11/2015 failed deadline (2 year bill according to ACWA)
Support	California Building Industry Association, California Business Properties Association, Sierra Club
Opponents	

Bill	AB 1531
Author (s)	Alejo
Title	State Water Resources Control Board
Introduced	3/23/2015
Summary	Authorizes the SWRCB to adopt emergency regulations without the review of the Office of Administrative Law
Status	9/1/2015 Enrolled and presented to Governor Brown
Support	
Opponents	

California Senate

Bill	SB 7
Author (s)	Wolk
Title	Water meters: multi-units
Introduced	12/1/2014
Summary	Authorizes the Department of Housing and Community Development to develop standards for water submeter installation in multi-unit residential properties, amended to require the installation of the submeters to be completed by licensed plumbing contractors
Status	9/11/2015 failed deadline (2 year bill according to ACWA)
Support	Santa Clara Valley Water District, California Municipal Utilities Association, Sierra Club, California Association of Realtors, California Building Industry Association
Opponents	California State Pipe Trades Council, Coalition of California Utility Employees

Bill	SB 13
Author (s)	Pavley
Title	Groundwater sustainability
Introduced	12/1/2014
Summary	Amends the Sustainable Groundwater Management Act to provide local agencies or groundwater sustainability agencies up to 180 days to remedy deficiencies that designate basins as probationary; also clarifies what qualifies and who is authorized to form and participate in a Groundwater Sustainability Agency
Status	9/3/2015 Signed by Governor Brown and chaptered
Support	ACWA, if amended, California Groundwater Coalition, Clean Water Action, Community Water Center, Leadership Counsel for Justice and Accountability
Opponents	

Bill	SB 32
Author (s)	Pavley
Title	Global Warming Solutions Act of 2006
Introduced	12/1/2014
Summary	Extends limitations on greenhouse gases to 2050, limitations to be 40% below the 1990 level to be achieved by 2030
Status	9/8/2015 Refused passage; reconsideration granted
Support	Sierra Club, Bay Area Air Quality Management District, 350 Sacramento, American Cancer Society Cancer Action Network, American Academy of Pediatrics, American Heart Association, California Municipal Utilities Association
Opponents	Agricultural Council of California, Associated Builders and Contractors of California, California Chamber of Commerce, California Building Industry Association

Bill	SB 208
Author (s)	Lara
Title	Integrated Regional Water Management Plans: advanced payment for grants
Introduced	2/11/2015
Summary	Within 90 days of a grant award, regional water management groups will present evidence of projects supporting low income, disadvantaged communities and thereby will receive advanced payment of 50% of the grant awards
Status	9/3/2015 Enrolled and presented to Governor Brown for signature
Support	ACWA, East Bay MUD, CSDA (if amended), San Diego County Water Authority, California Municipal Utilities Association, The Nature Conservancy
Opponents	

Bill	SB 226
Author (s)	Pavley
Title	Groundwater ~~Rights~~ Adjudication
Introduced	2/13/2015
Summary	Will establish special procedures for certain adjudication actions determining rights to groundwater
Status	9/16/20/15 Enrolled and presented to Governor Brown for signature
Support	Sierra Club, American River Conservancy, Clean Water Action, Sacramento River Preservation Trust, Restore the Delta, The Nature Conservany
Opponents	California Chamber of Commerce, ACWA unless amended, Agricultural Council of California, California Farm Bureau Federation, Western Growers Association

Bill	SB 239
Author (s)	Hertzberg
Title	Fire Protection Services
Introduced	2/17/2015
Summary	Amended to address LAFCO consideration of fire protection services,
Status	9/11/2015 Enrolled and presented to Governor Brown
Support	California Professional Firefighters, CAL FIRE, California Labor Federation
Opponents	CSDA, California State Association of Counties, League of California Cities

Bill	SB 246
Author (s)	Wieckowski
Title	Climate Action Team
Introduced	2/18/2015
Summary	Creates the Climate Adaptation and Resiliency Program under the direction of the Office of Planning and Research, consisting of representatives from various State agencies to coordinate State climate change goals
Status	9/11/2015 Enrolled and presented to Governor Brown
Support	Audubon California, California League of Conservation Voters, Sacramento Metropolitan Air Quality Management District, Mosquito and Vector Control Association of California, TreePeople
Opponents	

Bill	SB 385
Author (s)	Hueso
Title	Primary drinking water standards: Hexavalent Chromium: compliance plan
Introduced	2/24/2015
Summary	Authorizes the state board, through 1/20/2020, to grant periods in which to comply with the standard, provided that the requesting water agency prepares and submits a compliance plan, notifies its customers of this plan and submits an annual update as to the status of that plan
Status	9/4/2015 approved by Governor Brown and chaptered
Support	ACWA, CSDA, Metropolitan Water of Southern California, AWWA, California Municipal Utilities Association, California Water Association, Regional Water Authority
Opponents	

Bill	SB 471
Author (s)	Pavley
Title	Reduction of greenhouse gas emissions
Introduced	2/26/2015
Summary	Requires that the Strategic Growth Council develop an emissions inventory of the greenhouse gas emissions from the State's water system. Requires a study on water-related energy use in California. Appropriates money from the Greenhouse Gas Reduction Fund for grants and loans for water projects that result in reduced greenhouse gas emissions
Status	8/28/2015 Failed deadline (2 year bill according to ACWA)
Support	ACWA, if amended; EBMUD, California Municipal Utilities Association
Opponents	

Bill	SB 555
Author (s)	Wolk
Title	Water loss audits
Introduced	2/26/2015
Summary	Requires each urban water supplier to submit water loss audits by 1/1/2017 according to rules to be established by DWR by 10/1/2016. DWR will be required to publish the reports on their Web site and provide technical assistance to water loss detection programs
Status	9/10/2015 Enrolled and presented to Governor Brown
Support	California League of Conservation Voters, Clean Water Action, Sierra Club
Opponents	ACWA, unless amended, California Municipal Utilities Association, unless amended

Bill	SB 664
Author (s)	Hertzberg
Title	Department of Water Resources
Introduced	2/27/2015
Summary	Adds seismic vulnerability of infrastructure to urban water management planning requirements
Status	9/8/2015 Enrolled and presented to Governor Brown
Support	East Bay MUD, California State Council of Laborers, Sierra Club
Opponents	ACWA, unless amended