LAS VIRGENES - TRIUNFO
JOINT POWERS AUTHORITY
AGENDA

4232 Las Virgenes Road, Calabasas, CA 91302

Members of the public wishing to address the Las Virgenes-Triunfo Joint Powers Authority (JPA) Board of Directors are advised that a statement of Public Comment Protocols is available from the Clerk of the Board. Prior to speaking, each speaker is asked to review these protocols, complete a speakers' card, and hand it to the Clerk of the Board. Speakers will be recognized in the order the cards are received.

The Public Comments agenda item is presented to allow the public to address the Board on matters not on the agenda. The public may also present comments on matters on the agenda; speakers for agendized items will be recognized at the time the item is called up for discussion.

Materials prepared by the JPA in connection with the subject matter on the agenda are available for public inspection at 4232 Las Virgenes Road, Calabasas, CA 91302. Materials prepared by the JPA and distributed to the Board during this meeting are available for public inspection at the meeting or as soon thereafter as possible. Materials presented to the Board by the public will be maintained as part of the records of these proceedings and are available upon request to the Clerk of the Board.

5:00 PM February 4, 2019

PLEDGE OF ALLEGIANCE

1 CALL TO ORDER AND ROLL CALL

2 APPROVAL OF AGENDA

3 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

4 CONSENT CALENDAR

Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on

an item, that item will be removed from the Consent Calendar for separate action.

A Minutes: Regular Meeting of January 7, 2019 (Pg. 4)

Approve.

5 ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

B Financial Review: Second Quarter of Fiscal Year 2018-19 (Pg. 10)

Receive and file the financial review for the second quarter of Fiscal Year 2018-19.

6 ACTION ITEMS

A Rancho Solar Generation Project Phase II: Additional Reimbursable Payment to SCE for Interconnection Facility (Pg. 19)

Authorize the Administering Agent/General Manager to increase the reimbursable payment amount to Southern California Edison by $189,998.90, from $208,557.38 to $398,556.28, and appropriate the additional amount for the interconnection facility costs associated with the Rancho Solar Generation Project Phase II.

B Tapia Process Air Improvements Project: Construction Award (Pg. 21)

Award a construction contract to Cushman Contracting Corporation, in the amount of $3,267,000, and reject all remaining bids; authorize the Administering Agent/General Manager to approve a change of scope to Pacific Advanced Civil Engineering, in the amount of $122,720, for support services during construction, and to MSO Technologies, in the amount of $53,200, for SCADA integration services; and appropriate an additional $2,436,293 for the Tapia Process Air Improvements Project.

7 BOARD COMMENTS

8 ADMINISTERING AGENT/GENERAL MANAGER REPORT

9 FUTURE AGENDA ITEMS

10 INFORMATION ITEMS

A State and Federal Legislative Update (Pg. 36)

B Pure Water Project Las Virgenes-Triunfo: Regulatory Pathway for Surface Water Augmentation (Pg. 45)

C Woolsey Fire Response and Recovery Effort: End of Emergency (Pg. 95)

11 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

12 CLOSED SESSION

A Conference with Legal Counsel – Existing Litigation (Government Code

Section 54956.9(a)):

Zusser Company, Inc. v. Las Virgenes Municipal Water District

13 ADJOURNMENT

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

LAS VIRGENES – TRIUNFO
JOINT POWERS AUTHORITY
MINUTES
REGULAR MEETING

5:00 PM January 7, 2019

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Janna Orkney.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Chair Lewitt in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road in Calabasas, California. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Caspary, Lewitt, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, and Wall.
Absent: None.

2. CHAIR/VICE CHAIR

A Annual Transition of JPA Chair and Vice Chair

Recognize Triunfo Sanitation District Director Janna Orkney as Chair, and Las Virgenes Municipal Water District Director Jay Lewitt as Vice Chair of the Las Virgenes – Triunfo Joint Powers Authority for calendar year 2019.

The JPA Board transitioned its officers with Triunfo Sanitation District Director Janna Orkney as Chair and Las Virgenes Municipal Water District Director Jay Lewitt as Vice Chair for calendar year 2019.

3. APPROVAL OF AGENDA

Administering Agent/General Manager David Pedersen noted that there was no update for Closed Session Item No. 13A, and he requested that this item be removed from the agenda.

Director Tjulander moved to approve the agenda as amended with the removal of Item 13A. Motion seconded by Director Renger. Motion carried unanimously.

4. PUBLIC COMMENTS

None.

5. CONSENT CALENDAR

A Minutes: Regular Meeting of December 3, 2018

Director Caspary moved to approve the Consent Calendar. Motion seconded by Director Tjulander. Motion carried unanimously.

6. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

Administering Agent/General Manager David Pedersen provided an update regarding the Pure Water Demonstration Project design. He noted that a meeting would be held with the design team to discuss the building elements, visitor experience, landscaping, and demonstration garden based on the Board's feedback. He reported that staff met with representatives from Calleguas Municipal Water District (Calleguas), Camrosa Water District (Camrosa), and the City of Thousand Oaks to discuss brine disposal. He noted that Camrosa expressed interest in brine disposal stemming from agriculture and due to high salinity levels that affect avocado production. He also noted that there was discussion regarding potentially working together on a joint technical study and a brine disposal pipeline using the existing sewer collection system that is tributary to the Hill Canyon Treatment Plant, and partnering on a de-salter at this plant to treat the water before it is discharged to Conejo Creek and/or conveyed to Camrosa. He responded to questions posed by the Board regarding the cost of the proposed study, which would be shared by the four agencies, and the six-month potential timeline for completion.

B Woolsey Fire Response and Recovery

Administration Agent/General Manager David Pedersen reported that the JPA-owned facilities were fully operational. He noted that staff has been working with the California Office of Emergency Services (OES), the Federal Emergency Management Agency (FEMA), and the JPA's insurance carrier regarding recovery from fire damages. He also noted that a Request for Proposals would be prepared for design and restoration services for damages sustained at the Rancho Las Virgenes Composting Facility and other fire-damaged facilities.

Chair Orkney welcomed Director Lynda Lo-Hill to the JPA Board. Director Lo-Hill stated that she was very proud to serve on the JPA Board.

7. ACTION ITEMS

A Rancho Digester No. 2 Cleaning: Construction Award

Award a construction contract to MP Environmental Services, Inc., in the amount of $351,327.40, for the Rancho Digester No. 2 Cleaning Project; appropriate an additional $308,694 to provide sufficient project funding; and reject all remaining bids.

Administering Agent/General Manager David Pedersen presented the report.

Director Caspary moved to approve Item 7A. Motion seconded by Director Polan.

Brett Dingman, Water Reclamation Manager, responded to questions related to efficiency improvements to offset the cost by having a skilled contractor perform the Digester No. 2 cleaning, sending the centrate to the Tapia Water Reclamation Facility, and disposing the solid materials at a landfill.

Administering Agent/General Manager David Pedersen responded to a question regarding the 20 percent General & Administrative (G & A) cost and stated these are overhead costs that cover all non-direct costs of the project. He noted that the G & A cost that is applied to the project is stipulated in the JPA Agreement and is allocated based on the number of labor hours allocated to the project.

Chair Orkney requested a future discussion on the methodology of allocating G & A costs.

Motion carried unanimously.

7. 8OARD COMMENTS

None.

9. ADMINISTERING AGENT/GENERAL MANAGER REPORT

Administering Agent/General Manager David Pedersen reported that 1.6 inches of rain was measured at the Tapia Water Reclamation Facility. He noted that no operational issues were experienced, and no excessive erosion occurred in the burned areas.

10. FUTURE AGENDA ITEMS

None.

11. INFORMATION ITEMS

A State and Federal Legislative Update

B Las Virgenes – Triunfo Joint Powers Authority Energy Efficiency Project Status

Director Tjulander inquired whether the potential four megawatt solar array was the solar array being donated by the Hilton Foundation. Administering Agent/General Manager David Pedersen responded that this would be a separate project to expand the existing one megawatt facility in the North Canyon. He noted that initially the Hilton Foundation had proposed to gift their solar array and landscaping due to the expansion of their complex; however, the Hilton Foundation purchased and relocated to the old Dole Headquarters in Westlake Village and would not be proceeding with the expansion of their current complex nor gifting their solar array. He noted that the Hilton Foundation continues to be interested in the supporting the Pure Water Project Las Virgenes-Triunfo and the demonstration garden proposed with the demonstration project.

C Rancho Las Virgenes Farm Sprayfields Operation and Maintenance: Renewal of Agreement

Director Lo-Hill inquired regarding the amount of runoff experienced and captured in the catch basins at the farm sprayfields. David Lippman, Director of Facilities and Operations, responded that any runoff from the Rancho Las Virgenes Farm Sprayfields that receive sludge or recycled water must be contained in the catch basins and not allowed to flow to the creek.

Dave Roberts, Resource Conservation Manager, noted that the contributing watersheds to the sprayfields are small, there is not a significant amount of runoff, and the sprayfields are used for disposal of recycled water.

12. PUBLIC COMMENTS

None.

13. CLOSED SESSION - (This item was removed from the agenda.)

A Conference with Legal Counsel – Existing Litigation (Government Code Section 54956.9(a)):

Zusser Company, Inc. v. Las Virgenes Municipal Water District

14. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **5:45 p.m**.

Janna Orkney, Chair

ATTEST:

Jay Lewitt, Vice Chair

February 4, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Financial Review: Second Quarter of Fiscal Year 2018-19

SUMMARY:

The second quarter financial review presents data as of December 31, 2018. It is important to note that due to the timing of various projects and payments, the second quarter report should primarily be used to identify areas where an emerging trend may affect the JPA's position at fiscal year-end.

RECOMMENDATION(S):

Receive and file the financial review for the second quarter of Fiscal Year 2018-19.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact associated with this action.

DISCUSSION:

The JPA's second quarter net uses of funds in Fiscal Year 2018-19 totaled $8.98 million, compared to $7.27 million for the same period in Fiscal Year 2017-18. There was a year-over-year decrease in operating revenues of 5.6%. Operating expenditures increased by 13.4%. The decrease in revenues was primarily due to lower recycled water sales. The increase in operating expenditures was primarily due to higher labor costs associated with response to the Woolsey Fire. Capital project expenditures were approximately $626,000 more than the prior year.

When comparing actuals to budget estimates for Fiscal Year 2018-19 through the second quarter, operating expenditures were approximately $214,000 (2.4%) above budget estimates, primarily due to increased labor costs associated with response to the Woolsey Fire. Capital project expenditures were approximately $45,000 (2.8%) below budget estimates, primarily

due to the timing of expenditures for planned projects.

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Attachment A
Attachment B

Joint Powers Authority Operations

Quarterly Update - Comparison to Budget & Prior Year at December 31, 2018

	FY 17-18 Actual YTD	FY 18-19 Budget YTD	FY 18-19 Actual YTD
Total Operating Revenues	$ 1,319,532	$ 1,538,345	$ 1,244,983
RW Pump Station	654,670	821,129	595,508
RW Tanks & Reservoirs	34,389	67,625	44,514
RW System Operations	12,809	23,255	14,126
RW Distribution	68,201	49,682	21,179
Sewer	43,545	72,606	81,112
Waste Water Treatment	3,862,351	4,368,000	4,049,344
Composting	2,239,180	2,677,277	2,909,019
Centrate Treatment	179,928	162,933	197,103
Adminstration	438,336	510,953	627,458
Total Operating Expenses	7,533,409	8,753,460	8,539,363
Net Operating (Expenses)	$ (6,213,877)	$ (7,215,115)	$ (7,294,380)

Joint Powers Authority Operations

Quarterly Update - Comparison to Budget & Prior Year at December 31, 2018

	FY 17-18 Actual YTD	FY 18-19 Budget YTD	FY 18-19 Actual YTD
Las Virgenes Share:			
Total Revenues			
Operating Revenues	$ 931,590	$ 1,086,072	$ 878,958
Total Revenues	931,590	1,086,072	878,958
Total Expenses			
Operating Expenses	$ 5,190,519	$ 5,863,175	$ 5,883,621
Capital Project Expenses	747,929	1,157,762	1,190,195
Total Expenses	5,938,448	7,020,937	7,073,816
Net (Uses) of Funds - LV	$ (5,006,859)	$ (5,934,865)	$ (6,194,858)
Triunfo Share:			
Total Revenues			
Operating Revenues	$ 387,942	$ 452,273	$ 366,025
Total Revenues	387,942	452,273	366,025
Total Expenses			
Operating Expenses	$ 2,342,890	$ 2,890,285	$ 2,655,742
Capital Project Expenses	311,461	482,127	495,634
Total Expenses	2,654,351	3,372,412	3,151,376
Net (Uses) of Funds - TSD	$ (2,266,408)	$ (2,920,139)	$ (2,785,351)
Total JPA Net (Uses) of Funds	$ (7,273,267)	$ (8,855,004)	$ (8,980,209)

Joint Powers Authority Operations

Quarterly Update - Comparison to Budget & Prior Year at December 31, 2018

	FY 17-18 Actual YTD	FY 18-19 Budget YTD	FY 18-19 Actual YTD
Total Revenues			
Operating Revenues	$ 1,319,532	$ 1,538,345	$ 1,244,983
Total Revenues	1,319,532	1,538,345	1,244,983
Total Expenses			
Operating Expenses	$ 7,533,409	$ 8,753,460	$ 8,539,363
Capital Project Expenses	1,059,390	1,639,889	1,685,829
Other	-	-	-
Total Expenses	8,592,799	10,393,349	10,225,192
Net (Uses) of Funds	$ (7,273,267)	$ (8,855,004)	$ (8,980,209)
Las Virgenes Share	(5,134,927)	(5,934,865)	(8,102,634)
Triunfo Share	(2,138,340)	(2,920,139)	(877,575)

Las Virgenes - Triunfo Joint Powers Authority
Capital Improvement Project Status
December 31, 2018

Job # - Description	*LV %*	*TSD %*	*Total Project Appropriations*	*Prior Year Expenditures*	*Current Year Expenditures*	*Total Project Expenditures*	*Project Balance*	*LV Balance*	*TSD Balance*
Completed Projects									
10565 - Rancho LV:Digester Cleang/Rpr	**70.6%**	**29.4%**	**$1,866,751**	**$1,499,493**	**$404,813**	**$1,904,306**	**($37,555)**	**($26,514)**	**($11,041)**
Clean out and evaluate the condition of digesters that have been in service for more than 20 years.									
Additional appropriation $77,257 approved by LVMWD Board 8/28/2018, Item 7B									
Total Completed Projects			***$1,866,751***	***$1,499,493***	***$404,813***	***$1,904,306***	***($37,555)***	***($26,514)***	***($11,041)***
Projects to complete by June 30, 2019									
10589 - WIMS Software Implementation	**70.6%**	**29.4%**	**$32,350**	**$59,965**	**$34,225**	**$94,190**	**($61,840)**	**($43,659)**	**($18,181)**
Purchase and installation of water information management solution (WIMS).									
10656 - Rancho Reliability Imprv 18-19	**70.6%**	**29.4%**	**$100,000**	**$0**	**$0**	**$0**	**$100,000**	**$70,600**	**$29,400**
Replace or rehabilitate facilities and equipment at the Rancho facility based on failure, exceedance of useful life, or obsolescence. Specific projects are identified for each fiscal year.									
10657 - Tapia WRF Relib Imprv FY18-19	**70.6%**	**29.4%**	**$100,000**	**$0**	**$72,216**	**$72,216**	**$27,784**	**$19,616**	**$8,168**
Based on analysis of break history, facility age, pipe material, location and other distribution system indicators, this project will fund specific repair and/or replacement projects.									
10687 - Rancho Lighting EfficiencyUpgd	**70.6%**	**29.4%**	**$362,968**	**$0**	**$9,394**	**$9,394**	**$353,574**	**$249,623**	**$103,951**
Rancho Lighting Efficiency Upgrade									
Appropriation $362,968 approved by JPA Board 9/5/2018, Item 6B									
10688 - Rancho Solar Gen.-Ph II	**70.6%**	**29.4%**	**$208,557**	**$0**	**$0**	**$0**	**$208,557**	**$147,241**	**$61,316**
Rancho Solar Generation Project Phase II: Service Agreement for Wholesale Distribution Service and Rule 21 Generator Interconnection Agreement									
Appropriation $208,557 approved by JPA Board 12/3/2018, Item 6A									
Reimbursable expense of an interconnection facility.									
Total Projects to complete by June 30, 2019			***$803,875***	***$59,965***	***$115,835***	***$175,800***	***$628,075***	***$443,421***	***$184,654***
Multi-Year Projects									
10564 - Centrate Equalization Tank	**70.6%**	**29.4%**	**$2,343,008**	**$2,056,871**	**$10,717**	**$2,067,588**	**$275,420**	**$194,447**	**$80,973**
Construct a centrate equalization tank at the centrate treatment facility at Rancho.									

Job # - Description	LV %	TSD %	Total Project Appropriations	Prior Year Expenditures	Current Year Expenditures	Total Project Expenditures	Project Balance	LV Balance	TSD Balance
Multi-Year Projects									
10608 - Rancho Amndmnt Bin&Convync Mod	**70.6%**	**29.4%**	**$1,688,650**	**$176,175**	**$76,346**	**$252,521**	**$1,436,129**	**$1,013,907**	**$422,222**
The project consists of installing a new smaller amendment bin and modification to the conveyor system to simplify the amendment conveyance process.									
10611 - Tapia Duct Bank Infrstrc Upgrd	**70.6%**	**29.4%**	**$160,000**	**$0**	**$0**	**$0**	**$160,000**	**$112,960**	**$47,040**
Add new duct bank from the front gate to the chemical building with several intercept points along the way.									
10619 - Summer Season 2013 TMDL Compln	**70.6%**	**29.4%**	**$640,000**	**$60,806**	**$72,059**	**$132,865**	**$507,135**	**$358,037**	**$149,098**
Construction of a 1MGD "side stream" treatment facility at Tapia to treat stream flow augmentation discharges to the 2013 TMDL limits of 1 mg/L total nitrogen and 0.1 mg/L total phosphorous. The cost estimate is based on membrane technology.									
10626 - Process Air Improvements	**70.6%**	**29.4%**	**$3,740,584**	**$345,623**	**$215,859**	**$561,482**	**$3,179,102**	**$2,244,446**	**$934,656**
The first phase is to replace the existing Roots blowers with new, high effiency, single stage blowers. To replace the air diffusers in the aeration basins with new full floor mounted fine bubble diffusers.									
10629 - Cny Oaks Prk RW Main Extension	**70.6%**	**29.4%**	**$399,780**	**$6,649**	**$0**	**$6,649**	**$393,131**	**$277,550**	**$115,581**
This extension will serve the City of Westlake Village's Oak Canyon Park and eliminate a long private service line to Yerba Buena School. Funding from Prop 84 IRWM 2015									
10635 - PURE WATER PROJECT	**70.6%**	**29.4%**	**$3,667,427**	**$94,033**	**$35,623**	**$129,656**	**$3,537,771**	**$2,497,666**	**$1,040,105**
This project funds preliminary studies, outreach, CEQA analysis, preliminary design and final design. Project 10637 Facility Siting Study was completed in prior year for $180,777. Project 10650 Land Acquisition was completed in prior year for $2,109,359									
10636 - Mixing & Dilution Study	**70.6%**	**29.4%**	**$389,186**	**$259,078**	**$57,451**	**$316,529**	**$72,657**	**$51,296**	**$21,361**
sub project of 10635 Pure Water Project									
10638 - Demonstration Project	**70.6%**	**29.4%**	**$1,512,610**	**$215,863**	**$162,551**	**$378,414**	**$1,134,196**	**$800,742**	**$333,454**
sub project of 10635 Pure Water Project									
10653 - Tapia Rehab FY17-18	**70.6%**	**29.4%**	**$2,105,700**	**$146,285**	**$434,043**	**$580,328**	**$1,525,372**	**$1,076,913**	**$448,459**
Combine projects 10647, 10648, 10649 for ease of administration of the projects. Concrete repair and installation of protective coatings Replace ten RAS gates Replace grit piping and grit valves as well as primary skimming pipe									
10654 - Hilton Fnd Solar Carport Systm	**70.6%**	**29.4%**	**$300,000**	**$1,184**	**$0**	**$1,184**	**$298,816**	**$210,964**	**$87,852**
Relocation and installation of Solar Carport System donation from Conrad N. Hilton Foundation									
10658 - Tapia Sluice Gate&Drv Rpl18-19	**70.6%**	**29.4%**	**$556,600**	**$0**	**$0**	**$0**	**$556,600**	**$392,960**	**$163,640**
Replace existing gates in the tanks and channels at Tapia as well as drive mechanisms for flights and chains.Replace ten RAS gates in FY18-19.									

Job # - Description	LV %	TSD %	Total Project Appropriations	Prior Year Expenditures	Current Year Expenditures	Total Project Expenditures	Project Balance	LV Balance	TSD Balance
Multi-Year Projects									
10661 - A/B Bus Electrical Modificatn	**70.6%**	**29.4%**	**$100,000**	**$0**	**$0**	**$0**	**$100,000**	**$70,600**	**$29,400**
Study the feasibility of reconfiguring the Tapia electrical switch gear and then hire electrical team to make the modifications.									
10665 - Cordillera Tank Rehab	**70.6%**	**29.4%**	**$1,201,267**	**$0**	**$36,584**	**$36,584**	**$1,164,683**	**$822,266**	**$342,417**
Rehabilitation including interior and exterior coating, valve and appurtenance upgrades and replacements, restoration of deteriorated asphalt, and work to ensure up-to-date compliance for safety and water quality equipment.									
10666 - Calabasas Prk RW Main Extensn	**70.6%**	**29.4%**	**$320,000**	**$0**	**$0**	**$0**	**$320,000**	**$225,920**	**$94,080**
Install approximately 1,200 LF of 6-8 inch pipeline to loop the existing recycled water system.									
10667 - Tapia Headworks White Room	**70.6%**	**29.4%**	**$55,000**	**$0**	**$22,194**	**$22,194**	**$32,806**	**$23,161**	**$9,645**
Modification or replacement is needed for the floor plates and steel framing floor plate supports in the white room located at Tapia's headworks building.									
10668 - RLV Storm Wtr Divsn Strctr Rpl	**70.6%**	**29.4%**	**$30,000**	**$0**	**$0**	**$0**	**$30,000**	**$21,180**	**$8,820**
Replacement of the two storm water diversion structures at the Rancho Las Virgenes Composting Facility. Increase the size and length of the farm field discharge pipeline.									
10669 - Dev Tour Seating Area @ Tapia	**70.6%**	**29.4%**	**$25,000**	**$0**	**$0**	**$0**	**$25,000**	**$17,650**	**$7,350**
Develop tour seating area at Tapia adjacent to the control building									
10670 - Centrate 20" Valve Repair	**70.6%**	**29.4%**	**$150,000**	**$0**	**$0**	**$0**	**$150,000**	**$105,900**	**$44,100**
Repair buried 20-inch Miliken valve at the centrate facility.									
10680 - RLV Digester Cleaning & Repair	**70.6%**	**29.4%**	**$225,000**	**$0**	**$41,754**	**$41,754**	**$183,246**	**$129,372**	**$53,874**
Clean out and make all necessary repairs to digesters #2. the scope of repairs is based on the recently completed rehabilitation of digester # 1.									
10682 - RLV: FOG Receiving Fac FY18-19	**70.6%**	**29.4%**	**$30,000**	**$0**	**$0**	**$0**	**$30,000**	**$21,180**	**$8,820**
To conduct a study to determine the market for local high strength wastes (food waste, fats, oils, and grease (FOG)) that can be fed into the third digester. After completion of the study, the installation of facilities for receiving and conveying fats, o									
Total Multi-Year Projects			***$19,639,812***	***$3,362,567***	***$1,165,181***	***$4,527,748***	***$15,112,064***	***$10,669,117***	***$4,442,947***
Projects on Hold									
10520 - SCADA System Communictn Upgrd	**70.6%**	**29.4%**	**$93,100**	**$32,447**	**$0**	**$32,447**	**$60,653**	**$42,821**	**$17,832**
Upgrade the JPA owned portion of the supervisory control and data acquisition system (SCADA) system to an Ethernet based radio network and provide additional data paths for system redundancy.									
10567 - Progmble Logic Contrlr Upgrd	**70.6%**	**29.4%**	**$332,850**	**$0**	**$0**	**$0**	**$332,850**	**$234,992**	**$97,858**
Replace obsolete programmable logic controllers and upgrade other electrical equipment at Tapia.									

Job # - Description	LV %	TSD %	Total Project Appropriations	Prior Year Expenditures	Current Year Expenditures	Total Project Expenditures	Project Balance	LV Balance	TSD Balance
Projects on Hold									
Total Projects on Hold			*$425,950*	*$32,447*	*$0*	*$32,447*	*$393,503*	*$277,813*	*$115,690*
Totals			$22,736,388	$4,954,472	$1,685,829	$6,640,301	$16,096,087	$11,363,837	$4,732,250
Totals: Las Virgenes MWD			$16,051,890	$3,497,857	$1,190,195	$4,688,053	$11,363,837		
Totals: Triunfo Sanitation District			$6,684,498	$1,456,615	$495,634	$1,952,248	$4,732,250		

February 4, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Rancho Solar Generation Project Phase II: Additional Reimbursable Payment to SCE for Interconnection Facility

SUMMARY:

On December 3, 2018, the JPA Board authorized the General Manager to execute a Service Agreement for Wholesale Distribution Service and Rule 21 Generator Interconnection Agreement with Southern California Edison (SCE), and appropriated $208,557.38 for the reimbursable expense of an interconnection facility for the Rancho Solar Generation Project Phase II. When finalizing the agreements, staff learned of an option to pre-pay SCE's 20-year operation and maintenance cost, in the amount of $147,062, for the interconnection facility, rather than amortizing the cost over the term of the proposed Power Purchase Agreement (PPA). Also, staff was informed of the need to pay an "Income Tax Component Contribution", in the amount of $42,916.90.

Both additional components of the interconnection cost would be 100% reimbursable to the JPA by the PPA provider within 45 days of executing the PPA. Reimbursements made by the PPA provider are qualified projects costs for additional federal tax credits that will lower the overall cost of the project by up to $57,000. As a result, staff recommends that the Board authorize the payment of an additional $189,998.90 in interconnection facility costs, increasing the total reimbursable amount from $208,557.38 to $398,556.28.

RECOMMENDATION(S):

Authorize the Administering Agent/General Manager to increase the reimbursable payment amount to Southern California Edison by $189,998.90, from $208,557.38 to $398,556.28, and appropriate the additional amount for the interconnection facility costs associated with the Rancho Solar Generation Project Phase II.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Payment of the additional reimbursable costs is estimated to result in a project cost-savings of up to $57,000 through federal tax credits. Based on the terms of the proposed PPA, the interconnection facility cost paid to SCE, in the amount of $398,556.28, will be reimbursed no more than 45 days after award of the PPA to a solar provider. Staff is completing final negotiations and expects to recommend award of a PPA to the JPA Board on March 4, 2019. An additional appropriation of $189,998.90 is required for the additional reimbursable payment to SCE for the interconnection facility.

DISCUSSION:

When completing discussions with SCE on the proposed Service Agreement for Wholesale Distribution Service and Rule 21 Generator Interconnection Agreement, staff learned of an option to pre-pay SCE's 20-year operation and maintenance cost, in the amount of $147,062, for the interconnection facility, rather than amortizing the cost over the term of the proposed Power Purchase Agreement (PPA). Also, staff was informed of the need to pay an "Income Tax Component Contribution (ITCC)", in the amount of $42,916.90. Based on California Public Utilities Commission (CPUC) rules, the ITCC associated with facilities dedicated to SCE must be paid by the project owner (i.e. JPA), rather than passed on to SCE ratepayers.

Based on the interconnection rules and schedule approved by the CPUC, the interconnection facility costs must be paid by February 28, 2019. Staff expects to recommend award of a PPA to the JPA Board on March 4, 2019, following evaluation of eight competitive proposals received. As such, the interconnection facility costs that would be incurred by the JPA could be reimbursed by the PPA provider as early as April 18, 2019, which is 45 days after award of the PPA. The reimbursement to the JPA for the additional interconnection facility cost would qualify the PPA provider for a 30% federal tax credit on the amount, resulting in a project cost-savings of up to $57,000.

In the event that the JPA Board does not approve the award of a PPA, the interconnection facility cost paid to SCE would be refunded, less actual costs incurred by SCE through the date of the refund request. Staff does not expect large expenditures to be incurred by SCE within the first month given the various CPUC rules for planning, design and contract award that must be followed by SCE.

Based on the PPA proposals received by the JPA, Terra Verde recalculated its pro forma for the project and estimates the total cost-savings to the JPA would be $10.3 million over 25 years, as compared to the previous estimate of $6.6 million over the same period. The pro forma is based on a PPA rate of 5.57 cents/kWh, as compared to the SCE electrical generation rate of 8.57 cents/kwh. The total cost-savings will also include a one-time bill credit of approximately $931,789 to compensate the JPA for savings lost from the solar project upon implementation of the CPUC-approved peak hour shift from 12 noon to 6:00 p.m., to 4:00 p.m. to 9:00 p.m.

Prepared by: John Zhao, P.E., Principal Engineer

February 4, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Process Air Improvements Project: Construction Award

SUMMARY:

On October 1, 2018, the JPA Board rejected all bids for the Tapia Process Air Improvements Project because the bids significantly exceeded both the Engineer's Estimate and adopted budget for the project. Subsequently, the bid documents were revised to clarify the scope of work for the project and reduce uncertainty that may have affected the bids. In addition, the Board authorized the pre-purchase of the blower and diffuser equipment, in the amount of $1,174,061.50, to avoid the potential impact of long lead times for procurement on the overall project schedule. The project must be completed by March 24, 2020 to take advantage of a Southern California Edison (SCE) rebate, in the amount of $155,350.39.

On November 5, 2018, the Board authorized a new Call for Bids for the Tapia Process Air Improvements Project. A mandatory pre-bid job walk was held on January 3, 2019. Eight bids were received and publically opened on January 22, 2019. Staff evaluated the bids and determined that the lowest responsive bid was submitted by Cushman Contracting Corporation, in the amount of $3,267,000, which is approximately 0.4% below the Engineer's Estimate of $3,279,131. Staff recommends awarding a construction contract to Cushman Contracting Corporation for the project.

RECOMMENDATION(S):

Award a construction contract to Cushman Contracting Corporation, in the amount of $3,267,000, and reject all remaining bids; authorize the Administering Agent/General Manager to approve a change of scope to Pacific Advanced Civil Engineering, in the amount of $122,720, for support services during construction, and to MSO Technologies, in the amount of $53,200, for SCADA integration services; and appropriate an additional $2,436,293 for the Tapia Process Air Improvements Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The adopted Fiscal Year 2018-19 JPA Budget provided partial funding for the project, in the amount of $3,293,418. An additional appropriation, in the amount of $2,436,293, is required to award the construction contract, allow for a 10% contingency to cover change orders during construction, and cover the estimated administrative costs of the project, which are based on guidelines from the Infrastructure Investment Plan. The need for an additional appropriation was anticipated and previously reported to the Board.

DISCUSSION:

The scope of work consists of replacing the existing blowers and aeration basin air diffusers, which have

reached the end of their useful life. In addition to addressing the replacement need, the new equipment will provide a substantial cost-savings to the JPA through improved energy efficiency. Process air is used at the Tapia Water Reclamation Facility to support the treatment processes, which requires air for mixing, oxygen transfer for biological treatment and filter backwashing.

Following the rejection of all bids by the Board on October 1, 2018, staff and Pacific Advanced Civil Engineering (PACE) representatives collaboratively implemented the following next steps and strategies intended to reduce the overall project cost.

- Clarifying the electrical scope of work to reconcile the large difference in cost between the Engineer's Estimate and bids received for the electrical portion of the work.
- Promoting a competitive bidding among electrical contractors recognizing that only two electrical sub-contractors were utilized by six general contractors in their bids. Pre-purchasing the blower and diffusers.
- Performing SCADA programming and integration through the use of a local, experienced consultant who is familiar with the JPA's facilities and requirements.

By proceeding with the project, the JPA will achieve an estimated annual energy cost-savings of $156,124 through the use of the new high-efficiency blowers and diffusers. In addition, the JPA will received a Southern California Edison (SCE) rebate, in the amount of $155,350.39, if construction of the project is completed by March 24, 2020.

The revised Engineer's Estimate for the project was $3,279,131. Following is a summary of the bid results, which reflect a very competitive bidding environment and close alignment with the Engineer's Estimate for the project.

Bidder	Bid Total	Percentage Above/Below Estimate
Cushman Contracting	$3,267,000	-0.4%
PLC Construction	$3,286,239	0.2%
GSE Construction	$3,396,500	3.6%
Pacific Hydrotech	$3,437,900	4.8%
Mehta Mechanical Co (dba MMC, Inc)	$3,442,000	5.0%
Environmental Construction, Inc.	$3,693,127	12.6%
Myers & Sons	$4,009,000	22.3%
Green Building Corporation	$4,670,000	42.4%

Cushman Contracting Corporation is reputable construction company with the resources and capability to successfully complete the project.

Following is a summary of the estimated total project costs and requested appropriation.

Description	Cost
Professional Services:	
Design & Bidding - PACE, Inc.	$215,216
Scope Change No. 1	$47,718
Scope Change No. 2	$24,640
Scope Change No. 3 (Proposed - design services during construction)	$122,720
SCADA/PLC Design - MSO Technologies	$13,880
Scope Change No. 1 (Proposed - SCADA/PLC Programming)	$53,200
Construction:	
Air Pipe Repairs - Miller Pipeline, LLC	$125,205
Equipment Pre-Purchased (Blowers/Diffusers)	$1,174,061
Construction Award	$3,267,000

Construction Contingency (10%)	$326,700
Administrative	
District Labor (4%)	$130,680
G&A (7%)	$228,690
Total Project Cost	**$5,729,710**
Existing Appropriation	$3,293,418
Additional Appropriation (Proposed)	*$2,436,293*

The alternative of not proceeding with the project would present challenges and additional cost to the JPA due to the age of the existing blowers and diffusers, as well as their inefficiencies. A significant investment would be required to rehabilitate and maintain the existing equipment, which would include work on both the electrical and mechanical components. Many of the parts for the existing Roots blowers are no longer available and require custom fabrication that is costly and challenging. In addition, by not proceeding with the project, the JPA would forgo an annual energy cost-savings of $156,124 and a SCE rebate of $155,350.39.

Prepared by: Eric Schlageter, P.E., Senior Engineer

ATTACHMENTS:

PACE Scope Change #3 Design Services During Construction
MSO Scope Change #1 SCADA/PLC Programming

PACE
Advanced Water Engineering

AUTHORIZATION FOR CHANGE ORDER

TO:	Mr. Eric Schlageter	**ATTN:**	
	Las Virgenes Municipal Water District & The Triunfo Sanitation District Joint Power Authority	**DATE:**	July 5, 2018
	4232 Las Virgenes Road	**PROJECT:**	Tapia Process Air – B058
	Calabasas, CA 91302	**C.O. AUTHORIZATION #:**	CO #2

The following was not included in the original contract. We are requesting authorization for additional budget.

Objective of Change Order:

PACE will provide Services During Construction as outlined in the Description of Services below.

Description of Services:

SERVICE DURING CONSTRUCTION (SDC) PHASE

Task 5.2 – Project Management and Monthly Construction Progress Meetings
Consultant's Project Manager, Duong Do, PE, will allocate the Consultant's resources, establish all internal staff responsibilities, and manage all external and internal communication for the project design team. Invoices shall be prepared and submitted to cover the previous months' work.

Consultant's Project Manager and/or Project Engineer will attend monthly site meeting during the construction of the Tapia WRF Process Air Improvements. PACE will record meeting minutes for each meeting. This is based on a 12-month construction schedule.

Consultant shall provide the 4 site visits for field services, which includes 2 field construction visits, one final construction inspection and one substantial completion visit. When possible, the site visits will be coordinated to coincide with monthly progress meeting to minimize travel cost. During construction site visits, Consultant shall provide onsite inspection of each work area in accordance with the plans and specifications. The inspection shall be summarized in an observation report detailing the percentage of work completed and any discrepancies or deficiency observed.

Task 5.3 – Shop Drawing Submittal Review/ RFI Responses/ ESI

1. Consultant will review project submittals as defined in the plans & specifications for intent and compliance with the project plans & specifications.
2. Consultant shall respond in writing to contractor's Request for Information (RFI) or design clarifications.
3. Consultant shall provide Engineering Supplemental Information (ESI) to provide additional design details as needed for proper construction.
4. Consultant shall provide office and field services that are intended to assist the contractor and District with design verification. This task shall include office and some field support but is not intended to provide the level of field services that would be performed by an onsite resident engineer. As part of this task, the Consultant shall provide the following services.

    a. Maintain shop drawings and RFI logs, ensure the correct sequence of review, and ensure the prompt response/ review of each item.

b. Coordinate with contractor regarding clarifications and interpretations of plans and specifications, conflicts and any proposal field modifications and/or revisions.
c. Consultant shall perform a final inspection of the construction of the project. Consultant shall review testing, inspection, and equipment startup documentation from the contractor. This shall include factory testing of the PLC's and field checks. Consultant shall provide a final punch list, which requires the contractor to complete any unfinished work prior to clean water testing, seeding and substantial completion of the project. This task will include three (3) days onsite.

Task 5.4 – Start-up Services
Consultant will provide start up assistance to the Client and Contractor during the substantial completion phase of the project. This phase includes clean water testing and seeding of the facility. Startup assistance shall include onsite technical assistance in regards to clean water testing and re-seeding of the basins. Consultant shall provide three (3) working days of onsite start up assistance. Consultant shall also complete a substantial completion binder to be submitted to the Client.

Task 5.5 – Preparation of Record Drawings
Consultant shall prepare Record Drawings from the "As-Built Drawings" provided by the contractor. Consultant shall review the As-Built Drawings with the contractor in the field for accuracy and completeness. This review is not a guarantee of accuracy but a check on what has been documented to determine if logical. The contractor is responsible for the As-Built completeness and accuracy.

Task 00 – Reimbursables/Expenses
(To include all printing, shipping, travel, reproduction, fees and other miscellaneous direct project expenses. Reimbursables are invoiced at cost plus 10%.)

Amount of Compensation:

PACE will complete the work outlined herein and invoice Client monthly on a time and expense amount of **$122,720** in accordance with the task fees listed below and in the attached Engineering Fee Proposal.

Task		**Professional Fee**
5.2	Project Management and Meeting for SDC	$ 34,880
5.3	Shop Drawing Review/ RFI Response/ ESI	$ 58,320
5.4	Start-up Services	$ 14,720
5.5	Preparation of Record Drawings	$ 8,800
00	Reimbursable Expenses	$ 6,000

This Request - Change Order # 2: **$122,720**

Estimated By: _____ July 5, 2018
Duong Do, PE - PACE Date

AGREED TO AND ACCEPTED BY:

By_____ _____
LVMWD & TSD Joint Power Authority Date

ASSUMPTIONS AND EXCLUSIONS:

1. The Client's responsibilities shall include providing PACE with project information in a timely manner, coordination and management of other team consultants to assure that the project schedule can be met, and prompt payment of invoices in accordance with the terms and conditions included herein. The specific items that are to be provided by the Client or other consultants include the following:

    a. Client input pertaining to project design or construction issues that may impact PACE's ability to perform the work.
    b. Safe access to the site
    c. Power and utilities required for the validation testing

2. Any proposed project changes which affect work in progress or previously completed will be justification for additional compensation.

3. No environmental documentation or support, including no environmental permitting.

4. Local government approval meetings, hearings, etc., and preparation of presentation graphics will be under separate work authorization, if required.

5. The fees proposed herein shall apply until one year from date of proposal. Due to ever-changing costs, Consultant will increase those portions of the contract fee for which work must still be completed after one year from date of proposal, as negotiated with the Client up to a maximum of ten-percent (10%).

PACE
Advanced Water Engineering

ENGINEERING FEE PROPOSAL
PROJECT WORKSHEET

Project Data
Project Name: Tapia Process Air Services During Construction
Client: LVMWD & TSD Joint Powers Authority
PACE Job Number: B058
Estimate Date: July 5, 2018

Total Fee Amount: **$122,720**

Item No.	Work Item Description	PACE									Man-Power Subtotal	Reimburs. Expenses	Total Task Costs
		Principal	Sr. Project Manager/Sr. Consulting Engr.	Resident Construction Manager /Design Engr. II	Instrumentation Specialist	Design Engineer	Sr. CAD Designer /Sr. GIS Analyst	CAD Designer /GIS Analyst	Graphic Designer	Proj. Coord/Admin Support			
		240	210	140	150	120	120	95	95	80			
5	**Bid Services and Services During Construction[1]**	**182**	**0**	**0**	**0**	**478**	**80**	**0**	**0**	**76**	**$116,720**	**$0**	**$116,720**
5.2	Project Management and Meetings for SDC[2]	96				64				52	$34,880		
5.3	Shop Drawing Submittal Reviews/ RFI/ ESI/ Office & Field Services	52				342	40				$58,320		
5.4	Start-up Assistance	32				48				16	$14,720		
5.5	Record Drawings	2				24	40			8	$8,800		
0	Reimbursable Expenses (cost +10%)											$6,000	
	TOTALS	182	0	0	0	478	80	0	0	76	**$116,720**	$6,000	**$122,720**

[1] Assumes 12 month Construction Period

[2] Assumes 1 meeting per month for duration of the construction period

CONSULTANT AGREEMENT

As of 10/30/2018, Las Virgenes Municipal Water District, hereinafter called "Agency," and MSO Technologies, Inc., hereinafter called "Consultant," agree as follows:

1. Purpose.

Under this Agreement, Consultant shall provide Task 1 only for the Tapia WRF Process Air Improvements PLC Design and Programming.

2. Services.

The Consultant shall, in good workmanlike and professional manner, furnish the services as set forth in Exhibit "A" of this Agreement.

3. Consideration.

(a) The Agency shall compensate Consultant on a time-and-material basis, contingent on satisfactory performance of the work. The aggregate payments under this Agreement shall not exceed $13,880, as more fully described on Exhibit "A."

(b) The Consultant shall complete and submit invoices showing the dates of work, description of work performed, and amount of the invoice together with any supporting documentation. The Agency shall pay the Consultant within thirty (30) days of the receipt of an invoice.

4. Term.

(a) This Agreement shall commence on the date above written, and shall continue until completion of the services described above. The Agency may terminate or cancel this Agreement without liability to the Agency, if Consultant fails to perform or commits a substantial breach of the terms hereof.

(b) Either party may terminate this agreement on thirty (30) days written notice for any reason. If this contract is terminated by Agency without cause, Agency shall pay Consultant for work performed prior to the date the notice of termination is received by contractor. If the contract is terminated by Consultant without cause, Consultant shall reimburse Agency for additional costs to be incurred by Agency in obtaining the work from another consultant.

5. Ownership of Data, Reports, and Documents.

The Consultant shall deliver to Agency on demand or completion of the project, notes of surveys made, reports of tests made, studies, reports, plans, and other materials and documents which shall be the property of the Agency. If the Agency uses any of the data, reports, and documents furnished or prepared by the Consultant for projects other than the project shown on Exhibit "A," the Consultant shall be released from responsibility to third parties concerning the use of the data, reports, and documents. The Consultant may retain copies of the materials. The Agency may use or reuse the materials prepared by Consultant without additional compensation to Consultant.

6. Subcontracts and Assignments.

The Consultant shall not subcontract or assign responsibility for performance of any portion of this Agreement without the prior written consent of the Agency. Except as otherwise specifically approved by Agency, Consultant shall include appropriate provisions of this Agreement in subcontracts so rights conferred to Agency by this Agreement shall not be affected or diminished by subcontract. There shall be no contractual relationship intended, implied, or created between Agency and any subcontractor with respect to services under this Agreement.

Neither party hereto shall assign, sublet, or transfer interests hereunder without first obtaining written consent from the other party.

7. Independent Contractor.

The Consultant is an independent contractor and not an employee of Agency. Except as Agency may specify in writing, Consultant shall have no authority, expressed or implied, to act on behalf of Agency in any capacity whatsoever as an agent. Consultant shall have no authority, expressed or implied, pursuant to this Agreement to bind Agency to any obligation whatsoever.

8. Licensing. Consultant represents and declares to Agency that it has all licenses, permits, qualifications, and approvals of whatever nature that is legally required to practice its profession. Consultant represents and warrants to Agency that Consultant shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement, any license, permit, or approval, which is legally required for Consultant to practice its profession.

9. Indemnification.

Consultant shall defend, indemnify, and hold harmless Agency, its officers, employees and agents, from and against loss, injury, liability, or damages arising from any act or omission to act, including any negligent act or omission to act by Consultant or Consultant's officers, employees, or agents in rendering services under this Agreement. Consultant's duty to indemnify and defend does not extend to the damages or liability caused by the agency's sole negligence, active negligence, or willful misconduct.

10. Compliance with Applicable Law.

(a) Consultant agrees to comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the work under this Agreement.

(b) Consultant shall pay prevailing wages to the extent required by law, including Labor Code Section 1720.

(1) A determination of the general prevailing rates of per diem wages and holiday and overtime work where the work is to be performed is on file at the Agency's offices. Should the prevailing wage rules apply to any of the work described in Exhibit A, Consultant shall post one copy of the prevailing rates of wages at the job site, and Consultant shall forfeit, as penalty to the Agency, a sum of not more than $200.00 for each calendar day, or portion thereof, for each worker paid less than

the prevailing rates. This penalty shall be in addition to any shortfall in wages paid.

11. Insurance.

(a) Consultant shall procure and maintain, for the duration of this Agreement, insurance against claims for injuries to persons or damages to property arising from, or in connection with, the performance of the work hereunder by the Consultant, officers, agents, employees, or volunteers.

(b) Consultant shall provide the following coverages:

(1) Commercial general liability insurance written on an occurrence basis, in the amount of $1,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage. The insurance policy shall be amended to provide that the general aggregate limit applies separately to the work under this Agreement, or the general aggregate limit shall be twice the required per occurrence limit.

(2) Business automobile liability insurance shall be provided for all owned, non-owned, and hired automobiles, in the amount of $1,000,000 combined single limit per accident for bodily injury and property damage.

(3) Workers' Compensation insurance as required by the Labor Code of the State of California with the statutory limits required by the Labor Code and Employers Liability for $1,000,000 per accident for bodily injury or disease. Consultant and subcontractors shall cover or insure their employees working on or about the site, regardless of whether such coverage or insurance is mandatory or merely elective under the law.

(4) Professional liability insurance covering loss resulting from errors or omissions of Consultant with a liability limit of at least $1,000,000 per occurrence.

(c) The insurance policies required above shall contain or be endorsed to contain all of the following specific provisions:

(1) Commercial general liability and automobile liability:

(i) Agency and its Board members, officers, employees, agents and volunteers shall be added as additional insureds.

(ii) Consultant's insurance shall be primary insurance as respects the Agency, its Board members, officers, employees, agents, and volunteers and any insurance or self-insurance maintained by Agency shall be in excess of Consultant's insurance and shall not contribute to it.

(iii) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy provided to Agency, its Board members, officers, employees, agents and volunteers.

(iv) The policies shall contain a waiver of transfer rights of recovery ("waiver of subrogation") against Agency, its Board members, officers, employees, agents, and volunteers, for any claims arising out of the work of Consultant.

(v) The policies may provide coverage that contains deductible or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to Agency under such policies. Consultant shall be solely responsible for deductible and/or self-insured

retention and Agency, at its option, may require Consultant to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit. The insurance policies that contain deductibles or self-insured retentions in excess of $25,000 per occurrence shall not be acceptable without the prior approval of Agency.

(vi) Prior to start of work under this Agreement, Consultant shall file with Agency evidence of insurance as required above from an insurer or insurers certifying to the required coverage. The coverage shall be evidenced on a certificate of insurance signed by an authorized representative of the insurer(s). Should the required coverage be furnished under more than one policy of insurance, Consultant may submit as many certificates of insurance as needed to provide the required amounts.

(2) Each policy required by this section shall contain a policy cancellation clause that provides the policy shall not be cancelled or otherwise terminated by the insurer or the Consultant, or reduced in coverage or in limits, except after thirty (30) days written notice by certified mail, return receipt requested, has been given to the Agency, Attention: Director of Finance & Administration.

(d) Insurance required by this Agreement shall be placed with insurers licensed by the State of California to transact insurance business of the types required herein. Each insurer shall have a current Best Insurance Guide rating of not less than A: VII unless prior approval is secured from the Agency as to the use of such insurer.

(e) Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein. Consultant shall maintain evidence of compliance with the insurance requirements by the subcontractors at the job site and make them available for review by Agency.

12. Notices.

Notices shall be deemed received when deposited in the U. S. Mail with postage prepaid and registered or certified addressed as follows, unless advising in writing to the contrary:

Las Virgenes Municipal Water District	MSO Technologies, Inc.
ATTN: General Manager	ATTN: David Patrick
4232 Las Virgenes Road	2985 East Hillcret Drive, #101
Calabasas, CA 91302	Thousand Oaks, CA 91362

13. Invalidity of Part Shall Not Invalidate the Whole.

The invalidity or partial invalidity of any portion of this Agreement will not affect the validity of any other provision. In the event that any provision of this Agreement is held to be invalid, the remaining provisions shall be deemed to be in full force and effect as if they had been executed by both Parties subsequent to the expungement or judicial modification of the invalid provision.

14. **Attorneys' Fees.**

If an action at law or in equity is brought to enforce any provision of this Agreement, the prevailing party shall be entitled, in addition to such other relief as may be granted to an award in the same or a subsequent proceeding, to reasonable attorneys' fees and costs.

15. Integration.

This Agreement represents the entire understanding of Agency and Consultant as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Agreement may not be modified or altered, except in writing, signed by both parties.

16. Arbitration and Waiver of Jury Trial.

Consultant and Agency further agree as follows: In the event any dispute shall arise between the Parties to this Agreement, the same shall be resolved by arbitration conducted by the American Arbitration Association in accordance with the Commercial Arbitration Rules of the American Arbitration Association, as then in effect. Such arbitration shall be conducted at a location within Los Angeles County, California agreeable to both Parties before three (3) arbitrators who shall be selected by mutual agreement of the Parties; if agreement is not reached on the selection of arbitrators within fifteen (15) days, then each of the Parties shall select an arbitrator and the two (2) arbitrators so selected shall select a third. The provisions of the Commercial Arbitration Rules of the American Arbitration Association shall apply and govern such arbitration except that the prevailing party shall be entitled to recover from the other party its attorney's fees and costs actually incurred in such amount as may be determined by the arbitrators.

17. Governing Law.

This Agreement shall be interpreted and construed under, and the rights of the parties will be governed by, the laws of the State of California.

IN WITNESS WHEREOF, the parties hereby have caused this Agreement to be executed the date first above written.

APPROVED:	APPROVED:
Las Virgenes Municipal Water District	MSO Technologies, Inc.
By:_____	By:_____
Name:_____	Name:_____
Its:_____	Its:_____

EXHIBIT “A”

MSO Technologies, Inc.

2985 East Hillcrest Drive, Suite 101
Thousand Oaks, CA 91362

Voice (805) 379-8668
Fax (805) 379-8677

October 23, 2018

Eric Schlageter, P.E.
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302-1994

REF: Tapia WRF Process Air Improvements Project PLC Design and Programming

Dear Eric:

Thank you for the opportunity to propose on the instrumentation and controls component of the Tapia Water Reclamation Facility Process Air Improvements Project. MSO has successfully completed several blower projects for the City of Simi Valley WQCP and are currently working with the City of Ventura on their blower improvement project. We offer an in-depth development and installation knowledgebase of new and existing equipment. We will work with the project engineers and District team to deliver a quality finished product.

MSO will develop detailed control panel drawings that will be added to the project bid package so the contractors will have a uniform panel design. MSO will modify the current specifications to match the detailed design drawings. The contractors will fabricate the control panel in their facility and MSO will perform a factory acceptance test at their factory to ensure proper fabrication of the design. The contractors will install the control panel and terminate the control wiring to the panel according to the bid package drawings.

MSO will develop the Aeration PLC program to coordinate operation of the new blowers and new aeration equipment. The Aeration PLC program will communicate to the blower master PLC and initiate increase/decrease air flow from the blowers depending on the aeration basin operating mode and filter operations. The Aeration PLC program will control the six aeration valves in the aeration basins and the two aeration valves in the RAS basins according to the operating philosophy noted in the specifications and conversations with Pace Water Engineering group. In addition to the PLC program, MSO will develop the local operator interface application noted in the specifications. As part of the PLC programming task, MSO will perform the commissioning of the Aeration PLC and associated equipment. This will include testing instrument and equipment operations, tuning the control algorithms, and providing training for the operations and maintenance staff.

MSO can also prepare Aeration PLC and Master Blower PLC SCADA screens for inclusion in Tapia's central SCADA system. Typically, MSO develops engineering screens that allow for the configuration, simulation, and testing of the control system which can be imported into the existing plants SCADA system. We have done this on numerous projects in the past for the District.

Eric Schlageter, PE
Las Virgenes Municipal Water District
Tapia WRF Process Air Improvements Project PLC Design and Programming

Our cost estimate by project phase is shown below. Proposal is not to exceed, i.e. only hours logged to the project will be billed. This is an engineering services only proposal, no hardware is included. Proposal is valid for sixty days from date shown above. If you have any questions, please contact David Patrick or me at (805) 379 8668 ext. 1001 and 1002.

Tapia Blower Replacement/Aeration Project				
1	**Design Phase**			
1.1	Prepare detailed control panel drawings for Aeration PLC	60	$150	$9,000
1.2	Modify existing specifications for control panel equipment	20	$150	$3,000
1.3	Review with PACE Water/LVMWD	4	$150	$600
1.4	Construction support, RFI responses, Factory acceptance test	8	$150	$1,200
1.5	Reimbursable expenses - mileage	1	$80	$80
			Task Total	**$13,880**
2	**PLC Programming**			
2.1	PLC Program Development Interface with Master Blower PLC Aeration Basin Control Schemes, Full Valve, DO, Flow RAS Basins Control Scheme	80	$150	$12,000
2.2	Local Panel Interface Development	40	$150	$6,000
2.3	System start up and testing	80	$150	$12,000
2.4	Reimbursable expenses – mileage	1	$200	$200
			Task Total	**$30,200**
3	**SCADA Screens Development**			
3.1	Master Blower PLC Screens	20	$150	$3,000
3.2	Aeration Basins Screens	60	$150	$9,000
3.3	RAS Basins Control Screens	40	$150	$6,000
3.4	Alarm/PLC IO Screens	20	$150	$3,000
3.5	Program/Screen Review meetings (3)	12	$150	$1,800
3.6	Reimbursable expenses – mileage	1	$200	$200
			Task Total	**$23,000**
			Project Total	**$67,080**

Sincerely,
MSO *Technologies*

Lloyd Trick, P.E.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

Memorandum

To: JPA Board of Directors
From: Syrus Devers, Best Best & Krieger
Date: January 18, 2019
Re: Monthly State Political Report

Legislative Report

In General

The pending PG&E bankruptcy is hanging over the Capitol like a cloud. Although PG&E is the largest public utility in the west, and bankruptcy would have fiscal implication for years to come for the state and rate payers, the fact of the matter is that 60% of Californians are *not* served by PG&E and that majority sees no reason why they should go out of their way for an unpopular public utility.

The 2019 session opened with the usual flourish on January 7th, but the bill introductions are only trickling in at this point. The first day of session last December 3rd saw a higher than usual number of bill introductions with just under 200 bills (AB's and SB's, not counting resolutions) getting put across the desk, but as of January 15th there were only 343 introduced bills. Procedurally, bills cannot be heard or amended for 30 days after introduction.

The Budget

Governor Newsom's budget was released on schedule January 10th and is being praised by the nonpartisan Legislative Analyst's Office (LAO) as fiscally prudent. Revenues continue to grow and costs, mainly health care, were slightly lower than anticipated, which left Newsom with about $20 billion in discretionary funds. His budget proposes to spend nearly half that amount on debt retirement, including $5.3 billion on unfunded pension liability—a cause near and dear to Sen. John Moorlach. Continuing on the path of his predecessor in office, Newsom's second highest priority is one-time programmatic spending, albeit at a higher level than Governor Brown. Overall the proposed budget grew by 7.5%, but spending remained flat due to the significant amount attributed to debt retirement and the smaller amounts held back in reserves.

The Governor's budget also revealed some of his priorities relating to water policy. Water industry lobbyists were hopeful that life under the Newsom administration would be calmer than under Jerry Brown's intense focus on water; none of Newsom's statements leading up to the release of the budget said anything about water, and nothing in the budget summaries mentioned water, but buried down in the details, and then mentioned during Q&A at the budget press conference, the tax on water is written into the budget. That was followed the next day by the announcement that the CEO of the Water Education Foundation, Wade Crowfoot, would be the Natural Resources Secretary. The good news is that it's going to be business as usual: the bad news is that business has been pretty rough, and it looks like there's no end to it in sight.

Tax on Water

In addition to the budget language, Assembly Member Bloom introduced AB 134, and Assembly Member Eduardo Garcia introduced AB 217, as a place holders for the water tax. This is double threat since advocates will have to fight the issue in both budget and policy committees, and Bloom chairs the budget subcommittee on natural resources that will hear the budget proposal. ACWA has already began organizing the lobbyists to oppose the tax, as well as drafting a counterproposal.

Administrative Report

On January 3rd the SWRCB released its report on options for implementing the Low-Income Water Rate Assistance Program (LIRA), which was due on February 1, *2018* (oops), and is taking comments until February 1st…of this year.

Proposed State Measures - 2019

Prepared by Best Best & Krieger
January 17, 2019

A. Priority Support/Oppose

Measure	Author	Topic	Status	Brief Summary	Position	Priority	Notes 1
AB 134	Bloom D	Safe, clean, affordable, and accessible drinking water.	1/7/2019-Read first time.	Would state findings and declarations relating to the intent of the Legislature to adopt policies to ensure that every Californian has the right to safe, clean, affordable, and accessible drinking water.	Out for Analysis	A. High Priority Support/Oppose	Spot bill for now.
AB 217	Garcia, E.	Safe, clean, affordable, and accessible drinking water.	1/16/2019-Read first time.	This bill would establish the Safe and Affordable Drinking Water Fund in the State Treasury and would provide that moneys in the fund are available, upon appropriation by the Legislature, to the board to provide a stable source of funding to secure access to safe drinking water for all Californians, while also ensuring the long-term sustainability of drinking water service and infrastructure.	Out for Analysis	A. High Priority Support/Oppose	Spot bill for now.

B. Watch

Measure	Author	Topic	Status	Brief Summary	Position	Priority	Notes 1
AB 129	Bloom D	Waste management: plastic microfiber.	1/7/2019-Read first time.	Would declare the intent of the Legislature to, among other things, enact legislation to recognize the emerging threat that microfibers pose to the environment and water quality and would make related findings and declarations.	Out for Analysis	B. Watch	Spot bill.

Measure	Author	Topic	Status	Brief Summary	Position	Priority	Notes 1
SB 1	Atkins D	California Environmental, Public Health, and Workers Defense Act of 2019.	12/4/2018 -From printer. May be acted upon on or after January 3.	Current state law regulates the discharge of air pollutants into the atmosphere. The Porter-Cologne Water Quality Control Act regulates the discharge of pollutants into the waters of the state. The California Safe Drinking Water Act establishes standards for drinking water and regulates drinking water systems. The California Endangered Species Act requires the Fish and Game Commission to establish a list of endangered species and a list of threatened species, and generally prohibits the taking of those species. This bill would require specified agencies to take prescribed actions regarding certain federal requirements and standards pertaining to air, water, and protected species, as specified.	Out for Analysis	B. Watch	
SB 19	Dodd D	Water resources: stream gages.	12/4/2018 -From printer. May be acted upon on or after January 3.	Would require the Department of Water Resources and the State Water Resources Control Board, upon an appropriation of funds by the Legislature, to develop a plan to deploy a network of stream gages that includes a determination of funding needs and opportunities for modernizing and reactivating existing gages and deploying new gages, as specified. The bill would require the department and the board, in consultation with the Department of Fish and Wildlife, the Department of Conservation, the Central Valley Flood Protection Board, interested stakeholders, and, to the extent they wish to consult, local agencies, to develop the plan to address significant gaps in information necessary for water management and the conservation of freshwater species.	Out for Analysis	B. Watch	

Measure	Author	Topic	Status	Brief Summary	Position	Priority	Notes 1
SB 45	Allen D	Wildfire, Drought, and Flood Protection Bond Act of 2020.	12/4/2018 -From printer. May be acted upon on or after January 3.	Would enact the Wildfire, Drought, and Flood Protection Bond Act of 2020, which, if approved by the voters, would authorize the issuance of bonds in an unspecified amount pursuant to the State General Obligation Bond Law to finance projects to restore fire damaged areas, reduce wildfire risk, create healthy forest and watersheds, reduce climate impacts on urban areas and vulnerable populations, protect water supply and water quality, protect rivers, lakes, and streams, reduce flood risk, protect fish and wildlife from climate impacts, improve climate resilience of agricultural lands, and protect coastal lands and resources.	Out for Analysis	B. Watch	

Total Measures: 6

Total Tracking Forms: 6

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

To: Las Virgenes – Triunfo JPA Board of Directors
From: John Freshman and Ana Schwab
Date: January 27, 2019
RE: Federal Report

Government Shutdown and Operations

The Federal Government is now reopened, after being partially shut down for over a month. The White House and Congress were at an impasse over funding for the border wall that President Trump desires to build. However, last week air travel began to be impacted – when LaGuardia Airport in New York briefly closed due to a shortage of Air Traffic Controllers.

The agreement reached reopens the government through February 15th. Giving the White House and Congress time to negotiate border security legislation. The President has said that if the negotiations do not lead to a border wall, then he will either let the government shutdown again or declare a national emergency.

Disaster Aid Package, H.R. 268

H.R. 268 was introduced by House Democrats to provide aid those affected by the approximately 60 major disaster declarations in 2018, including the Woosley Fire. The total package would provide about $12.1 billion. The funding could be used to repair damaged facilities and support emergency operations. Additionally, within the funding it provides for $1.16 billion for the Housing and Urban Development Department's Community Development Fund – for disaster relief, long-term recovery, infrastructure restoration, housing, and economic revitalization in the most distressed areas affected by a major disaster declared in 2018. Further, $849.4 million to the Environmental Protection Agency for capitalization grants to state revolving loan funds supporting water infrastructure projects and $600 million for Economic Development Administration assistance programs related to disaster relief, long-term recovery, and infrastructure restoration.
Please let BB&K know if you would like this bill added to your legislative matrix.

***Due to the government shutdown the Environmental Protection Agency and the Bureau of Reclamation were not running. The next report will provide a thorough report of their work.*

LAS VIRGENES-TRIUNFO - HIGH PRIORITY LEGISLATION IN THE 116TH CONGRESS THROUGH JANUARY 27, 2019

Legislation	Summary	Status	Position
H.R. 34 Energy and Water Research Integration Act of 2019	To ensure consideration of water intensity in the Department of Energy's energy research, development, and demonstration programs to help guarantee efficient, reliable, and sustainable delivery of energy and clean water resources.	Introduced by Rep Eddie Bernice Johnson (D-TX) – January 3, 2019	
S. 40 Bureau of Reclamation Transparency Act	To require the Secretary of the Interior to submit to Congress a report on the efforts of the Bureau of Reclamation to manage its infrastructure assets.	Introduced by Sen. John Barrasso (R-WY) – January8, 2019	
S. 47 Natural Resources Management Act	This bill sets forth provisions regarding various programs, projects, activities, and studies for the management and conservation of natural resources on federal lands. Specifically, the bill addresses, among other matters • land conveyances, exchanges, acquisitions, withdrawals, and transfers; • national parks, monuments, memorials, wilderness areas, wild and scenic rivers, historic and heritage sites, and other conservation and recreation areas; • wildlife conservation; • helium extraction; • small miner waivers of claim maintenance fees; • wildland fire operations; • the release of certain federal reversionary land interests; • boundary adjustments; • the Denali National Park and Preserve natural gas pipeline; • fees for medical services in units of the National Park System; • funding for the Land and Water Conservation Fund; • recreational activities on federal or nonfederal lands; • a national volcano early warning and monitoring system; • federal reclamation projects; and • search-and recovery-missions. In addition, the bill reauthorizes the National Cooperative Geologic Mapping Program	Introduced by Sen. Lisa Murkowski (R-AK) – January 8, 2019	

Legislation	Summary	Status	Position
H.R. 357 Sacramento-San Joaquin Delta National Heritage Area Act	To establish the Sacramento-San Joaquin Delta National Heritage Area. The boundaries of the Heritage Area shall be in the counties of Contra Costa, Sacramento, San Joaquin, Solano, and Yolo in the State of California, as generally depicted on the map entitled "Sacramento-San Joaquin Delta National Heritage Area Proposed Boundary", numbered T27/105,030, and dated October 2012.	Introduced by Rep. John Garamendi (D-CA) – January 9, 2019	
H.R. 579 To prohibit the conditioning of any permit, lease, or other use agreement on the transfer of any water right to the United States by the Secretaries of the Interior and Agriculture, and for other purposes.	To prohibit the conditioning of any permit, lease, or other use agreement on the transfer of any water right to the United States by the Secretaries of the Interior and Agriculture, and for other purposes.	Introduced by Rep. Scott Tipton (R-CO) – January 15, 2019	
H.R. 664 To protect the right of individuals to bear arms at water resources development projects administered by the Secretary of the Army, and for other purposes	To protect the right of individuals to bear arms at water resources development projects administered by the Secretary of the Army, and for other purposes	Introduced by Rep. Bob Gibbs (D-OH) – January 17, 2019	

Legislation	Summary	Status	Position
H.R. 667 To repeal the Waters of the United States rule and amend the Federal Water Pollution Control Act definition of navigable waters, and for other purposes.	To repeal the Waters of the United States rule and amend the Federal Water Pollution Control Act	Introduced by Rep. Jamie Herrera Beutler (R-WA) – January 17, 2019	

ITEM 10B

INFORMATION ONLY

February 4, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Pure Water Project Las Virgenes-Triunfo: Regulatory Pathway for Surface Water Augmentation

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SUMMARY:

The JPA hired Trussell Technologies to develop the attached *Regulatory Pathway for Surface Water Augmentation* for the Pure Water Project Las Virgenes-Triunfo. The pathway summarizes *recommended* as well as *required* actions to successfully permit the Pure Water Project Las Virgenes-Triunfo, recognizing that it will be among the first surface water augmentation projects in California. The pathway will serve as a tool for discussion and interaction with the State Water Resources Control Board, Division of Drinking Water (DDW) and Los Angeles Regional Water Quality Control Board (RWQCB) throughout the permitting process.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with this item.

DISCUSSION:

In 2010, California Senate Bill No. 918 was chaptered, mandating the State Water Resources Control Board (SWRCB) to adopt uniform water recycling criteria for Surface Water Augmentation (SWA) by December 31, 2016, if an Expert Panel first made a finding that the criteria adequately protected public health. On October 31, 2016, the Expert Panel made a finding that the State's proposed criteria for SWA was protective of public health. Following an external scientific peer review of the basis of the scientific portions of the regulations and a series of public hearings and SWRCB deliberations, water recycling criteria and regulations for SWA became effective on October 1, 2018.

Although the regulations were adopted in 2018, no project has gone through the full permitting process. Including the Pure Water Project Las Virgenes-Triunfo, there are currently only three SWA projects being considered in California. The regulations are necessarily complex and require approvals from both the SWRCB, Division of Drinking Water (DDW) and the Los Angeles Regional Water Quality Control Board (RWQCB). The regulations set requirements that are applicable during the planning, design, start-up and operation of a proposed SWA project.

Due to the recent development of the regulations and overall complexity, staff hired Trussell Technologies to develop the attached Regulatory Pathway for Surface Water Augmentation. The pathway includes recommended as well as required actions to successfully permit the Pure Water Project Las Virgenes-Triunfo. The pathway will serve as a tool for discussion and interaction with DDW and the RWQCB throughout the permitting process, recognizing that the JPA, DDW and RWQCB will be implementing the regulations for the first time.

The pathway is organized around nine tasks, each with required and recommended actions. The inter-relationship and timing of each task and action is also identified in the pathway.

Following is a summary of the nine tasks that are described more fully in the report:

1. Demonstration testing (recommended)
2. Tracer studies and reservoir modeling and monitoring
3. Design
4. Engineering Report and required Public Hearings
5. Monitoring and Reporting Plan (recommended)
6. Environmental Compliance and Permitting
7. Operation Plan
8. Construction and Start-up/Commissioning
9. Operations and Monitoring

Prepared by: David R. Lippman, P.E., Director of Facilities and Operations

ATTACHMENTS:

Regulatory Pathway for Surface Water Augmentation

Technical Memorandum

Las Virgenes-Triunfo Pure Water Project
Regulatory Pathway for Surface Water Augmentation

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Subject: **Regulatory Pathway for Surface Water Augmentation**
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List of Abbreviations

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1. Introduction

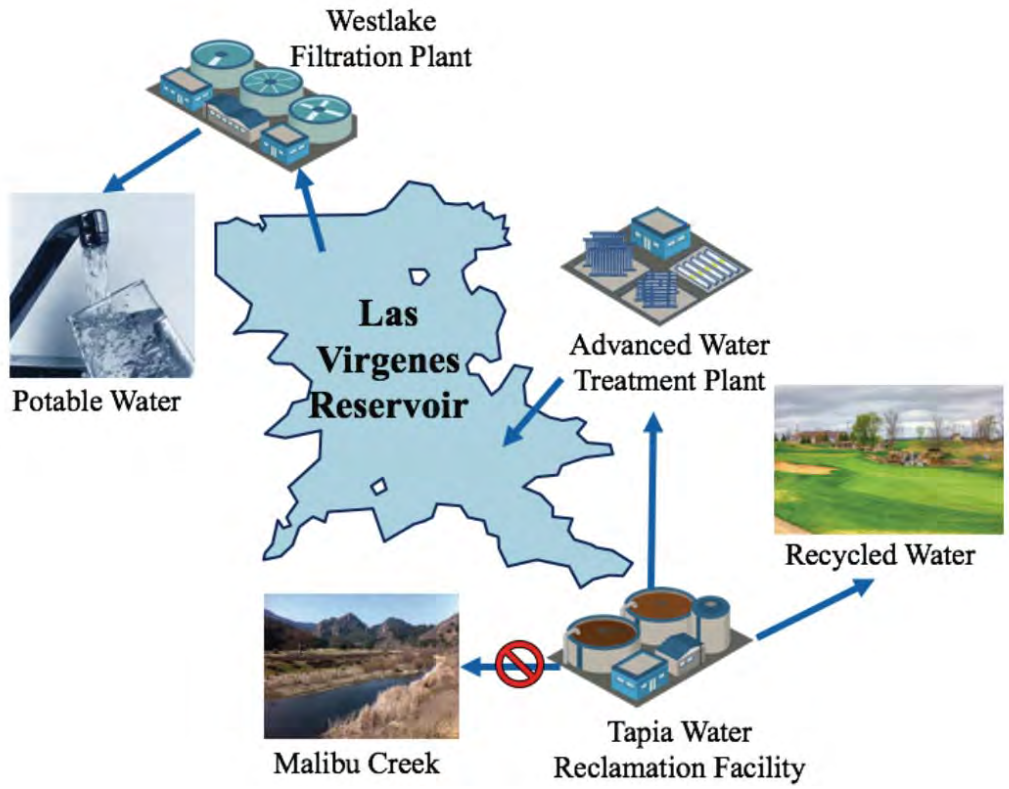

Figure 1 - Schematic of the Las Virgenes Reservoir Pure Water Project

2. Action Plan – Required and Recommended Steps

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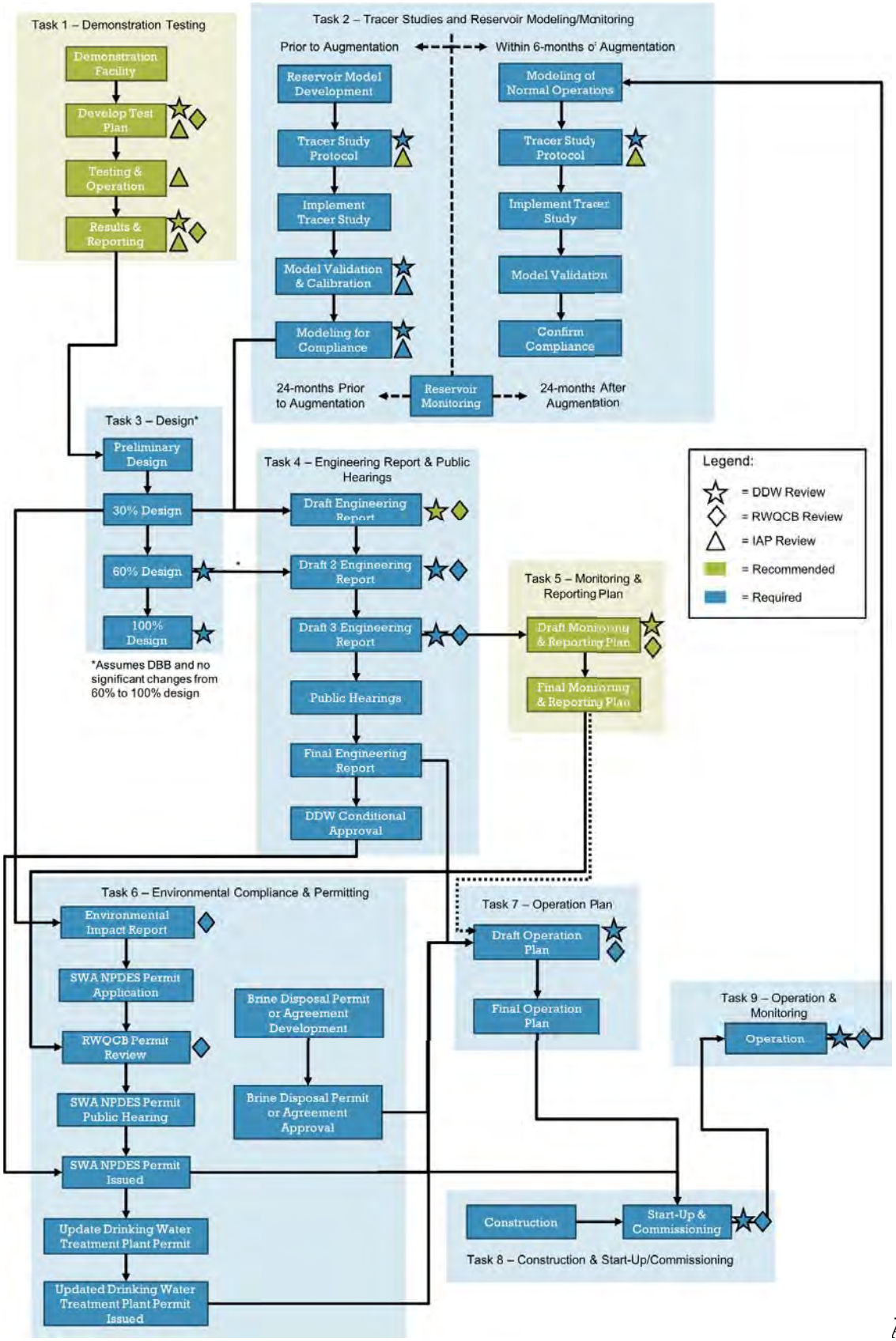

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Figure 2 - Pathway of the Pure Water Action Plan

Task 1 – Demonstration Testing

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- @]ZaTOTYRĀaLW`LMWPĀLOaLYNPOĀ_]PL_XPY_ĀZ[P]L_TZYQĀPc[P]TPYNPĀQZ TYT_TL_TYRĀQ`WW#^NLWPĀ_]PL_XPY_$ĀĀ

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2^ĀOP[TN_POĀTYĀ7TR`]PĀ)"ĀOPXZY^_]L_TZYĀ_P^_TYRĀZQĀ_SPĀ2G@7ĀOPXZY LĀOPXZY^_]L_TZYĀQLNTWT_dĀOPXZ!"ĀOPaPWZ[XPY_ĀZQĀLĀ_P^_Ā[WLYĀLYO Z[P]L_TZY"ĀLYOĀ]P[Z]_TYRĀZQĀ_SP^PĀ]P^`W_^$ĀDSPĀOPXZĀTYĀ_SPĀQ`WW#^NLWPĀ P$R$"Ā&$+#'ĀXRO!"ĀZQĀLĀ_]PL_XPY_Ā[]ZNP^^ĀbT_SĀ_SPĀ^LXPĀ[]ZNP^^ĀLW P^_LMWT^SPOĀTYĀ_SPĀCG2Ā]PR`WL_TZY^ĀQZ]ĀCGC2@Ā_SPĀZYTZ!Ā2^$)ĀQ`WWĀ LOaLYNPOĀ_]PL_XPY_$Ā2Ā^`XXL]dĀZQĀ]PNZXXPYOPOĀLYOĀ]P\`T]POĀ @]ZUPN_ĀT^Ā[]ZaTOPOĀMPWZb$Ā

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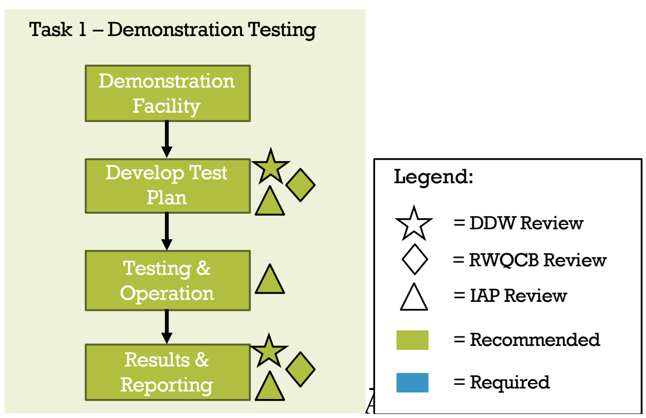

Figure 3 – Summary of Task 1 milestonesĀ

Recommended actions

- ***Demonstration facility***Ā
  - 3`TWOĀLĀOPXZY^_]L_TZY#^NLWPĀ2G@7Ā_ZĀ^TX`WL_PĀLĀ_]PL_XPY_Ā[]ZNP ^L_T^QTP^ĀLWWĀ_]PL_XPY_Ā]P\`T]PXPY_^ĀQ]ZXĀCG2ĀOPR`WL_TZY^Ā2[[P 2$'$)!ĀbT_SĀNZY_TY`Z^ĀQ`WWĀLOaLYNPOĀ_]PL_XPY_$Ā
  - 5PXZY^_]L_PĀ_SL_Ā_SPĀ[]Z[Z^POĀ_]PL_XPY_ĀNLYĀ^Z]QĀQZ]Ā3LTMTĀ@WLYĀ 4]PPVĀ3L^TYĀ@WLY!ĀLYOĀ]PR`WL_Z]dĀ]P\`T]PXPY_^$Ā
  - 5PaPWZ[ĀbL_P]Ā\`LWT_dĀOL_LĀQZ]Ā_SPĀDT_WPĀ((ĀĀ6YRTYPP]TYRĀBP[Z]_Ā
  - 5P_P]XTYPĀZ[_TX`XĀOP^TRYĀLYOĀZ[P]L_TYRĀN]T_P]TLĀQZ]ĀLĀQ`WW#^NL QLNTWT_d$Ā
  - @]ZaTOPĀLĀXPNSLYT^XĀQZ]Ā[`MWTNĀZ`_]PLNSĀLYOĀLNNP[_LYNP$
- ***Develop test plan***Ā

- o 9Y_PR]L_PĀ_P^_TYRĀL^^ZNTL_POĀbT_SĀPLNSĀ]PLTXPY_ĀA[]ZNP^^Ā_ZĀaLW]PR`WL_Z]dĀNZX[WTLYNPĀP$R$"ĀB?Ā]PUPN_TZYĀZQĀN`]]PY_ĀZ]Ā2Q"ĀWZR# '"*#OTZcLYPĀ_S]Z`RSĀ2?@!$Ā
- o 6^_LMWT^SĀLĀOP_LTWPOĀbL_P]Ā\`LWT_dĀXZYT_Z]TYRĀ[]ZR]LXĀ_ZĀ`YOP]^ ZNN`]]PYNPĀLYOĀ]PXZaLWĀZQĀVPdĀ[L]LXP_P]^Ā_S]Z`RSĀ_]PL_XPY_ĀJP$R [L_SZRPYĀNSLWWPYRPĀ_P^_TYR"ĀXLcTX`XĀNZY_LXTYLY_ĀWPaPW^ĀLYOĀ WPaPW^Ā=4<^ĀLYOĀ><^!K$ĀĀ
- o 9YNZ][Z]L_PĀXZYT_Z]TYRĀZQĀ]PNZXXPYOPOĀNZY_LXTYLY_^ĀZQĀPXP]RTY NZYNP]YĀ464!ĀNZY^_T_`PY_^ĀWT^_POĀTYĀ2[[PYOTcĀ4ĀPR"Ā464^"Ā >T_]Z^LXTYP^!$ĀĀ
- o C`MXT_Ā_P^_Ā[WLYĀQZ]Ā]PaTPbĀMdĀ_SPĀ92@ĀLYOĀ55GĀ[]TZ]Ā_ZĀTX[WPX
- • ***Testing and operation***Ā
  - o E^PĀ_SPĀPc[P]TPYNPĀQ]ZXĀZ[P]L_TZYĀZQĀLYOĀ[P]QZ]XLYNPĀMdĀ_SPĀOPX P^_LMWT^SĀLYOĀL^^P^^ĀOP^TRYĀN]T_P]TLĀQZ]ĀQ`WW#^NLWPĀ2G@
  - o ?[P]L_PĀ_SPĀOPXZY^_]L_TZY#^NLWPĀQLNTWT_dĀ_ZĀ[]ZaTOPĀaLW`LMWPĀZ[ Pc[P]TPYNPĀQZ]Ā^_LQQ"Ā[]TZ]Ā_ZĀTYT_TL_TYRĀQ`WW#^NLWPĀ_]PL_XPY_$
  - o 7LNTWT_L_PĀ[`MWTNĀZ`_]PLNSĀ_Z`]^ĀZQĀ_SPĀOPXZY^_]L_TZYĀQLNTWT_dĀ_ZĀRL]YP @`]PĀGL_P]Ā@ZR]LX$ĀĀ
  - o 4ZYO`N_Ā92@ĀXPP_TYR^ĀTYĀNZYN`]]PYNPĀbT_SĀZ[P]L_TZYĀ_ZĀ[]P^PY_Ā_` ZYĀ_SPĀNZY_TY`Z`^Ā[P]QZ]XLYNPĀZQĀ_SPĀOPXZĀLYOĀLWWZbĀQZ]Ā_Z`]$Ā
- • ***Results and reporting***Ā
  - o 5PaPWZ[ĀLĀQTYLWĀ]P[Z]_ĀOP_LTWTYRĀLWWĀ]P^`W_^ĀQ]ZXĀ_SPĀ_P^_Ā[W
  - o @]P^PY_Ā]P^`W_^ĀLYOĀNZYNW`^TZY^Ā_ZĀ_SPĀ9YOP[PYOPY_Ā2OaT^Z]dĀ@L LYOĀ55GĀQZ]Ā]PaTPb$Ā

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Task 2 – Tracer Studies and Reservoir Modeling

8dO]ZOdYLXTNĀ]P^P]aZT]ĀXZOPWTYRĀT^Ā]P\`T]POĀMdĀ_SPĀ55GĀ_ZĀLYLWdUP_TLWĀ ]Z`YOĀ[]TZ]Ā_ZĀ]P^P]aZT]ĀL`RXPY_L_TZYĀLYOĀQZWWZb^ĀLĀ_]LNP]Ā^_`OdĀ_TZY$Ā =ZOPWTYRĀPQQZ]_^Ā^SZ`WOĀMPĀNZ`[WPOĀbT_SĀL]PĀ[SZ_ZĀXZOPWTYRĀLYOĀ aP]TQdĀOTW`_TZYĀLYOĀZ_LWĀ]P_PY_TZYĀ_TXPĀZQĀ]P^P]aZT]ĀXZOPWĀLĀ(*# XZY_SĀ[P]TZOĀ[]TZ]Ā_ZĀL`RXPY_L_TZYĀLYOĀQZ]ĀLĀ(*ĀXZY_SĀ[P]TZOĀ LQ_P]$Ā 5P_LTWPOĀTYQZ]XL_TZYĀZQĀLWWĀ^_P[^Ā]PRL]OTYRĀ_SPĀ^_`OdĀ^SZ`WOĀMPĀ]P\`T]POĀLYOĀ]PNZXXPYOPOĀLN_TZY^Ā[P]_TYPY_Ā_ZĀ_SPĀ@`]PĀGL_P]Ā@ZR]LXĀMPWZb$ĀĀ

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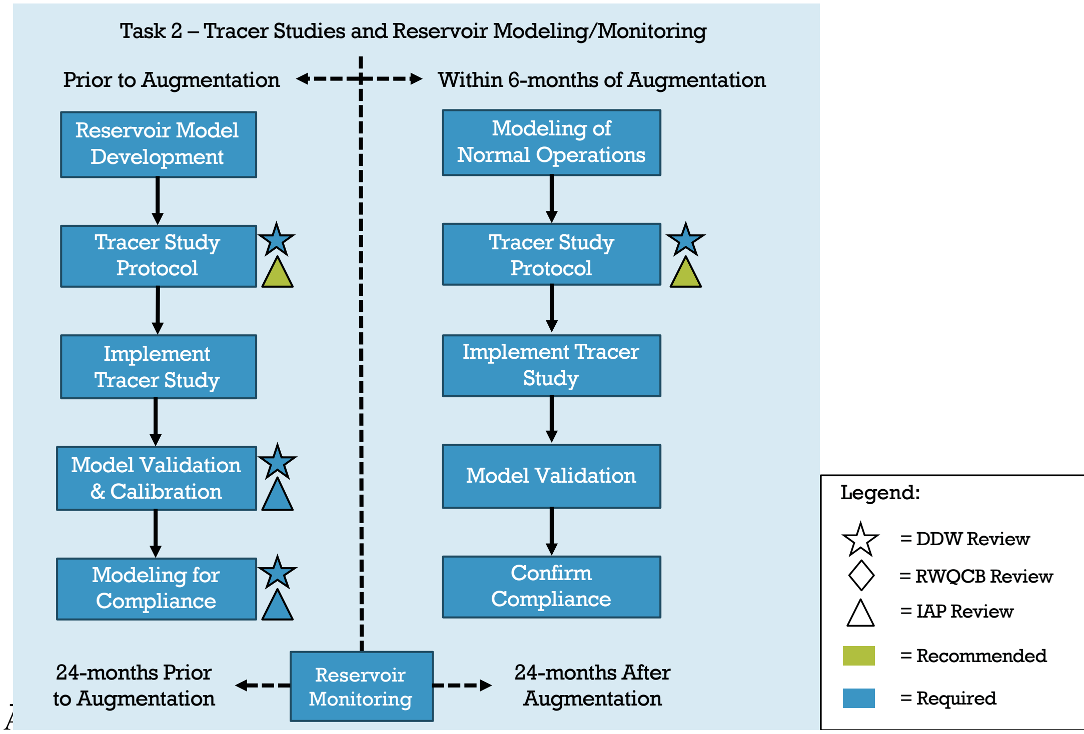

Figure 4 – Summary of Task 2 milestones

Required actions

Prior to Reservoir Augmentation

- ***Reservoir model development***
  - 6^_LMWT^SĀLĀSdO]ZOdYLXTNĀXZOPWĀQZ]ĀSPĀ<FB$Ā *hydrodynamic model was established for the LVR by Flow Science in 2017 and calibration was completed in 2018.*
  - 4ZYaPYPĀLYĀ92@Ā_ZĀPaLW`L_PĀXZOPWPOĀNZYO *An IAP was* ĀLYOĀ]P^`W_^$Ā *convened in March 2018 with attendance from DDW.*
- ***Tracer study protocol***
  - 5PaPWZ[ĀLĀ[]Z_ZNZWĀQZ]ĀLĀ_]LNP]Ā^_`OdĀZQĀ<FB$Ā
  - C`MXT_Ā[]Z_ZNZWĀ_ZĀ_SPĀ55GĀQZ]Āb]T__PYĀL[[]ZaLW$Ā
- ***Implement tracer study***
  - 7ZWWZbĀL[[]ZaPOĀ[]Z_ZNZWĀ_ZĀNZX[WP_PĀ_]LNP]Ā^_`OdĀZQĀ<FB$Ā
- ***Model validation and calibration***
  - E^TYRĀ_]LNP]Ā^_`OdĀ]P^`W_^"ĀNLWTM]L_PĀLYOĀaLWTOL_PĀ_SPĀPcT^_TYR
    SdO]ZOdYLXTNĀXZOPW$Ā6YRLRPĀ_SPĀ92@ĀLYOĀ55GĀQZ]Ā]PaTPbĀZQĀ_S
- ***Modeling for compliance***
  - B`YĀNLWTM]L_POĀSdO]ZOdYLXTNĀXZOPWĀ_ZĀL^^P^^ĀNZX[WTLYNPĀbT_SĀ
    LYOĀDBDĀ]P\`T]PXPY_^$Ā
- ***Reservoir monitoring***
  - =ZYT_Z]TYRĀWZNL_TZY^ĀL_Ā_SPĀ<FBĀX`^_ĀMPĀTOPYTQTPOĀQZ]ĀbL_P]Ā
    XZYT_Z]TYRĀ]P\`T]PXPY_^ĀOPQTYPOĀTYĀ2[[PYOTcĀ2$Ā!ĀLYOĀ^`MXT__
    55GĀQZ]Ā]PaTPbĀLYOĀL[[]ZaLW$
  - =ZY_SWdĀXZYT_Z]TYRĀZQĀ_SPĀL[[]ZaPOĀ<FBĀXZYT_Z]TYRĀWZNL_TZY^
    NZX[WP_POĀQZ]ĀL_ĀWPL^_Ā(*ĀXZY_S^Ā[]TZ]Ā_ZĀ]P^P]aZT]ĀL`RXPY_L_TZY

bL_P]Ā\`LWT_dĀ_SP^PĀWZNL_TZY^$ĀDSPĀXZY_SWdĀdePXQWPZĀX`^_ĀMPĀLYL
_SPĀNZY_LXTYLY_^ĀWT^_POĀTYĀDLMWP^Ā2(ĀLYOĀ2)$Ā?_SP]Ā55G#^[PNTQT
NSPXTNLW^ĀLYOĀNZY_LXTYLY_^ĀXLdĀLW^ZĀMPĀ]P\`T]POĀ`[ZYĀ]PaTPbĀZQ
6YRTYPP]TYRĀBP[Z]_$Ā
2Q_P]ĀTYT_TLWĀXZYT_Z]TYRĀZQĀ]P^P]aZT]"Ā_SPĀZ@2ĀXLX^_ĀSPĀMXT_ĀLĀ]P
55GĀLYOĀBGA43Ā^``XXL]TeTYRĀXZYT_Z]TYRĀ]P^`W_^Ā bLL_P]Ā\`LWT_dĀOL_
LYOĀDBDĀNLWN`WL_TZY^!$Ā

Following Augmentation

- ***Modeling of normal operations***
    - GT_STYĀ,ĀXZY_S^ĀZQĀQ`WW#^NLWPĀZ[P]L_TZYĀZQĀ_SPĀ2G@7"Ā]`YĀ_SPĀ SdO]ZOdYLXTNĀ]P^P]aZT]ĀXZOPWĀ_ZĀ]PQWPN_ĀNZYOT_TZY^Ā`YOP]ĀYZ]XL Z[P]L_TZY^$
- ***Tracer study protocol***
    - CTXTWL]Ā_ZĀ_SPĀ_]LNP]Ā^_`OdĀNZYO`N_POĀ[]TZ]Ā_ZĀLXPY_L_TZY"ĀOP _]LNP]Ā^_`OdĀ[]Z_ZNZWĀLYOĀ^`MXT_Ā_ZĀ55GĀQZ]ĀL[[]ZaLW$ĀĀ
- ***Implement tracer study***
    - 7ZWWZbĀL[[]ZaPOĀ[]Z_ZNZWĀ_ZĀNZX[WP_PĀ_]LNP]Ā^_`OdĀZQĀ<FBĀ`YOP]Ā SdO]L`WTNĀNZYOT_TZY^ĀL^^ZNTL_POĀbT_SĀYZ]XLWĀZ[P]L_TZY$Ā
- ***Model validation***
    - E^TYRĀ_]LNP]Ā^_`OdĀ]P^`W_^"ĀaLWTOL_PĀ_SPĀSdO]ZOdYLXTNĀXZOPW$Ā
- ***Confirm compliance***Ā
    - E^TYRĀ_SPĀ]P^`W_^ĀQ]ZXĀ<FBĀXZOPWTYRĀLYOĀ_]LNP]Ā^_`OTP^"ĀNZYQT] NZX[WTLYNPĀLWWĀ_TXP^Ā`YOP]ĀLWWĀZ[P]L_TYRĀNZYOT_TZY^$ĀĀĀ
- ***Reservoir monitoring***ĀĀ
    - =ZY_SWdĀXZYT_Z]TYRĀZQĀ_SPĀ[]PaTZ`^Wd#L[[]ZaPOĀ<FBĀXZYT_Z]TYRĀ WZNL_TZY^Ā^SZ`WOĀMPĀNZX[WP_POĀQZ]ĀL_ĀWPL^_ĀĀ(*ĀNZY^PN`_TaPĀXZY QZWWZbTYRĀ_SPĀ^_L]_ĀZQĀQ`WW#_TXPĀZ[P]L_TZYĀZQĀ_SPĀ2G@7$ĀĀ
    - 2Q_P]ĀNZX[WP_TZYĀZQĀ_SPĀ(*#XZY_SĀXZYT_Z]TYRĀ[P]TZOĀ_SPĀ:@2ĀNL _ZĀ55GĀ_ZĀ]PO`NPĀ_SPĀXZYT_Z]TYRĀQ]P\`PYNdĀ_ZĀdPL]Wd$Ā

Recommended actions

- 4ZYaPYPĀLĀ^`MNZXXT__PPĀZQĀ_SPĀ92@Ā_ZĀ]PaTPbĀ_SPĀ_]LNP]Ā^_`OdĀ[
- 5PaPWZ[ĀLĀ]P^P]aZT]ĀZ[P]L_TZYĀ^_]L_PRdĀQZ]Ā]PaTPbĀMdĀ55GĀLYOĀ92 XLcTX`XĀQWPcTMTWT_dĀZQĀ]P^P]aZT]ĀZ[P]L_TZY^ĀbSTWPĀXPP_TYRĀ]PR`W]P\`T]PXPY_^ĀOTW`_TZYĀLYOĀDBD!$
- 4ZYQT]XĀL[[WTNLMTWT_dĀZQĀ@ZWW`_LY_Ā5T^NSL]RPĀ6WTXTYL_TZYĀCd^_PXĀ [P]XT_$ĀĀ

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Task 3 – Design

DSPĀOP^TRYĀ[SL^PĀ^SZ`WOĀMPĀTYT_TL_POĀLQ_P]ĀLĀ^`MXT__LWĀ_ZĀ55GĀLYOĀ LaLTWLMWP$Ā2WWĀ^TRYTQTNLY_ĀQTYOTYR^ĀL^^ZNTL_POĀbT_SĀ_SPĀZYRZTYRĀ_ TYNZ][Z]L_POĀTY_ZĀ_SPĀOP^TRYĀZQĀ_SPĀ2G@7$ĀDSPĀ[]ZUPN_Ā_PLXĀbTWWĀ_SPĀ NZX[WTLYNPĀ]P\`T]PXPY_^ĀP^_LMWT^SPOĀMdĀ55GĀLYOĀBGA43$Ā2_ĀTYT_TL _SPĀ[L_SbLdĀOPQTYPOĀQZ]ĀDL^VĀ)ĀL^^`XP^ĀLOZ[_TZYĀZQĀ_SPĀOP^TRY#M []ZN`]PXPY_Ā^_]L_PRd"ĀTYĀbSTNSĀLĀ^TYRWPĀOP^TRYĀMPRTY^ĀLQ_P]ĀLĀ[PXPY_Ā of the design through completion (100% Design) with no significLY_ĀNSLYRP^ĀZNN`]]TYRĀ

from the 30% through 100% design stages. Alternative procuremen_Ā^_]L_PRTP^ĀXLdĀ TX[LN_Ā_SPĀ_TXTYRĀZQĀOPaPWZ[TYRĀ_SPĀ[]ZUPN_Ā6YRĀ*YPRTYRĀXLdĀZQĀ]P\`T]POĀLYOĀ]PNZXXPYOPOĀLN_TZY^Ā[P]_TYPY_Ā_ZĀ_SPĀ_L^VĀ`YOPĀ@MPWZb$Ā
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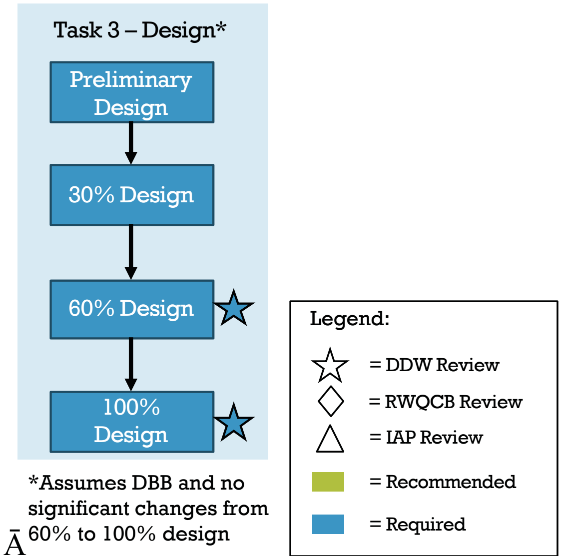

Figure 5 - Summary of Task 3 milestones

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Required actions

- ***Preliminary Design***
  - 9YT_TL_PĀ_SPĀ[]PWTXTYL]dĀOP^TRYĀPQQZ]_ĀQZ]ĀWZZVTYRĀ_SPĀNZYNW`^T OPXZY^_]L_TZYĀ_P^_TYR"Ā_ZĀTYNZ][Z]L_PĀQTYOTYR^ĀQ]ZXĀ_SPĀOPXZ$Ā
  - 3`TWOĀ`[ZYĀOP^TRYĀN]T_P]TLĀP^_LMWT^SPOĀO`]TYRĀ_SPĀOPXZY^_]L_TZYĀ_P^ OPaPWZ[ĀLĀ[]PWTXTYL]dĀOP^TRY$Ā
  - BPaTPbĀ_SPĀ[]PWTXTYL]dĀOP^TRYĀOZN`XPY_^Ā_ZĀPY^`]PĀ]PR`WL_Z]dĀ NZX[WTLYNP$
- ***30% Design***
  - The 30% level design effort should be carried forward (assumingĀ533Ā []ZN`]PXPY_ĀL[[]ZLNS!ĀL^Ā_SPĀML^T^ĀQZ]Ā_SPĀQTYLWĀOP^TRYĀZQĀ_SPĀ6 BP[Z]_ĀOP^N]TMPOĀTYĀDL^VĀ*ĀL^ĀbPWWĀL^ĀQZ]ĀLĀ_SPĀ[]ZUPN_ĀTXXPY_LWĀ OP^N]TMPOĀTYĀDL^VĀ,$
- ***60% Design***
  - Continue to develop the design and prepare a 60% design level rP[Z]_$ĀĀ
  - Submit the 60% design report to DDW for review and input.
- ***100% Design***
  - 4ZX[WP_PĀLĀQTYLWĀOP^TRYĀ]P[Z]_$
  - C`MXT_Ā_SPĀQTYLWĀOP^TRYĀ]P[Z]_ĀLYOĀO]LbTYR^Ā_ZĀ55GĀQZ]Ā^[PNTQTNL_TZY QZ]Ā]PaTPbĀLYOĀTY[`_$Ā

Recommended actions

- =LTY_LTYĀNZXX`YTNL_TZYĀbT_SĀ55GĀ_ZĀVPP[Ā_SPĀ]PRWLOP^TRYĀQZ]XPO [L]LXP_P]^ĀLYOĀNSLYRP^Ā_S]Z`RSZ`_Ā_SPĀOP^TRYĀ[]ZNP^^Ā@ZQLNTWT_ L[[]ZaLW$

Task 4 – Engineering Report & Public Hearings

drafted after 30% design. If the project is procured in a design-build method, it may be necessary to wait until the 60% between 30% and 100% design with the different project delivery 100% design.

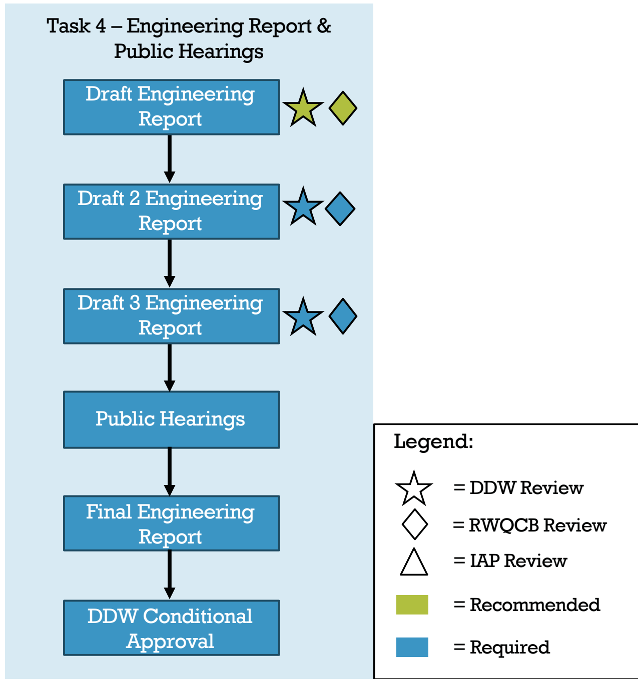

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Figure 6 – Summary of Task 4 milestones

Required actions

- ***Draft Engineering Report***Ā
  - 5PaPWZ[ĀLYĀTY_P]YLWĀO]LQ_ĀZQĀ_SPĀPYRTYPP]TYRĀ]P[Z]_ĀQZ]ĀLYOĀPY^`]PĀ LWWĀ^PN_TZY^ĀMdĀ]PWPaLY_Ā^_LVPSZWOP]^$Ā
- ***Draft 2 Engineering Report***Ā
  - 5PaPWZ[ĀLĀO]LQ_ĀZQĀ_SPĀ6YRTYPP]TYRĀBP[Z]_Ā_SL_ĀLO55GĀMPĀ^`MXT_
  - C`MXT_ĀO]LQ_Ā(Ā_ZĀ55GĀQZ]Ā]PaTPb$Ā
- ***Draft 3 Engineering Report***Ā
  - BPaT^PĀPYRTYPP]TYRĀ]P[Z]_ĀLNNZ]OTYRĀ_ZĀ55GĀNZXXPY_^ĀLYOĀOPaPWZ YPbĀO]LQ_ĀZQĀ_SPĀ6YRTYPP]TYRĀBP[Z]_Ā_SL_ĀbTWWĀMPĀ^`MXT__POĀ_Z
  - C`MXT_ĀO]LQ_Ā)Ā_ZĀ55GĀQZ]Ā]PaTPb$Ā
- ***Public Hearings***Ā
  - 7LNTWT_L_PĀL_ĀWPL^_Ā_S]PPĀ[`MWTNĀSPL]TYR^ĀOP^TRYLOĀMdĀ55GĀLYOĀ[]Z NZYU`YN_TZYĀbT_SĀ_SPĀ:@2"ĀTYQZ]XL_TZYĀ[]PL[[ZaPOĀMdĀ55GĀ TP" ZQĀ_SPĀPYRTYPP]TYRĀ]P[Z]_!Ā_ZĀMPĀ[]P^PY_POĀL_Ā_SPĀ[`MWTNĀSPL]TYR^ LaLTWLMWPĀZYĀ_SPĀ:@2i^ĀbPM^T_P$ĀDSPĀTYQZ]XL_TZYĀbTWWĀL^ZĀMPĀLaLTW []TZ]Ā_ZĀPLNSĀ[`MWTNĀSPL]TYRĀQZ]Ā[`MWTNĀLNNP^^ĀLYOĀPaLW`L_TZY$
- ***Final Engineering Report***
  - 9QĀYPNP^^L]d"Ā]PaT^PĀ_SPĀPYRTYPP]TYRĀ]P[Z]_ĀMLNPOĀZYĀ_SPĀXPY_^ĀX [`MWTNĀSPL]TYR$
- ***DDW Conditional Approval***Ā
  - ?YNPĀ_SPĀPYRTYPP]TYRĀ]P[Z]_ĀT^ĀQTYLWTePO"Ā55GĀbTWWĀT^^`PĀLĀNZY L[[]ZaLWĀWP__P]ĀQZ]Ā_SPĀ[]ZUPN_$ĀEW_TXL_PWd"Ā_SPĀNZYOT_TZYLWĀL TYQZ]X^Ā_SPĀ>@56CĀ[P]XT_ĀT^^`POĀQZ]Ā_SPĀOT^NSL]RPĀ_ZĀ_SPĀ<FB$

Recommended actions

- GSTWPĀOPaPWZ[TYRĀ_SPĀTYT_TLWĀO]LQ_ĀZQĀ_SPĀAYRTYPPTYRĀ]PZ[]_Ā"ĀT XPP_Ā]PR`WL]WdĀbT_SĀ55GĀ_ZĀ]PaTPbĀLYOĀOT^N`^^Ā[]ZdPN_Ā[]ZR]P^^ĀLYOĀXPP_TYRĀ]PR`WL_Z]dĀ]P\`T]PXPY_^$ĀDST^ĀXLdĀTYNW`OPĀZ[P]L_TZY^Ā^`]PXZaLWĀN]POT_TYR"Ā]PXZaLWĀZQĀNSPXTNLWĀNZY_LXTYLY_^Ā]PWTLMTWT_]P^P]aZT]ĀXZOPWTYR"Ā^Z`]NPĀNZY_]ZW"ĀLYOĀZ_SP]^$ĀAbTWWĀXPP_ĀbT_SĀ55G []ZNP^^"Ā_SPĀOPaPWZ[XPY_ĀZQĀ_SPĀPYRTYPP]TYRĀ]P[Z]_ĀbTWWĀMPĀTYQZ NZYNP]Y^"ĀLYOĀ_SPĀ:@2ĀbTWWĀMPRTYĀ_ZĀM`TWOĀ_SPĀ]PR`WL

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Task 5 – Monitoring and Reporting Plan

4ZY^TOP]TYRĀ_SPĀXLYdĀXZYT_Z]TYRĀLYOĀ]P[Z]_TYRĀ]P\`T]PXPY_^ĀhPLY 55GĀLYOĀBGA43Ā]P\`T]PXPY_^ĀTYĀ^ZXPĀTY^_LYNP^ĀhĀLĀ^TYRWPĀAbĀTSĀ]PNZXXPYOPOĀ_ZĀOPaPWZ[ĀLĀ@`]PĀGL_P]Ā=ZYT_Z]TYRĀLYOĀBP[Z]_TYRĀ@W NZXX`YTNL_TYRĀ]PR`WL_Z]dĀNZX[WTLYNP$ĀDST^Ā[WLYĀbTWWĀTYNW`OPĀ_SPĀ BP[Z]_Ā_ZĀOZN`XPY_Ā_SPĀ^[PNTQTNĀXZYT_Z]TYRĀWZNL_TZY^"ĀLYOĀ Q]P\`PYNdĀZQĀXZYT_Z]TYRĀLYOĀ]P[Z]_TYRĀQZ]Ā_SPĀ@`]PĀGL_P]ĀST^[WLYĀ T^Ā_ZĀL^^T^_Ā_SPĀBGA43ĀLYOĀ55GĀTYĀOPaPWZ[TYRĀ_SPĀ[P]XT_ĀLYOĀ ]P\`T]PXPY_^ĀQZ]ĀLĀCGC2@$ĀDSPĀXZYT_Z]TYRĀLYOĀ]P[Z]_TYRĀ[WLYĀ BGA43ĀL]PĀ^SZbYĀTYĀDLMWPĀ'$ĀDSPĀ^_P[^ĀTYNW`OPĀTYĀ_STĀ_L^VĀL]P DSPĀQTYLWĀ=ZYT_Z]TYRĀLYOĀBP[Z]_TYRĀ@WLYĀbTWWĀMPĀZ[P]L_PONĀ^_L Z[P]L_TZY^Ā[WLYĀQ`]_SP]ĀOP^N]TMPOĀTYĀDL^VĀ-$ĀAYĀPbLX[WPĀZQĀLĀXZYT_Z]TYR [P]_TYPY_Ā_ZĀ_SPĀ@`]PĀGL_P]Ā@]ZUPN_ĀT^Ā[]ZaTOPOĀMPWZb$ĀĀ

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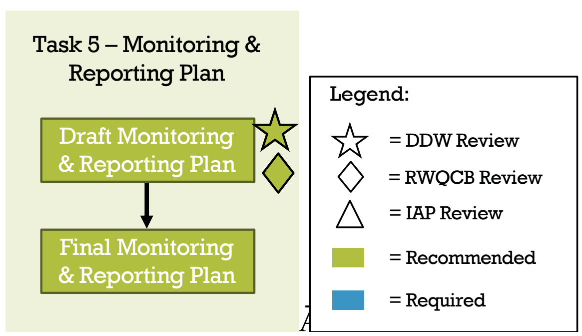

Figure 7 - Summary of Task 5 milestones

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Table 1 – State and Regional Monitoring and Reporting Requirements

Monitoring Category	Monitoring Required by SWA RegulationsĀ	Monitoring to Assess Compliance with RWQCB StandardsĀ
Pathogen Control (log removal)	HĀ	>2Ā
Advanced Treatment Criteria	HĀ	>2Ā
pMCLs	HĀ	HĀ
Primary Action Levels (lead/copper)	HĀ	HĀ
sMCLs	HĀ	HĀ
Notification Levels	HĀ	HĀ
Toxic Priority Pollutants	HĀ	HĀ
DDW-Specified chemicals	HĀ	>2Ā
DDW/RWQCB-Specified indicator compounds	HĀ	HĀ
Basin Plan objective not regulated by DDW as an MCL, Action Level, or Notification Level	>2Ā	HĀ
California Toxics Rule (CTR) constituents not regulated by DDW as an MCL	>2Ā	HĀ
Nitrogen and Phosphorus	>2Ā	HĀ
Chlorine Residual	>2Ā	HĀ

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Recommended actions

- ***Draft Monitoring and Reporting Plan***
  - 5PQTYPĀ2G@7ĀPQQW`PY_ĀbL_P]Ā\`LWT_dĀLYOĀ]P^P]aZT]ĀXZYT_Z]TYRĀRZIJ TYNW`OTYRĀ_SPĀOT^_TYN_TZYĀMP_bPPYĀXZYT_Z]TYRĀ]P\`T]POĀMdĀ55GĀ BGA43Ā DLMWPĀ,!ĀL^ĀbPWWĀL^Ā[]Z[Z^POĀ]P[Z]_TYR$Ā
  - 9YNW`OPĀ[]Z[Z^POĀ[]ZO`N_ĀbL_P]ĀXZYT_Z]TYR"ĀTYNW`OTYRĀ^LX[WPĀWZI LYOĀQ]P\`PYNd$ĀĀ
  - 9YNW`OPĀ_SPĀ[]Z[Z^POĀ]P[Z]_TYRĀ^NSPO`WP$ĀĀ
  - 4ZX[WP_PĀLQ_P]Ā_SPĀ_ST]OĀO]LQ_ĀZQĀPYRTYPP]TYRĀ]P[Z]_ĀT^ĀQTYT^SP
  - C`MXT_Ā_ZĀ55GĀLYOĀBGA43ĀQZ]Ā]PaTPb$ĀĀ
- ***Final Monitoring and Reporting Plan***
  - 9YNZ][Z]L_PĀNZXXPY_^ĀQ]ZXĀBGA43ĀLYOĀ55G$Ā
  - C`MXT_Ā_ZĀBGA43ĀQZ]Ā]PaTPbĀMPQZ]PĀ>@56CĀ[P]XT_ĀT^ĀT^^`PO$Ā
  - E^PĀL^Ā_SPĀ^_L]_TYRĀ[ZTY_ĀQZ]Ā_SPĀ?[P]L_TZY^Ā@WLYĀ DL^VĀ-!$Ā

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Task 6 – Environmental Compliance & Permitting

2Ā^`NNP^^Q`WĀCGC2@Ā]P\`T]P^ĀX`W_T[WPĀ[P]XT_^ĀQ]ZXĀXZ]PĀ_SLYĀZYPY NZX[WPcĀTY_P]LN_TZYĀMP_bPPYĀbL^_PbL_P]"ĀO]TYVTYRĀbL_P]"ĀLYOĀNLYL]P^$Ā DSP]PĀL]PĀQZ`]ĀXLUZ]ĀXTWP^_ZYP^ĀQZ]Ā[P]XT__TYRĀ9X[WPXPY_L_TZYĀ69B!"Ā (!ĀC`]QLNPĀGL_P]Ā2`RXPY_L_TZYĀ>L_TZYLWĀ@ZWW`_LY_Ā5T^NSL]RPĀ6WTXT >@56C!Ā@P]XT_"Ā)!ĀE[OL_POĀ5]TYVTYRĀGL_P]ĀD]PL_XPY_Ā@P]XT_Ā3Ā@P]XT

5T^[Z^LWĀ@P]XT_ĀZ]Ā2R]PPXPY_$Ā5P_LTWPOĀTYQZ]XL_TZYĀZYĀ]PRLLOTYRĀ_SPĀ[]ZUPN_ĀAĀA^TPĀ
^SZbYĀTYĀ7TR`]PĀ.$Ā2Ā^`XXL]dĀZQĀ]P\`T]POĀLN_TZY^ĀLYOĀ_SPĀ[]ZUPN_ĀT^Ā
[]ZaTOPOĀMPWZb$ĀĀ
Ā

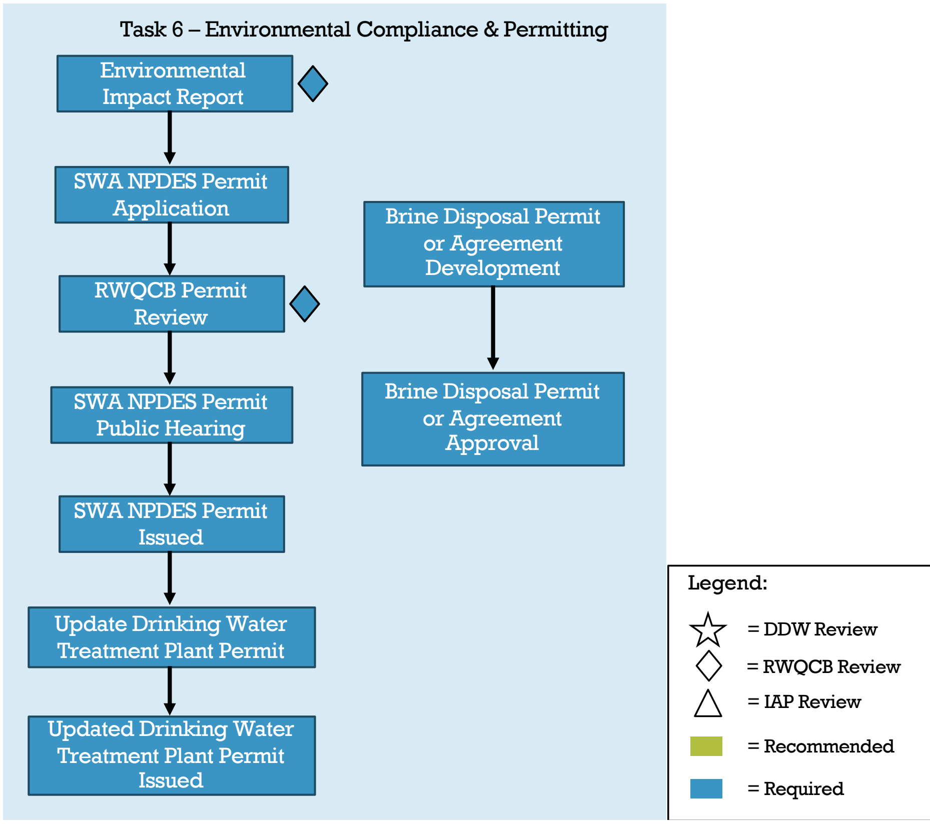

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Figure 8 – Summary of Task 6 milestones

Required actions

- ***Environmental Impact Report***Ā
  - 9QĀ_SPĀ[]ZUPN_ĀT^ĀOP_P]XTYPOĀ_ZĀSLaPĀYZĀ^TRYTQTNLY_ĀPQQPN_ĀZY PYaT]ZYXPY_"ĀLYĀ69BĀXLdĀYZ_ĀMPĀ]P\`T]PO$Ā8ZbPaP]"ĀTQĀ^`NSĀLYĀT[PLYĀ2G@7Ā^T_P"ĀLYOĀOT^NSL]RPĀZQĀbL_P]ĀLYOĀ]PXZ`LW^"ĀLYĀ69BĀbTWTVPWdĀMPĀ]P\`T]PO$ĀDSPĀ69BĀT^Ā]P\`T]POĀL^ĀL]PĀLĀ]PRTZYLWĀ9_ĀT^Ā^`RRP^_POĀ_SL_Ā_SPĀ69BĀMPĀOPaPWZ[POĀLaPLTWL^ĀLĀ^TRYTQTNLY_ OP^TRYĀZQĀ_SPĀ2G@7ĀTYĀZ]OP]Ā_ZĀLOP\`L_PWdĀOP^N]TMPĀ_SPĀ[]ZUPN_ĀZYĀ_SPĀPYaT]ZYXPY_ĀLYOĀXPL^`]P^ĀQZ]ĀXT_TRL_TZYĀLYOĀ[]PaPY_TZY$Ā BGA43ĀbTWWĀYZ_ĀT^^`PĀLYĀ>@56CĀ[P]XT_Ā`Y_TWĀ_SPĀ69BĀ[]ZNP^^ĀSL^ĀMPPYĀNZX[WP_PO$Ā
- ***SWA NPDES Permit Application***Ā
  - ?YNPĀ_SPĀ6YRTYPP]TYRĀBP[Z]_Ā Q]ZXĀDL^VĀ*!ĀSL^ĀMPPYĀQTYLWTePO"ĀbTWWĀYPPOĀ_ZĀOPaPWZ[ĀLYĀ>@56CĀ[P]XT_ĀL[[WTNL_TZYĀQZ]Ā_SPĀ[]ZUPN_ĀCG2Ā>@56CĀ[P]XT_ĀbTWWĀMPĀ^`PO_ZĀPYQZ]NPĀXLYdĀZQĀ_SPĀ]P\`T]PXPY_ _SPĀ2G@7ĀPQQW`PY_ĀQ]ZXĀ_SPĀCG2Ā]PR`WL_TZY^$Ā
- ***RWQCB Permit Review***Ā
  - DSPĀBGA43ĀbTWWĀ]PaTPbĀ_SPĀ>@56CĀ[P]XT_ĀL[[WTNL_TZYĀLYOĀMPRTYĀ O]LQ_Ā_SPĀ>@56CĀ[P]XT_$Ā

- ***SWA NPDES Permit Public Hearing***Ā
  - DSPĀBGA43ĀbTWWĀT^^`PĀLĀO]LQ_ĀZQĀ_SPĀ>5@6CĀ[P]XT_ĀLYOĀSZWOĀL NZXXPY_Ā[P]TZOĀL^ĀbPWWĀL^ĀLĀ[`MWTNĀSPL]TYR$
- ***SWA NPDES Permit Issued***
  - 7ZWWZbTYRĀ_SPĀ[`MWTNĀSPL]TYR"Ā_SPĀBGA43ĀbTWWĀT^^`PĀ_SPĀ>@56CĀ[P]XT_$
- ***Update Drinking Water Treatment Plant Permit***Ā
  - GSPYĀ_SPĀ>@56CĀ[P]XT_ĀT^ĀT^^`PO"Ā_SPĀ:@2Ā^SZ`WOĀZ]VĀbT_SĀ55GĀ_ `[OL_PĀ_SPĀO]TYVTYRĀbL_P]Ā_]PL_XPY_Ā[WLY_Ā[P]XT_ĀLYOĀ_SPĀZ[P]L_TYRĀ`YT_ _SPĀYPbĀ^Z`]NPĀbL_P]$
- ***Updated Drinking Water Treatment Plant Permit Issued***
  - GSPYĀ_SPĀ[]ZUPN_ĀT^Ā]PLOdĀQZ]Ā^_L]_#`["Ā55GĀbTWWĀ^PYOĀ_SPĀ`[OL_PĀLYOĀT^^]PaT^POĀO]TYVTYRĀbL_P]Ā_]PL_XPY_Ā[WLY_Ā[P]XT_$
- ***Brine Disposal Permit or Agreement Development***
  - DSPĀ2G@7ĀbTWWĀN]PL_PĀLĀM]TYPĀ^_]PLXĀ_SL_ĀbTWWĀYPPOĀ_ZĀMPĀOT^[Z^PO :@2ĀbTWWĀPT_SP]ĀYPPOĀLĀ[P]XT_Ā_ZĀOT^NSL]RPĀ_SPĀM]TYPĀZ]ĀbTWWĀ OPaPWZ[ĀLYĀLR]PPXPY_ĀbT_SĀLYZ_SP]ĀLRPYNdĀQZ]ĀM]TYPĀOT^[Z^LW$
- ***Brine Disposal Permit or Agreement Approval***
  - @]TZ]Ā_ZĀ[]ZUPN_Ā^_L]_#`["Ā_SPĀ:@2ĀbTWWĀYPPOĀ_ZĀZM_LTYĀLYĀL[[]ZaPOĀ OT^[Z^LWĀ[P]XT_ĀZ]ĀLR]PPXPY_$

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Task 7 – Operation Plan

DSPĀZ[P]L_TYRĀ[WLYĀT^ĀLĀaT_LWĀOZN`XPY_ĀQZ]ĀLYdĀ[]ZUPN_ĀQZ]ĀZ[P]L_TYRĀ]P\`T]POĀMdĀ_SPĀ]PR`WL_TZY^ĀLYOĀbTWWĀTYNW`OPĀZ[P]L_TZYĀLYOĀXLTY_PYLYNPĀZQĀ_SPĀCGC2@$Ā9QĀLĀ=ZYT_Z]TYRĀLYOĀ@P^[ZY^PĀ@WLYĀT^Ā DL^VĀ+!"ĀT_ĀNLYĀ[]ZaTOPĀLĀ^ZWTOĀQZ`YOL_TZYĀQZ]Ā_SPĀZ[P]L_TYRĀ[WLYĀQZ]ĀDL^VĀ-Ā^_P[^ĀL]PĀ^SZbYĀTYĀ7TR`]PĀ/"ĀLWZYRĀbT_SĀ_SPĀ^_P[^ĀTYĀ_SPĀ]P\`T]POĀN_TZY^Ā[P]_TYPY_Ā_ZĀ_SPĀ@`]PĀGL_P]ĀOPaPWZ[XPY_Ā[]ZNP^^$

Ā

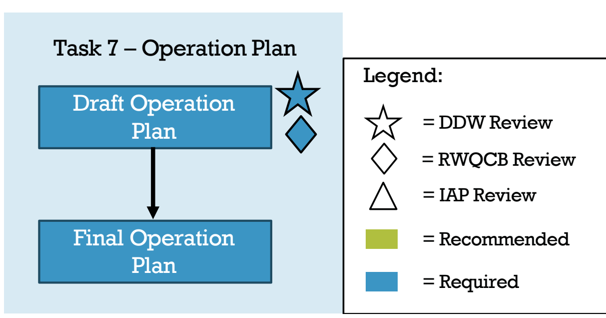

Figure 9 - Summary of Task 7 milestones

Required actions

- ***Draft Operation Plan***Ā
  - DSPĀ:@2ĀbTWWĀYPPOĀ_ZĀOPaPWZ[ĀLYĀZ[P]L_TZYĀ[WLYĀbT_SĀT^Ā[WLYĀbT _SPĀ6YRTYPP]TYRĀBP[Z]_Ā DL^VĀ*!"Ā=ZYT_Z]TYRĀLYOĀ@P^[ZY^PĀ@WLY LYOĀLYdĀ]P\`T]PXPY_^ĀQ]ZXĀ_SPĀ[P]XT_^ĀT^^`POĀQZ]Ā_SPĀ[]ZUPN_ĀD
  - DSPĀ[WLYĀbTWWĀTOPY_TQdĀLYOĀOP^N]TMPĀ_SPĀZ[P]L_TZYĀLYOĀXLTY_PYL XP_SZO^"ĀLYOĀXZYT_Z]TYRĀYPNP^^L]dĀ_ZĀXPP_Ā_SPĀ]P\`T]PXPY_^ĀZQĀ_ ]PR`WL_TZY^$ĀDST^ĀTYNW`OP^ĀLĀOP^N]T[_TZYĀZQĀ^_LQQTYRĀQZ]ĀPLNSĀ L_Ā_SPĀ2G@7"ĀLN_TZY^ĀQZ]ĀLWL]X^"ĀXZYT_Z]TYRĀQZ]ĀNLWTM]L_TZYĀLYOĀ Z_SP]ĀTX[Z]_LY_ĀL^[PN_^ĀZQĀZ[P]L_TZY$Ā

- o DSPĀ[WLYĀX`^_ĀLW^ZĀTYNW`OPĀLYĀZY#RZTYRĀ_ĀLT[PLYKĀ^ĀZR]LXĀQZ]Ā_ZQĀ_SPĀCGC2@$Ā
- o DSPĀ[WLYĀX`^_ĀMPĀ^`MXT__POĀ_ZĀ55GĀLYOĀ_SPĀBGA43ĀQZ]Ā]PaTPb$Ā

- ***Final Operation Plan***
  - o BPaT^PĀ_SPĀZ[P]L_TZYĀ[WLYĀML^POĀZYĀ55GĀLYOĀBGA43ĀNZXXPY_^$

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Recommended actions

DSPĀ]P\`T]POĀLN_TZY^ĀOPQTYPOĀLMZaPĀL]PĀPc[PN_POĀ_ZĀMPĀL^QZĀNTPY

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Task 8 – Construction, Start-Up and Commissioning

GSPYĀ_SPĀ2G@7ĀT^ĀNZY^_]`N_POĀLYOĀ]PLOdĀ_ZĀMPĀ^_L]_POĀ`[#ĀL_ĀZY]PĀ ^PaP]LWĀVPdĀ]P\`T]PXPY_^Ā_SL_ĀX`^_ĀMPĀXP_ĀMPQZ]PĀ_SPĀNZY^_]`N_POĀ 2WWĀZQĀ_SPĀ[P]XT_^ĀOT^N`^^POĀTYĀDL^VĀ,ĀX`^_ĀMPĀTY^_ĀLYOĀ_SPĀ LOaLYNPOĀ_PL_XPY_Ā[]ZNP^^PĀLNSTPaPĀ_SPĀ]P\`T]POĀ]PXZaLWĀTYĀZY^$Ā DSPĀDL^VĀ-Ā^_P[^ĀL]PĀ^SZbYĀTYĀ7TR`]PĀ'&"ĀLYOĀ]PĀLWWĀ]P\`T]POĀPYOPOĀ LN_TZY^ĀT^Ā[]ZaTOPOĀMPWZb$

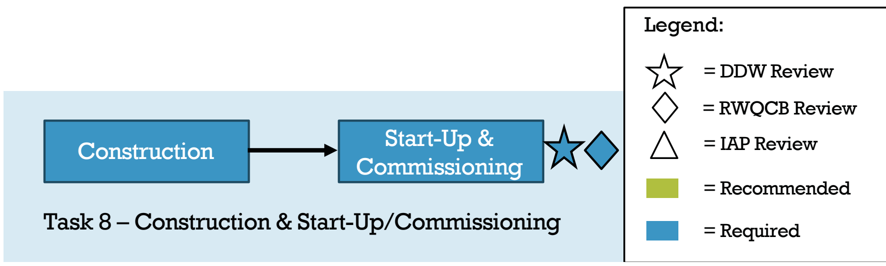

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Figure 10 - Summary of Task 8 milestones

Required actions

- DSPĀ:@2ĀX`^_ĀNZYO`N_ĀOPXZY^_]L_TZYĀ_P^_TYRĀ%&[P]TZOĀ_ZĀPaLW`L_PĀLYO L_Ā_SPĀ2G@7Ā_ZĀaLWTOL_PĀ_SPĀ_]PL_XPY_Ā[]ZNP^^PĀLYOĀQZ]Ā_SPĀLNS ]P\`T]POĀ[L_SZRPYĀWZR#]PO`N_TZY^ĀLYOĀL_ĀWPL^_ĀZYPĀ_ZĀ2ZY _P^_TYRĀ[]Z_ZNZWĀLYOĀ^`M^P\`PY_Ā]P^`W_^ĀX`^_ĀMPĀ^`MXT__POĀ_S L[[]ZaLWĀLYOĀ^SZ`WOĀLW^ZĀTYNW`OPĀLĀaLWTOL_TZYĀ]P[Z]_ĀQZ]ĀPLNSĀZY `^POĀQZ]ĀNZY_TY`Z`^ĀXZYT_Z]TYR$Ā
- 7Z]Ā_SPĀB?Ā[]ZNP^^"Ā_SPĀ:@2ĀX`^_Ā[]Z[Z^PĀZY#RZTYRĀXZYT_Z]TYRĀ_S L_ĀWPL^_ĀZYPĀL[[]ZaPOĀNZY^_T_`PY_Ā_SL_ĀNLYĀMPĀ^SZbYĀ_ZĀ_SPĀTY XPXM]LYPĀSL^ĀMPPYĀNZX[]ZXT^PO$Ā

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Recommended actionsĀ

- @]TZ]Ā_ZĀZ[P]L_TZY"ĀT_ĀT^Ā]PNZXXPYOPOĀ_SL_Ā_SPĀ2G@7ĀLYOĀ]PXZaLWĀNZX _P^_TYRĀ_ZĀOPXZY^_]L_PĀ_SPĀ[P]QZ]XLYNPĀZQĀPLNSĀ`YT_Ā[]ZNP^^$ĀĀ
- DSPĀ[]ZUPN_Ā^SZ`WOĀSLaPĀLĀ[SL^POĀ^_L]_#`[Ā[WLYĀ_SL_ĀTYNW`OP^ĀbL]X`[ ]LX[TYRĀ`[Ā_SPĀQWZbĀ]L_PĀLYOĀOPXZY^_]L_TYRĀNZX[WTLYNPĀbT_SĀPLNS

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Task 9 - Operation and Monitoring

7ZWWZbTYRĀ_SPĀ^_L]_#`[ĀLYOĀNZXXT^^TZYTYRĀZQĀ_SPĀ2G@7ĀZ[P]L_TYRĀ [SL^PĀbTWWĀNZXXPYNP$ĀDST^Ā_L^VĀbTWWĀNZY_TY`PĀLWWĀZQĀ_SPĀ]P\`T]POĀ XZYT_Z]TYRĀOP_LTWPOĀLYOĀLR]PPOĀTYĀ_SPĀZ[P]L_TZYĀ[WLYĀLYOĀL]PĀ

TYOTNL_POĀTYĀ7TR`]PĀ"$Ā2Ā^`XXL]dĀZQĀ]P\`T]POĀLYOĀ_PNZXXPYOPOĀ_L^V^ĀQZ]ĀTLaTRL_TZYĀ@]ZUPN_Ā
T^Ā[]ZaTOPOĀMPWZb$Ā
Ā

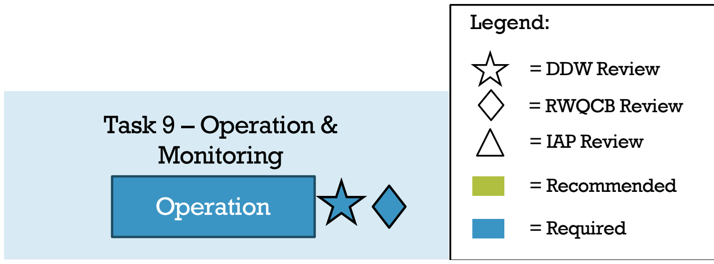

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Figure 11 - Summary of Task 9 milestones

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Required actions

- ***Operation***
  - 7ZWWZbĀ_SPĀ2G@7ĀZ[P]L_TZY^Ā[WLYĀ]PaTPbPOĀLYOĀL[[]ZaPOĀMdĀ55G$Ā
  - GT_STYĀ,ĀXZY_S^ĀZQĀZ[P]L_TZY"Ā_SPĀSdO]ZOdYLXTNĀXZOPWĀZQĀ_SPĀ] X`^_ĀMPĀNZYQT]XPOĀ_S]Z`RSĀLĀ^PNZYOĀ_]LNP]ĀĀDLd'VĀ($ĀOP_LTWPOĀTY
  - @]ZNPPOĀbT_SĀXZY_SWdĀXZYT_Z]TYRĀZQĀ<FBĀQZ]ĀĀNZ]TPPĀ^Ā_SLYĀ(*ĀN XZY_S^ĀL_Ā_SPĀ^LX[WPĀWZNL_TZY^ĀTYT_TLWWdĀOPĀMdĀWT^SPOĀLYOĀL[55G"ĀL^ĀOP_LTWPOĀTYĀDL^VĀ($Ā2Q_P]ĀNZX[WP_TZYĀZQĀ_SPĀ(*ĀNZY^PN XZY_S^ĀZQĀ]P^P]aZT]ĀXZYT_Z]TYRĀO`]TYRĀZ[P]L_TZYĀTZWĀ_SPĀ:@2ĀXLdĀL[ 55GĀQZ]Ā]PO`NPOĀXZYT_Z]TYR$ĀBPO`NPOĀXZYT_Z]TYRĀXLdĀMPĀYZĀWP^ dPL]Wd$ĀĀ
  - GT_STYĀ,&ĀOLd^ĀZQĀNZX[WP_TYRĀ_SPĀQT]^_Ā'(ĀXZY_S^ĀZQĀQ`WW#^NLW XZYT_Z]TYRĀZQĀ_SPĀQ`WWĀLOaLYNPOĀ_]PL_XPY_ĀLĀ]PZ]_Ā@2ĀX`^_Ā^`MXT _SPĀ55GĀLYOĀBGA43ĀTYNW`OTYRĀ]P^`W_^ĀQ]ZXĀ'!Ā_SPĀ^]]ZRL_PĀLYO% Z[P]L_TZYLWĀ[L]LXP_P]ĀXZYT_Z]TYR"Ā(!ĀOP^N]T[QTZYĀZQĀPQQTNLNdĀZ ^`]]ZRL_PĀ_ZĀ]PQWPN_Ā_SPĀ]PO`N_TZYĀN]T_P]TZYĀZQĀ"*#OTZcLYPĀLYO XPXM]LYPĀTY_PR]T_d"ĀLYOĀ)!ĀLN_TZY^Ā_LVPYĀTQĀQLTW`]PĀSL^ĀZNN`]]
  - 4ZYO`N_ĀXZY_SWdĀ^LX[WTYRĀZQĀ2G@7ĀPQQW`PY_Ā`YOP]ĀYZ]XLWĀZ[P]L LYOĀ^`MXT_ĀT_ĀQZ]ĀLYLWd^T^ĀZQĀNSPXTNLW^ĀLYOĀNZYOĀLXTYLY_^ĀbT ><^ĀOP^N]TMPOĀTYĀDLMWP^Ā2'ĀLYOĀ2*$ĀBPO`N_TZYĀZQĀXZYT_Z]TYRĀQ YZĀWP^^Ā_SLYĀ\`L]_P]Wd!ĀNLYĀMPĀ]P\`P^_POĀLQ_P]Ā_SPĀQT]^_Ā'(ĀN XZY_S^ĀYZĀ=4<ĀZ]Ā><ĀbL^ĀPcNPPOPO$
    - 9QĀLĀ]P^`W_ĀPcNPPO^ĀLĀNZY_LXTYLY_i^Ā=4<ĀZ]ĀLN_TZYĀWPaPW"Ā CGC2@ĀbL_P]Ā]PNdNWTYRĀLRPYNdĀ GB2!ĀX`^_ĀNZWWPN_ĀLYZ_SP]Ā ^LX[WPĀbT_STYĀ-(ĀSZ`]^ĀZQĀYZ_TQTNL_TZYĀZQĀĀSPĀ]P^`W_ĀLYOĀ LYLWdePOĀQZ]Ā_SPĀNZY_LXTYLY_ĀL^ĀNZYQT]XL_TZY$Ā9QĀPcNPPO NZYQT]XPO"Ā:@2ĀX`^_ĀYZ_TQdĀ_SPĀ55GĀLYOĀBGA43ĀbT_STYĀ(*Ā SZ`]^ĀLYOĀTYT_TL_PĀbPPVWdĀXZYT_Z]TYRĀ`Y_TWĀXZ]PĀANZY^PN`_]P^`W_^ĀL]PĀMPWZbĀ_SPĀNZY_LXTYLY_i^Ā=4<ĀZ]ĀLN_TZYĀWPaPW$Ā
    - >Z_TQdĀ_SPĀ55G"ĀTQĀ_SPĀL[[WTNLMWPĀ[L_SZRPYĀ]PO`N_TZYĀT^ĀY ML^POĀZYĀ_SPĀZY#RZTYRĀXZYT_Z]TYRĀ]P\`T]POĀbT_STYĀ(*ĀSZ`]^ĀZ VYZbWPORPĀZQĀLYĀZNN`]]PYNP$Ā:@2ĀX`^_ĀTYaP^_TRL_PĀ_SPĀNL`^P TYT_TL_PĀNZ]]PN_TaPĀLN_TZY^$ĀĀ
    - >Z_TQdĀ_SPĀ55G"ĀBGA43"ĀLYOĀGP^_WLVPĀ7@ĀTQĀ_SP]PĀT^ĀLĀQLT XPP_Ā_SPĀ[L_SZRPYĀ]PO`N_TZYĀN]T_P]TLĀWZYRP]Ā_SLYĀ*ĀNZY^PN` SZ`]^ĀZ]ĀXZ]PĀ_SLYĀLĀ_Z_LWĀZQĀ.ĀSZ`]^ĀO`]TYRĀLYdĀ-#OLdĀ[P]TZ

- 7LTW`]P^ĀZQĀ^SZ]_P]ĀO`]L_TZYĀX`^_ĀMPĀ]P[Z]_POĀ_ZĀ_SPĀBGA43ĀY WL_P]Ā_SLYĀ'&ĀOLd^ĀLQ_P]Ā_SPĀXZY_SĀTYĀbST NSĀ_SPĀQLTW`]PĀZ

  - 3dĀ:`WdĀĀZQĀPLNSĀdPL]"Ā:@2ĀX`^_Ā^`MXT_ĀLĀ]P[Z]_Ā_ZĀ_SPĀ55GĀLYOĀ BGA43ĀTYNW`OTYR0Ā '!Ā_SPĀNZX[WTLYNPĀ^_L_`^ĀbT_SĀ_SPĀXZYT_Z]TYRĀ ]P\`T]PXPY_^"Ā (!ĀLYdĀaTZWL_TZY^ĀOL_P"ĀO`]L_TZY"ĀLYOĀNL`^P!ĀLY _LVPYĀNZ]]PN_TZYĀZ]Ā^`^[PY^TZYĀZQĀOPWTaP]dĀZQĀ]PLNYLYRP^ĀT ZQĀLYdĀ^YT_Ā[]ZNP^^P^"ĀO`]TYRĀ[]PaTZ`^ĀNLWPYOL]ĀdPL]"ĀLYOĀ *!ĀO LY_TNT[L_POĀNSLYRP^ĀTX[LN_ĀZQĀLW_P]L_TZY!$Ā

Recommended actions

DSPĀ]P\`T]POĀLN_TZY^ĀOPQTYPOĀLMZaPĀL]PĀPc[PN_POĀ_ZĀMPĀ^`QQTNTPY

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3. Conclusions

DSPĀ[L_SbLdĀ^SZbYĀTYĀ7TR`]PĀ(Ā^SZ`WOĀL^^T^_Ā_SPĀ:@2ĀTYĀ^PN`]TYRĀ_ZĀ RLTYĀ]PR`WL_Z]dĀL[[]ZaLWĀQZ]Ā@`]PĀGL_P]ĀL^ĀLĀAZ_LMWPĀGL_P]ĀB^PĀ OT^N`^^POĀTYĀCPN_TZYĀ("ĀLWZYRĀbT_SĀ_SPĀ]PWPaLY_Ā]PR`WL_Z]dĀ]P\`T]PXPY_^ĀTXLYRĀ T^Ā[]ZaTOPOĀTYĀDLMWPĀ($Ā2^ĀYZ_POĀ[]PaTZ`^WdĀTYĀ_STAĀ]PZ]_ĀLSL^Ā MPPYĀ[P]XT__POĀdP_"Ā^ZĀ_ST^Ā[]ZNP^^ĀT^Ā^`MUPN_Ā_ZĀNSLYRPĀL^ĀXLW OP_P]XTYPĀSZbĀ_ZĀMP^_ĀPYQZ]NPĀ_SPĀ]P\`T]PXPY_^$ĀAZ_TNPĀZQĀTYOPOĀ_SL_Ā _SPĀ:@2ĀNWZ^PWdĀXZYT_Z]Ā_SPĀ[]ZR]P^^ĀZQĀZ_SP]Ā^`NSĀ[]ZUPN_^ĀTYĀ_SPĀ ^_L_PĀ_ZĀNZY_TY`PĀ_ZĀWPL]YĀQ]ZXĀ_SPT]Ā[P]XT__TYRĀ[]ZNP^^ĀLYOĀ`Y ^`NNP^^Q`WWdĀTY_P]LN_ĀbT_SĀ]PR`WL_Z]^Ā_S]Z`RSZ`_Ā_SPĀ@`]PĀGL_P]

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Table 2 – Checklist for the Pure Water Action Plan

Action		Reference	Timing
Reservoir Modeling and Model Validation	Establish hydrodynamic model for LVR.	Title 22 CCR Article 9 §64668.30 (c)	Prior to augmentation of LVR
	Convene IAP to evaluate modeling.	Title 22 CCR Article 9 §64668.30(f)	After hydrodynamic model is established.
	Develop Tracer Study Protocol #1. Present protocol to IAP, DDW, RWQCB for review.		Prior to Tracer Study #1.
	Perform Tracer Study #1	Title 22 CCR Article 9 §64668.30 (c)	After Tracer Study Protocol #1 review.
	Calibrate and validate model using results from Tracer Study #1. Engage IAP and DDW for review.	Title 22 CCR Article 9 §64668.30 (c)	After Tracer Study #1.
	Run calibrated model to assess compliance with dilution and TRT requirements.	Title 22 CCR Article 9 §64668.30 (c)	After Tracer Study #1 and model validation. Compliance requirements will be used in Engineering Report and AWPF design.
	Develop Tracer Study Protocol #2 and submit to DDW for written approval	Title 22 CCR Article 9 §64668.30 (d)	Within 6 months of AWPF start-up.
	Perform Tracer Study #2 under normal operations, post-augmentation.	Title 22 CCR Article 9 §64668.30 (d)	Within 6 months of AWPF start-up, after Tracer Study Protocol #2 review.
	Validate model using Tracer Study #2 results.	Title 22 CCR Article 9 §64668.30 (d)	Following completion of Tracer Study #2.
Reservoir Monitoring	Identify monitoring locations and submit to DDW for approval.	Title 22 CCR Article 5.3 §60320.326 (a)	Include monitoring location information in Engineering Report
	Complete monthly monitoring #1 (prior to LVR augmentation) from DDW-approved locations.	Title 22 CCR Article 5.3 §60320.326 (a)	After DDW approves monitoring locations and prior to augmentation of LVR, for at least 24 consecutive months.
	Complete monthly monitoring #2 (following LVR augmentation) from DDW-approved locations.	Title 22 CCR Article 5.3 §60320.326 (c)	Initiate with start of full-time operation of AWPF, for at least 24 consecutive months.
	Submit application to DDW to reduce frequency of LVR monitoring, based on results from initial 24-month monitoring effort post-augmentation.	Title 22 CCR Article 5.3 §60320.326 (d)	After completion of 24-month monitoring program #2, post-augmentation.
	Build demonstration-scale AWPF.		Prior to design of the full-scale AWPF

Action		Reference	Timing
Demonstration Study (recommended to facilitate approval process with DDW and RWQCB)	Develop test plan for demonstration testing and submit to DDW and RWQCB.	This is one option for demonstrating technical, managerial, and financial capability required per Title 22 CCR Article 5.3 §60320.301 (b).	Prior to design of the full-scale AWPF
	Operate facility and complete demonstration testing.		After test plan is approval by DDW and RWQCB.
	Develop final report with operations and testing results. Submit to DDW, RWQCB, and IAP for review.		After demo-scale demonstration testing.
AWPF Design	Preliminary Design (recommended to engage DDW throughout design process)		Initiated upon conclusion of demonstration testing, with results and findings incorporated.
	30% Design		After preliminary design. This will be used as basis for initial draft of Engineering Report and Environmental Impact Report (assumes DBB procurement).
	60% Design (submit to DDW for review)		After 30% design.
	100% Design		After 60% design.
Engineering Report	Develop ER draft #1 (regular communication with DDW recommended). Share draft with all relevant stakeholders.	Title 22 CCR Article 7 §60323	After development of 30% design (assumes DBB procurement).
	Develop ER draft #2 and submit to DDW for review.		After ER draft #1.
	Submit Joint Plan to DDW and RWQCB.	Title 22 CCR Article 5.3 §60320.301	After ER draft #1.
	Develop ER draft #3, incorporating comments from draft #2. Submit to DDW for review.		After ER draft #2.
	Facilitate at least 3 public hearings with DDW participation. Prepare hearing information and submit to DDW for approval.	Title 22 CCR Article 9 §64668.20	After DDW approval of engineering report (draft #3). Prior to hearings, DDW-preapproved hearing information must be posted on JPA website for ≥30 days.

Action		Reference	Timing
	Complete Final ER, incorporating any comments from public hearings.		After 3 public hearings. This document will be basis for DDW to issue conditional approval letter for project.
Monitoring and Reporting Plan (recommended for communicating compliance with DDW and RWQCB)	Develop draft Monitoring and Reporting Plan. Submit to DDW and RWQBC for review.		After ER draft #3.
	Complete Final Monitoring and Reporting Plan, incorporating comments from DDW and RWQCB.		After Draft Monitoring and Reporting Plan. This will provide starting point for the Operations Plan.
Environmental Compliance and Permitting	Establish and administer industrial pretreatment and pollutant source control program.	Title 22 CCR Article 5.3 §60320.306	Upon establishing SWSAP
	Develop Environmental Impact Report and submit to RWQCB.	Title 14 CCR, Division 6, Chapter 3	Initiate concurrently with 30% Design.
	Develop SWA NPDES permit application.		After Engineering Report and Environmental Impact Report have been finalized.
	Submit SWA NPDES permit application to RWQCB.		After SWA NPDES permit application is complete.
	Conduct public hearing with RWQCB and address comments related to draft NPDES permit.		After RWQCB review of NPDES permit application.
	Develop brine discharge permit or disposal agreement.		Prior to startup and commissioning.
	Update Westlake Domestic Water Supply Permit with DDW.	Title 22 CCR Article 9 §64668.20	After NPDES permit is issued
Operation Plan	Develop Draft Operation Plan and submit to DDW and RWQCB.	Title 22 CCR Article 5.3 §60320.322	After Final Monitoring and Reporting Plan.
	Complete Final Operation Plan, incorporating comments from DDW and RWQCB.		After Draft Monitoring and Reporting Plan. Prior to start-up of AWPF.
	Begin construction of full-scale AWPF.		After 100% design.

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Action		Reference	Timing
Construction, Start-Up, and Commissioning of Full-Scale AWPF	Develop protocol for demonstration testing to validate treatment processes and demonstrate performance (recommended). Submit to DDW for approval.	Title 22 CCR Article 5.3 §60320.308 (b)	Before start-up and commissioning of AWPF
	Conduct demonstration testing per DDW-approved protocol and confirm required pathogen log-reductions. Submit results to DDW and RWQCB.		After demonstration testing protocol approved by DDW. Prior to start-up of AWPF.
Full-Scale AWPF Operation, Monitoring, and Reporting	Follow approved Final Operation Plan.		After Final Operation Plan is approved and following start-up of AWPF.
	Follow Final Monitoring and Reporting Plan.		After Final Monitoring and Reporting Plan is approved and following start-up of AWPF.
	Submit report to DDW and RWQCB with results of surrogate and/or operational parameter monitoring, including reduction of 1,4-dioxane and RO membrane integrity.	Title 22 CCR Article 5.3 §60320.302(c)	Within 60 days of completion of initial 12 months full-scale AWPF operational monitoring.
	Prepare annual report with compliance status, violations and actions taken, operational changes, and anticipated changes. Submit to DDW and RWQCB.	Title 22 CCR Article 5.3 §60320.328	Annually after start-up of AWPF. Submit report by July 1st of each year.

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4. References

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Appendix A – Regulatory Background

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Table A1 - Summary of Regulatory Criteria and Requirements for SWA Applications

	Public Health Criteria	Environmental Discharge
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A.1 Surface Water Augmentation Regulations

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A.1.1 Dilution Criteria

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more than 1% (100:1 dilution) or 10% (10:1 dilution) of recycle

A.1.2 Theoretical Retention Time (TRT) Criteria

A.1.3 Treatment Criteria

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Table A3 - Pathogens log-reduction requirements for SWSAP

Dilution	TRT (days)	Log Removal Credit (V/G/*C*) WRF/ AWPF	Log Removal Credit (V/G/*C*) Total (including DWTP)	Treatment Processes	Additional Information
For 1% by volume of recycled water delivered to the surface water reservoir during any 24-hour period (100:1)	p+2*Ā	2)1)2Ā	+,)+*)+*Ā	JeXTg`XagĀ`hfgĀUXĀ cebi\WXWĀUlĀTgĀ_XTfgĀ **two**ĀfXcTeTgXĀgeXTg`XagĀ cebVXffXf&ĀXTV[Ā TV[\Xi\aZĀpĀ+'_bZĀ eXWhVg\ba&Āj\g[ĀoĀ0'_bZĀ VeXW\gĀYbeĀTalĀcebVXff(Ā	"Ā
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For 10% by volume of recycled water delivered to the surface water reservoir during any 24-hour period (10:1)	p+2*Ā	3)2)1Ā	+-)++)++Ā	JeXTg`XagĀ`hfgĀUXĀ cebi\WXWĀUlĀTgĀ_XTfgĀ **three**ĀfXcTeTgXĀ geXTg`XagĀcebVXffXf&Ā XTV[ĀTV[\Xi\aZĀpĀ+'_bZĀ eXWhVg\ba&Āj\g[ĀoĀ0'_bZĀ VeXW\gĀYbeĀTalĀcebVXff(Ā	"Ā
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A.1.4 Source control

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A.1.5 Reservoir and Water Quality Monitoring

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Table A4 - Product Water Quality Goals for SWSAP

Parameter	Units	Requirement	Basis
Primary Drinking Water Standards	"Ā	6C:BĀ	J\g_XĀ,,Ā;MĀ::H$Ā
Secondary Drinking Water Standards	"Ā	6fC:BĀ	
NL contaminants	"Ā	6DBĀ	
Total Organic Carbon	`Z)BĀ	6*(/Ā	J\g_XĀ,,Ā::HĀ 8eg\V_XĀ/(-Ā
1,4 Dioxane	BbZĀJeXTg`XagĀj\g[Ā 8EFĀ	7*(/Ā	J\g_XĀ,,Ā::HĀ 8eg\V_XĀ/(-Ā

NDMA	aZ)BĀ	*(03Ā	:T_\Ybea\TĀJbk\VfĀ Hh_XĀ
Nitrogen, total**	`Z)BĀ	6+*(*Ā	CT_\UhĀ:eXX^Ā MTgXef[XWĀMTgXeĀ GhT_\glĀEU]XVg\iXfĀĀ
Total Dissolved Solids	`Z)BĀ	6,***Ā	
Sulfate	`Z)BĀ	6/**Ā	
Chloride	`Z)BĀ	6/**Ā	
Boron	`Z)BĀ	6,Ā	
Chlorine Residual	`Z)BĀ	6*(+Ā	

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Table A5 - DDW Compliance Monitoring

DDW Compliance Monitoring Category	Monitoring Frequency
Primary Maximum Contaminant Levels (pMCLs) and Actions Levels	Monthly
Secondary Maximum Contaminant Levels (sMCLs)	Annual
Notification Levels	Monthly
Priority Toxic Pollutants	Quarterly
DDW-Specified Chemicals	Quarterly
DDW and RWQCB-Specified Indicator Compounds	Annual

A.1.6 General Requirements

J[XĀaXjĀeXZh_Tg\bafĀT_fbĀcebi\WXĀZXaXeT_ĀeXdh\eX`XagfĀYbeĀcbg]FVgĀ`hfgĀ fhU`\gĀTĀ]b\agĀc_TaĀUXgjXXaĀg[XĀeX_XiTagĀMTgXeĀKXfbheVXĀ8bagebaĀFhU_\VĀ MTgXeĀIlfgX`fĀ"FMIf#ĀgbĀg[XĀ;;MĀTaWĀHMG:9ĀgbĀUXĀeXiXjXWĀTaWĀTccebiXWĀ TccebiT_ĀYbeĀg[XĀceb]XVg(ĀJ[XĀ]b\agĀc_TaĀfhU`\ggXWĀUlĀFXYĀTfĀbeXVg\iXĀTVg\bafĀ \aĀg[XĀXiXagĀbYĀYT\_heXĀgbĀ`XXgĀjTgXeĀdhT_\glĀeXdh\eX`XagfĀTaWĀV[TaZXfĀ g[TgĀ`TlĀTWiXefX_lĀ\`cTVgĀg[XĀdhT_\glĀbYĀg[XĀeXWhVXWĀjTgXeĀTaWĀMH=ĀgbĀ UXĀhfXWĀ\aĀThZ`XagTg\baĀbYĀBLH(ĀFe\beĀgbĀWXf\ZaĀTaWĀbcXeTg\baĀbYĀF8Ā f[bh_WĀT_fbĀWX`bafgeTgXĀTWXdhTgXĀY\aTaV\T_&Ā`TaTZXeT_&ĀTaWĀgXV[a\VT_ĀeXZh_TgbelĀVb`c_\TaVX(ĀJ[XĀ_TggXeĀVTaĀUXĀTVVb`c_\f[XWĀg[ebhZ[ĀTaWĀ bcXeTg\baĀbYĀTĀWX`bafgeTg\ba'fVT_XĀ8MF=ĀYheg[XeĀWXfVe\UXWĀ\aĀIX
Ā

A.2 Surface Water Quality Standards

A.2.1 California Toxic Rule and Priority Toxic Pollutants

J[XĀ:T_\Ybea\TĀJbk\VfĀHh_XĀ":JH#ĀqĀceb`h_ZTgXWĀUlĀg[XĀ4Ā8ĀaĀ*f[XfĀjTgXeĀ dhT_\glĀVe\gXe\TĀYbeĀgbk\VĀcb__hgTagfĀTaWĀbg[XeĀjTgXeĀfheYTVXĀ jTgXefĀTaWĀXaV_bfXWĀUTlfĀTaWĀXfghTe\XfĀ\aĀ:T_\Ybea\TĀHXZh_Tg\bafĀQ:=HRĀ +-+(-2#(ĀJ[XĀ:JHĀ\fĀ\agXaWXWĀYbeĀcebgXVg\baĀbYĀTdhTg\VĀ_\YXĀTaWĀ[hU_\V "n0*-,*(-,*#ĀeXdh\eXfĀg[TgĀg[XĀeXV\V_XWĀ`ha\V\cT_ĀjTgXeĀTaWĀTYZ`XagXWĀ eXfXeib\eĀUXĀTaT_lmXWĀdhTegXe_lĀYbeĀg[XĀce\be\glĀgbk\VĀcb__hgTagfĀ Tcc_\VTg\baf&Āg[XĀ:JHĀWX_\`\gfĀfXiXeT_ĀV[X`\VT_fĀj\g[ĀVbhag\afĀ VbaVXageTg\baĀVe\gXe\T&ĀTfĀjX__ĀTfĀ_\`\gfĀYbeĀbg[XeĀcebcXegXfĀh`TaĀ[XT_g[Ā "+*0Āe\f^ĀYbeĀVTeV\abZXaf#(ĀJ[XĀ:JHĀfgTaWTeWfĀTeXĀcaXfXagXWĀ\aĀ:X(ĀĀ

A.2.2 National Pollutant Discharge Elimination System (NPDES) Permit

J[XĀDF;<IĀcXe`\gĀcebZeT`ĀjTfĀVeXTgXWĀ\aĀ+31,ĀUlĀg[XĀ8Xg&ĀTaWĀceXfXagfĀce\`TelĀ ZbT_Ā\fĀgbĀ[X_cĀ`\g\ZTgXĀjTgXeĀcb__hg\baĀUlĀeXZh_Tg\aZĀcb\agĀfbheVXfĀg[TeZXĀ\agbĀ jTgXefĀbYĀg[XĀKa\gXWĀIgTgXf(ĀJ[XĀeX_XTfXĀbYĀ\aĀjTgXefĀg[TgĀYTVXĀ jTgXefĀ\fĀeXZh_TgXWĀ\aĀ:T_\Ybea\TĀUlĀg[XĀHMG:9fĀg[ebhZ[ĀDF;< ;\fV[TeZ\aZĀYTV_\g\XfĀ`hfgĀceXcTeXĀTaĀTcc_\VTg\baĀYbeĀDF;<IĀce\beĀgbĀ bUgT\a\aZĀTaĀDF;<IĀcXe`\g(ĀJ[XĀcXe`\gĀ[TfĀeXdh\eX`XagfĀTaWĀTaWTeWfĀ g[TgĀ\`c_X`XagĀ"+#Ā9Tf\aĀF_TaĀcb_\V\XfĀTaWĀbU]XVg\iXfĀTaWĀ"-5Ā",#ĀjTgXeĀ dhT_\glĀfgTaWTeWfĀXfgTU_\f[XWĀj\g[\aĀ:JHĀ".*Ā:=HĀ+-#(ĀJ[XĀTaWĀXĀfgTgXĀTaWĀ YXWXeT_ĀjTgXeĀdhT_\glĀc_TafĀTaWĀcb_\V\XfĀ"X(Z(&ĀJ[XĀ:T_\Ybea\TĀDF;<IĀ cXe`\gĀ[b_WXefĀ`TlĀUXĀeXdh\eXWĀgbĀ`ba\gbeĀTaWĀeXcbegĀbaĀg[XĀ_XiX_Ā g[TgĀTeXĀW\fV[TeZXWĀgbĀg[XĀfheYTVXĀjTgXe(ĀIhV[ĀeXdh\eX`XagfĀTeXĀbhg_\aXWĀ\aĀ `TaWTgbelĀW\fV[TeZXĀ`ba\gbe\aZĀeXcbegfĀ";CHf#(Ā

:heeXag_l&Āg[XĀAF8Ā`T\agT\afĀTaĀDF;<IĀcXe`\gĀYbeĀW\fV[TeZ\aZĀgbĀCT_\UhĀ :eXX^ĀTaWĀg[XĀBbfĀ8aZX_XfĀH\iXe(Ā?bjXiXe&Ā\gĀ\fĀ`TlĀUXĀcbff\U_XĀgbĀYeb`Ā DF;<IĀcXe`\gg\aZĀhaWXeĀg[XĀFheXĀMTgXeĀFeb]XVgĀTfĀ\gĀ\fĀVheeXagWXĀ sjTgXeĀbYĀg[XĀKa\gXWĀIgTgXft(ĀJ[XĀ`XTa\aZĀbYĀg[XĀ`XTa\aZĀXĀ8VgĀ "<F8&Ā,*+2#ĀTf4ĀsaTi\ZTU_XĀjTgXef&Āge\UhgTe\XfĀbYĀaTi\ZTU_XĀjTgXef&Āg[XĀ bVXTafĀbhgĀgbĀ,**Ā`_Xf&ĀTaWĀ\ageTfgTgXĀjTgXefĀj\g[ĀTĀX_XefĀYbeĀ eXVeXTg\baĀbeĀbg[XeĀchecbfXf&ĀTfĀTĀfbheVXĀbYĀYbbWĀbeĀTfĀVb``XeVX&Ā beĀYbeĀ\aWhfge\T_ĀchecbfXfĀUlĀ\aWhfge\XfĀXaZTZXWĀ\aĀ\agXefgTgXĀ TffXff`XagĀ`TlĀUXĀaXXWXWĀgbĀWXgXe`\aXĀj[Xg[XeĀbeĀabgĀ\fĀVXegTXeĀgbĀ BLHĀjbh_WĀeXdh\eXĀTaĀDF;<IĀcXe`\g(ĀĀ

A.3 Source Water Regulations

A.3.1 Watershed Sanitary Survey

J[XĀMTgXef[XWĀITa\gTelĀIheiXlĀ"MII#Ā\fĀ`TaWTgXWĀj\g[\aĀg[XĀIheYTVXĀMTgXeĀ JeXTg`XagĀHh_XĀ"IMJH#Ā\aĀg[XĀ:T_\Ybea\TĀ::HĀJ\g_XĀ,&Ā;\i\f\baĀ+1&Ā8eg\V_XĀ 1&ĀIXVg\baĀ0.00/ĀTaWĀVbaf\fgfĀbYĀTĀeXi\XjĀbYĀg[XĀfXafĀgbĀg[XĀfhcc_lĀfTYXĀ We\a^\aZĀjTgXeĀgbĀg[XĀfXei\VXĀTeXT(ĀJ[XĀeXZh_Tg\baĀeXdh\eXfĀVbaWhVgXWĀ `\a\`T__lĀXiXelĀY\iXĀlXTefĀ"::H&Ā,*+0#(ĀJ[XĀBTfĀL\eZ\a\TĀMHIĀ\fĀceXcTeXWĀ UlĀBLCM;(Ā

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A.3.2 Drinking Water Source Assessment and Protection

J[XĀ\`c_X`XagTg\baĀbYĀTĀIbheVXĀMTgXeĀ8ffXff`XagĀFebZeT`ĀWĀYbeĀg[XĀ WXiX_bc`XagĀbYĀTĀWe\a^\aZĀjTgXeĀfbheVXĀUlĀg[XĀYaZĀMTgXeĀIXVg;e\a "I;M8#&ĀIXVg\baĀ+./-Ā"Ka\gXWĀIgTgXfĀ<ai\eba`XagT_ĀFebgXVg\baĀ*&Z(Ā :T_\Ybea\TĀ`T\agT\afĀg[XĀ;e\a^\aZĀMTgXeĀIbheVXĀ8ffXff`XagĀMeBZ#&Āj[\V[Ā eXdh\eXfĀFMIĀgbĀ\aiXagbelĀcbff\U_XĀVbagT`\aTg\aZĀTVg\i\g\XfĀTaĀVbage\UhgXĀgbĀ g[XĀcbff\U_XĀeX_XTfXĀbYĀ`\VebU\b_bZ\VT_ĀbeĀV[X`\VT_ĀVbagT`\aTagĀ\aXTgXWĀ TeXTĀbYĀg[XĀWe\a^\aZĀjTgXeĀfbheVX(ĀJ[XĀfbheVXĀTaWĀgheXĀTffXffĀgbĀaV_hWXĀ g[XĀWXgXe`\aTg\baĀbYĀg[XĀF:8fĀgbĀj[\V[Āg[XĀWe\a^\aZĀjTgXeĀfbheVXĀ`bfgĀ ih_aXeTU_X(ĀKcWTgXfĀTeXĀeXdh\eXWĀj[XaĀTalĀV[TaZXfĀTeXĀ`TWXĀgbĀ bVVheĀg[TgĀjbh_WĀ\`cTVgĀg[XĀfbheVXĀjTgXe&Ā[bjXiXe&ĀMbYĀ\`cTVgĀjTgXeĀ fhcc_\XefĀgbĀ`XXgĀ;MI8FĀeXdh\eX`XagfĀg[ebhZ[Āg[XĀfhU`\ffĀbYĀTĀUXVTbfXĀ g[XĀMIIĀHXcbegĀ\f&ĀYbeĀg[XĀ`bfgĀcTeg&Ā`beXĀVb`c_XĀYbeĀg[TaĀgXVXffTelĀ gbĀfTg\fYlĀg[XĀ;MI8FĀFebZeT`Ā":T_\Ybea\TĀ;XcTeg`XagĀbYĀI_hg&Ā*.#(Ā

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A.4 Drinking Water Regulations

J[XĀeXZh_TgbelĀYeT`Xjbe^ĀYbeĀfTYXZhTeW\aZĀWe\a^\aZĀjTgXeĀfhcc_\[XWĀ\aĀg[XĀ Ka\gXWĀIgTgXfĀ<ai\eba`XagT_ĀFebgXVg\baĀ8ZXaVlĀ"<F8#ĀhaWXeĀg[XĀIMJHĀh_XĀ "IMJH#ĀUTfXWĀbaĀ_bjĀgb_XeTU_XĀe\f^&ĀWXY\aXWĀTfĀbaXĀ\aĀT+*&*Ā*Yeb`"Ā cTg[bZXa\VĀ`\VebbeZTa\f`f(Ā@aĀTWW\g\ba&Āg[XĀWe\a^\aZĀjTgXeĀf&Ā\aV_hW\aZĀ g[XĀ`Tk\`h`ĀVbagT`\aTagĀ_XiX_fĀ"C:Bf#ĀTaWĀabg\Y\VTg\baĀ_XiX_fĀWĀV[X`\VT_fĀ TeXĀTWWeXffXWĀUlĀ<F8ufĀKaeXZh_TgXWĀ:bagT`\aTagĀ"Ka\gbe&ĀJ[XĀ WXiX_bc`XagĀbYĀ_\fgfĀbYĀVbagT`\aTagfĀg[TgĀ[TiXĀUXXaĀYbhaWĀ\aĀWe\a^\aZĀ [TiXĀ[XT_g['UTfXWĀfgTaWTeWf(ĀJ[XĀK:CHĀVbagT`\aTagĀgbĀUXĀ\aV_hWXWĀ\aĀjTgXeĀ flfgX`fĀ"FMIf#ĀgbĀVb__XVgĀWTgTĀYbeĀVbaf\WXeTg\baĀ\aĀYhgheXĀeXZh

J[XĀVbafg\ghXagfĀj\g[ĀVbeeXfcbaW\aZĀce\`TelĀTaWĀfXVbaWTelĀC:BfĀZĀjTgXeĀTeXĀ fcXV\Y\XWĀ\aĀg[XĀYb__bj\aZĀfXVg\bafĀbYĀJ\g_XĀ,,ĀbYĀg[XĀ:T_\Ybea\TĀ:bWXĀbYĀHXZh_TVXaW\kĀ9Ā "JTU_XĀ9+#(ĀĀ

- n0..-+ĀqĀCTk\`h`Ā:bagT`\aTagĀBXiX_fr@abeZTa\VĀ:[X`\VT_fĀ
- n0...,ĀqĀC:BfĀTaWĀCba\gbe\aZĀqĀ>ebffĀ8_c[TĀFTeg\V_XĀ8Wg\i\gl&Ā0XEĀ HTW\h`,,2&ĀTaWĀKeTa\h`Ā
- n0...-ĀqĀC:BfĀTaWĀCba\gbe\aZĀqĀ9XgTĀcTeg\V_XĀTaWĀF[bgbaĀHTW\bTV
- n0....ĀqĀCTk\`h`Ā:bagT`\aTagĀBXiX_fĀqĀEeZTa\VĀ:[X`\VT_fĀ
- n0...3ĀqĀIXVbaWTelĀCTk\`h`Ā:bagT`\aTagĀBXiX_fĀTaWĀ:b`c_\TaVXĀ
- n0./--ĀqĀCTk\`h`Ā:bagT`\aTagĀBXiX_fĀYbeĀ;\f\aYXVg\baĀ9lceĀWhVgf
- n0.01.ĀqĀBXTWĀTaWĀ:bccXeĀHh_XĀqĀBTeZXĀMTgXeĀIlfgX`ĀHXdh\eX`Xagf

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A.5 Environmental Permitting

A.5.1 California Environmental Quality Act (CEQA)

9XlbaWĀVb`c_\TaVXĀj\g[Āg[XĀIM8ĀeXZh_Tg\baf&Āg[XĀFhXVĀMTgXeĀXabhU]XVgĀgbĀ TalĀTcc_\VTU_XĀXai\eba`XagT_ĀeXdh\eX`Xagf(ĀJlc\VT_hWĀaZĀbjaVeZĀYeTagfĀbeĀ _bTafĀYeb`Āg[XĀIgTgXĀ9bTeWĀ"X(Z(&ĀIgTgXĀHXib_i\aZĀ=haWĀbbĀgbĀĀ+Ā

YhaWf&ĀK(I(Ā9heXThĀbYĀHXV_T`Tg\baĀJ\g_XĀNL@#Ā`TlĀaXdh\eXĀXiXaĀ\Ya\VXĀcXeĀg[XĀDTg\baT_Ā<ai\eba`XagT_ĀFb_\VlĀ8VgĀ"D<F8#ĀTaWĀg[XĀ:<G8(Ā

J[XĀ:<G8ĀeXdh\eXfĀIgTgXĀTaWĀ_bVT_ĀTZXaV\XfĀgbĀ\WXag\YlĀTaWĀ\YĀcbff\U_XĀTibiWĀbeĀchU_\VĀTUhgĀg[XĀcbgXag\T_ĀYbeĀXai\eba`XagT_Ā\`cTVgfĀVThfXWĀUlĀg[X\eĀTceb]XVg(ĀFeb]XVgfĀg[TgĀeXdh\eXĀc[lf\VT_ĀWXiX_bc`XagĀbeĀWXfVe\UXWĀYbeĀWXiX_bc`XagĀbeĀTfĀUe\aX#&ĀeXdh\eXĀVb`c_\TaVXĀj\g[Ā:<G8(ĀJ[XĀcbgXag\T_ĀXai\eba`XagT_Ā\`cTVgfĀTaWĀg[XĀ`XTfheXfĀYbeĀ`\g\ZTg\baĀTaWĀceXiXag\baĀf[bh_WĀUXĀWXgXe`\aXWĀUlĀ\aVThfXfĀTaWĀHXcbegĀ"<@H#(Ā@YĀg[XĀceb]XVgĀWbXfĀabgĀXai\f\baĀXaiXab\`XagT_Ā\``c_X`XagTg\ba&ĀTĀaXZTg\iXĀWXV_TeTg\baĀf[bh_WĀUXĀWXgXe`\aXWĀUlĀg[XĀ<@H(Ā

J[XĀ:<G8ĀcXe`\gĀcebVXffĀVTaĀgT^XĀTĀVbaf\WXeTU_XĀT`bhagĀbYĀg\`X&ĀTaWĀ\a\g\TgXĀg[XĀcebVXffĀTfĀfbbaĀTfĀg[XĀX_X`XagfĀbYĀg[XĀceb]XVgĀTeXĀWXY\aXW(ĀFebVXWheXfĀYbeĀg[XĀTcc_\VTg\baĀbYĀg[XĀ:<G8ĀcebVXffĀTeXĀfh``Te\mXWĀ\aĀJTU_XĀ8(ĀJ[XĀTcc_\VTg\baĀcebVXffĀTaWĀ\agXeTVg\baĀUXgjXXaĀg[XĀeXfcbaf\U_XĀTZXaVlĀTaWĀceb]XVgĀ_XTWĀTZXaVlĀTeXĀfh``Te\mXWĀ\aĀJTU_XĀ8(ĀJ[XĀ>biXeabe!fĀEYY\VXĀbYĀF_Taa\aZĀTaWĀHXfXTeV[Ā"EFH#ĀTaWĀ:<G8ĀTZXaVl(ĀJ[XĀEFHĀ\fĀeXfcbaf\U_XĀYbeĀVbbeW\aTg\aZĀTaWĀeXi\Xj\aZĀg[XĀ:<G8ĀWbVhĀTfĀcebi\W\aZĀgXV[a\VT_ĀTff\fgTaVXĀgbĀfgTgXĀTaWĀ_bVT_ĀTZXaV\Xf(Ā

Table A6 - Summary of the Process to Obtain CEQA Permit

Responsible AgencyĀ		Lead AgencyĀ	
+(	HXfcbaWĀgbĀVbafh_gTg\baĀ	+(	'FeXcTeXfĀ\a\g\T_ĀfghWlĀĀ ';XV\WXfĀ\YĀ<@HĀbeĀaXZTg\iXĀWXV_TeTg\baĀ\fĀaXXWXWĀ
,(	HXfcbaWĀgbĀabg\VXĀbYĀceXcTeTg\baĀbYĀWeTYgĀ<@HĀVbagXagfĀbYĀWeTYgĀ<@HĀ	,(	'GhXfĀabg\VXĀbYĀceXcTeTg\baĀgbĀg[XĀeXfcbaf\U_XĀTZXaVlĀ'FeXcTeXfĀWeTYgĀ<@HĀ
-(	:b``XagfĀbaĀg[XĀTWXdhTVlĀbYĀWeTYgĀ<@HĀbeĀaXZTg\iXĀWXV_TeTg\ba	-(	'=_XfĀabg\VXĀbYĀVb`c_Xg\baĀTaWĀZ\iXfĀchU_\VĀabg\VXĀbYĀTiT_TU_\glĀbYĀWeTYgĀ<@HĀ 'FeXcTeXfĀY\aT_Ā<@HĀ\aV_hW\aZĀeXfcbafXfĀgbĀVb``XagfĀbaĀWeTYgĀ<@H
.(	;XV\f\ba`T^\aZĀUbWlĀVbaf\WXefĀY\aT_Ā<@HĀbeĀaXZTg\iXĀWXV_TeTg\b		
/(	=\aW\aZfĀbaĀg[XĀYXTf\U_\glĀbYĀeXWhV\aZĀbeĀTib\W\aZĀf\Za\Y\VTagĀXai\eba`XagT_ĀXYYXVgfĀ		
0(	;XV\f\baĀbaĀceb]XVg(Ā>\iXfĀabg\VXĀbaĀg[XĀcXe`\gĀ"WXgXe`\aTg\baĀj\g[ĀEFHĀ"fgTgX#ĀTaWĀj\g[Āg[XĀ:bhaglĀ:_Xe^Ā"_bVT_#		

Appendix B – Summary of Water Quality Regulations Implicated by a SWSAP

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Table B1 – Title 22 Drinking Water Maximum Contaminant Levels

Ā

Constituent	Unit	Title CCR MCL*
Inorganic Chemicals		
8_h`\ah`Ā	`Z)BĀ	+(*ĀĀ
8ag\`balĀ	`Z)BĀ	*(**0ĀĀ
8efXa\VĀ	`Z)BĀ	*(*+*Ā
8fUXfgbfĀ	C=B⁺Ā	1Ā
9Te\h`Ā	`Z)BĀ	+(*Ā
9Xel__\h`Ā	`Z)BĀ	*(**.ĀĀ
:TW`\h`Ā	`Z)BĀ	*(**/ĀĀ
:[eb`\h`Ā	`Z)BĀ	*(*/ĀĀ
:lTa\WXĀ	`Z)BĀ	*(+/Ā
=_hbe\WXĀ	`Z)BĀ	,(*ĀĀ
?XkTiT_XagĀV[eb`\h`Ā	`Z)BĀ	*(*+*Ā
CXeVhelĀ	`Z)BĀ	*(**,ĀĀ
D\V^X_Ā	`Z)BĀ	*(+Ā
D\geTgXĀ"TfĀD#Ā	`Z)BĀ	+*ĀĀ
D\geTgXĀ%ĀD\ge\gXĀ"TfĀD#Ā	`Z)BĀ	+*Ā
D\ge\gXĀ"TfĀD#Ā	`Z)BĀ	+Ā
FXeV[_beTgXĀ	`Z)BĀ	*(**0ĀĀ
IX_Xa\h`Ā	`Z)BĀ	*(*/Ā
J[T__\h`Ā	`Z)BĀ	*(**,Ā
Radionuclides		
HTW\h``,,0&ĀHTW\h``,,2Ā"Vb`U\aXW#Ā	c:\)BĀ	/Ā
>ebffĀ8_c[TĀ	c:\)BĀ	+/ĀĀ
KeTa\h`Ā	c:\)BĀ	,*ĀĀ
>ebffĀ9XgTĀ	c:\)BĀ	/*ĀĀ
Igebag\h``3*Ā	c:\)BĀ	2Ā
Je\g\h`Ā	c:\)BĀ	,*&***Ā
Volatile Organic Chemicals		

Constituent	Unit	Title CCR MCL*
9XamXaXĀ	`Z)BĀ	*(**+Ā
:TeUbaĀJXgeTV[_be\WXĀ	`Z)BĀ	*(***/Ā
+&,';\V[_bebUXamXaXĀ	`Z)BĀ	*(0Ā
+&.';\V[_bebUXamXaXĀ	`Z)BĀ	*(**/Ā
+&+';\V[_bebXg[TaXĀ	`Z)BĀ	*(**/Ā
+&,';\V[_bebXg[TaXĀ	`Z)BĀ	*(***/Ā
+&+';\V[_bebXg[l_XaXĀ	`Z)BĀ	*(**0Ā
V\f'+&,';\V[_bebXg[l_XaXĀ	`Z)BĀ	*(**0Ā
geTaf'+&,';\V[_bebXg[l_XaXĀ	`Z)BĀ	*(*+Ā
;\V[_beb`Xg[TaXĀ	`Z)BĀ	*(**/Ā
+&,';\V[_bebcebcTaXĀ	`Z)BĀ	*(**/Ā
+&-';\V[_bebcebcXaXĀ	`Z)BĀ	*(***/Ā
<g[l_UXamXaXĀ	`Z)BĀ	*(-Ā
CXg[l_'gXeg'Uhgl_ĀXg[XeĀ	`Z)BĀ	*(*+-Ā
CbabV[_bebUXamXaXĀ	`Z)BĀ	*(*1Ā
IgleXaXĀ	`Z)BĀ	*(+Ā
+&+&,&,'JXgeTV[_bebXg[TaXĀ	`Z)BĀ	*(**+Ā
JXgeTV[_bebXg[l_XaXĀ	`Z)BĀ	*(**/Ā
Jb_hXaXĀ	`Z)BĀ	*(+/Ā
+&,&.'Je\V[_bebUXamXaXĀ	`Z)BĀ	*(**/Ā
+&+&+'Je\V[_bebXg[TaXĀ	`Z)BĀ	*(,Ā
+&+&,'Je\V[_bebXg[TaXĀ	`Z)BĀ	*(**/Ā
Je\V[_bebXg[l_XaXĀ	`Z)BĀ	*(**/Ā
Je\V[_bebY_hbeb`Xg[TaXĀ	`Z)BĀ	*(+/Ā
+&+&,'Je\V[_beb'+&,&,'Je\Y_hbebXg[TaXĀ	`Z)BĀ	+(,Ā
L\al_Ā:[_be\WXĀ	`Z)BĀ	*(***/Ā
Nl_XaXfĀ	`Z)BĀ	+(1/Ā
Non-volatile Synthetic Organic Chemicals (SOCs)		
8_TV[_beĀ	`Z)BĀ	*(**,ĀĀ
8geTm\aXĀ	`Z)BĀ	*(**+ĀĀ
9XagTmbaĀ	`Z)BĀ	*(*+2ĀĀ
9Xamb"T#cleXaXĀ	`Z)BĀ	*(***,ĀĀ
:TeUbYheTaĀ	`Z)BĀ	*(*+2ĀĀ
:[_beWTaXĀĀ	`Z)BĀ	*(***+ĀĀ

Constituent	Unit	Title CCR MCL*
,&.';ĀĀ	`Z)BĀ	*(*1ĀĀ
;T_TcbaĀĀ	`Z)BĀ	*(,ĀĀ
;\Ueb`bV[_bebcebcTaXĀ	`Z)BĀ	*(***,ĀĀ
;\","Xg[l_[Xkl_#TW\cTgXĀĀ	`Z)BĀ	*(.ĀĀ
;\","Xg[l_[Xkl_#c[g[T_TgXĀĀ	`Z)BĀ	*(**.ĀĀ
;\abfXUĀĀ	`Z)BĀ	*(**1ĀĀ
;\dhTgĀĀ	`Z)BĀ	*(*,ĀĀ
<aWbg[T__ĀĀ	`Z)BĀ	*(+ĀĀ
<aWe\aĀ	`Z)BĀ	*(**,ĀĀ
<g[l_XaXĀ;\Ueb`\WXĀĀ	`Z)BĀ	*(****/ĀĀ
>_lc[bfTgXĀ	`Z)BĀ	*(1ĀĀ
?XcgTV[_beĀ	`Z)BĀ	*(****+ĀĀ
?XcgTV[_beĀ<cbk\WXĀ	`Z)BĀ	*(****+ĀĀ
?XkTV[_bebUXamXaXĀ	`Z)BĀ	*(**+ĀĀ
?XkTV[_bebVlV_bcXagTW\XaXĀĀ	`Z)BĀ	*(*/ĀĀ
B\aWTaXĀ	`Z)BĀ	*(***,ĀĀ
CXg[bklV[_beĀĀ	`Z)BĀ	*(*-ĀĀ
Cb_\aTgXĀĀ	`Z)BĀ	*(*,ĀĀ
EkT`l_ĀĀ	`Z)BĀ	*(*/ĀĀ
FXagTV[_bebc[Xab_Ā	`Z)BĀ	*(**+ĀĀ
F\V_beT`ĀĀ	`Z)BĀ	*(/ĀĀ
Fb_lV[_be\aTgXWĀ9\c[Xal_fĀ	`Z)BĀ	*(***/ĀĀ
I\`Tm\aXĀĀ	`Z)BĀ	*(**.ĀĀ
J[\bUXaVTeUĀ	`Z)BĀ	*(*1ĀĀ
JbkTc[XaXĀ	`Z)BĀ	*(**-ĀĀ
,&-&1&2'J:;;Ā";\bk\a#Ā	`Z)BĀ	-ĀkĀ[2]*ĀĀ
,&.&/'JFĀ"I_iXk#Ā	`Z)BĀ	*(*/ĀĀ
Disinfection ByproductsĀ		
JbgT_ĀJe\[T_b`Xg[TaXfĀ"JJ?C#Ā	`Z)BĀ	*(*2*Ā
?T_bTVXg\VĀ8V\WfĀ"?88f#Ā	`Z)BĀ	*(*0*Ā
9eb`TgXĀ	`Z)B	*(*+*Ā
:[_be\gXĀ	`Z)BĀ	+(*Ā

*Adapted from Title 22 California Code of Regulations (CCR) Tables 64431-A, 64444-A, 64449-B, and 64533-A.

[1]MFL = million fibers per liter; MCL for fibers exceeding 10 μm in length.

Ā

Table B2 - Secondary Title 22 Drinking Water MCLs

Chemical	Units	Secondary MCLs *
8_h`\ah`Ā	`Z)BĀ	*(,Ā
:b_beĀ	8:KĀ	+/Ā
:bccXeĀ	`Z)BĀ	+Ā
=bT`\aZĀ8ZXagfĀ"C98I#Ā	`Z)BĀ	*(/Ā
@ebaĀ	`Z)BĀ	*(-Ā
CTaZTaXfXĀ	`Z)BĀ	*(*/Ā
CXg[l_'*tert*'Uhgl_ĀXg[XeĀ "CJ9<#Ā	`Z)BĀ	*(**/Ā
EWbeĀqĀJ[eXf[b_WĀ	"Ā	-Ā
I_iXeĀ	`Z)BĀ	*(+Ā
J[\bVTeUĀ	`Z)BĀ	*(**+Ā
JheU\W\glĀ	DJKĀ	/Ā
P\aVĀ	`Z)BĀ	/Ā
JbgT_Ā;\ffb_iXWĀIb_\Wf$$Ā	`Z)BĀ	/**)+&***)+&/**Ā
IcXV\Y\VĀ:baWhVgTaVX$$Ā	)V`Ā	3**)+&0**),&,**Ā
:[_be\WX$$Ā	`Z)BĀ	,/*)/**)0**Ā
Ih_YTgXĀĀ	`Z)BĀ	,/*)/**)0**Ā

*Adapted from Title 22 California Code of Regulations (CCR) Table 64449-A, 64449-B

**recommended/upper/short-term

Ā

Table B3 - General water quality parameters for augmented reservoir monitoring

Parameter	Unit
JbgT_ĀEeZTa\VĀ:TeUbaĀ	`Z)BĀ
JbgT_ĀD\gebZXaĀ	`Z)BĀ
JbgT_Ā:b_\Ybe`Ā9TVgXe\TĀ	CFD)+**Ā`BĀ
JbgT_ĀF[bfc[behfĀ	`Z)BĀ
;\ffb_iXWĀF[bfc[behfĀ	`Z)BĀ
<(Ā:b_\Ā	CFD)+**Ā`BĀ
JX`cXeTgheXĀ	°:Ā
;\ffb_iXWĀEklZXaĀ";E#Ā	`Z)BĀ
:[_bebec[l__ĀTĀ	Ā

Ā

Ā

Table B4 - California Code of Regulations Notification Levels

Chemical	Notification Level (mg/L)
9bebaĀ	+Ā
a'9hgl_UXamXaXĀ	*(,0Ā
fXV'9hgl_UXamXaXĀ	*(,0Ā
gXeg'9hgl_UXamXaXĀ	*(,0Ā

Chemical	Notification Level (mg/L)
:TeUbaĀW\fh_Y\WXĀ	*(+0Ā
:[_beTgXĀ	*(2Ā
,':[_bebgb_hXaXĀ	*(+.Ā
.':[_bebgb_hXaXĀ	*(+.Ā
;\Tm\abaĀ	*(**+,Ā
;\V[_bebW\Y_hbeb`Xg[TaXĀ"=eXbaĀ+,#Ā +Ā	
+&.';\bkTaXĀ	*(**+Ā
<g[l_XaXĀZ_lVb_Ā	+.Ā
=be`T_WX[lWXĀ	*(+Ā
?CNĀ	*(-/Ā
@fbcebcl_UXamXaXĀ	*(11Ā
CTaZTaXfXĀ	*(/Ā
CXg[l_Ā\fbUhgl_Ā^XgbaXĀ	*(+,Ā
DTcg[T_XaXĀ	*(*+1Ā
D;<8Ā	*(****+Ā
D;C8Ā	*(****+Ā
D'D\gebfbW\'a'cebcl_T`\aXĀ"D;F8#Ā	*(****+Ā
FebcTV[_beĀ	*(*3Ā
a'Febcl_UXamXaXĀ	*(,0Ā
H;NĀ	*(***-Ā
JXeg\TelĀUhgl_ĀT_Vb[b_ĀĀ	*(*+,Ā
+&,&-&'Je\V[_bebcebcTaXĀĀ	*(*****/Ā
+&,&.'Je\`Xg[l_UXamXaXĀ	*(--Ā
+&-&/'Je\`Xg[l_UXamXaXĀ	*(--Ā
,&.&0'Je\a\gebgb_hXaXĀĀ	*(**+Ā
LTaTW\h`Ā	*(*/Ā

Ā

Appendix C – California Toxic Rule – Priority Toxic Pollutants (40 CFR 131.38)

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Table C1 - CTR Standards for Purified Water Discharged in Surface Waters

Constituent	Criteria for the Protection of Aquatic Habitat (Freshwater)[1]		Criteria for the Protection of Human Health (10^{-6} risk Carcinogens)	Units
	Criteria Maximum Concentration[2]	Criteria Continuous Concentration[3]	Consumption Water & Organisms[1]	
8ag\`balĀ	'Ā	'Ā	+.Ā	yZ)BĀ
8efXa\VĀ	-.*Ā	+/*Ā	'Ā	yZ)BĀ
9Xel__\h`Ā	'Ā	'Ā	TĀ	yZ)BĀ
:TW`\h`Ā	.(-Ā	,(,Ā	TĀ	yZ)BĀ
:[eb`\h`Ā"@@@#Ā	//*Ā	+2*Ā	TĀ	yZ)BĀ
:[eb`\h`Ā"@L#Ā	+0Ā	++Ā	TĀ	yZ)BĀ
:bccXeĀ	+-Ā	3Ā	+-**Ā	yZ)BĀ
BXTWĀ	0/Ā	,(/Ā	TĀ	yZ)BĀ
CXeVhelĀ	HXfXeiXWĀ	HXfXeiXWĀ	*(*/Ā	yZ)BĀ
D\V^X_Ā	+-Ā	3Ā	+-**Ā	yZ)BĀ
IX_Xa\h`Ā	HXfXeiXWĀ	/Ā	TĀ	yZ)BĀ
I_iXeĀ	-(.Ā	'Ā	'Ā	yZ)BĀ
J[T__\h`Ā	'Ā	'Ā	+(1Ā	yZ)BĀ
P\aVĀ	+,*Ā	+,*Ā	TĀ	yZ)BĀ
:lTa\WXĀ	,,Ā	/(,Ā	1**Ā	yZ)BĀ
8fUXfgbfĀ	'Ā	'Ā	1&***&***Ā	=\UXef)BĀ
,&-&1&2'J:;;Ā";\bk\a#Ā	ĀĀ	ĀĀ	*(*******+-Ā	yZ)BĀ
8Veb_X\aĀ	'Ā	'Ā	-,*Ā	yZ)BĀ
8Vel_ba\ge_XĀ	'Ā	'Ā	*(*/3Ā	yZ)BĀ
9XamXaXĀ	'Ā	'Ā	+(,Ā	yZ)BĀ
9eb`bYbe`Ā	'Ā	'Ā	.(-Ā	yZ)BĀ
:TeUbaĀJXgeTV[_be\WXĀ	'Ā	'Ā	*(,/Ā	yZ)BĀ
:[_bebUXamXaXĀ	'Ā	'Ā	02*Ā	yZ)BĀ
;\Ueb`bV[_beb`Xg[TaXĀ	'Ā	'Ā	*(.*+Ā	yZ)BĀ
:[_bebXg[TaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
,':[_bebXg[l_i\al_Ā <g[XeĀ	'Ā	'Ā	'Ā	yZ)BĀ
:[_bebYbe`Ā	'Ā	'Ā	HXfXeiXWĀ	yZ)BĀ
;\V[_bebUeb`b`Xg[TaXĀ	'Ā	'Ā	*(/0Ā	yZ)BĀ

Constituent	Criteria for the Protection of Aquatic Habitat (Freshwater)[1]		Criteria for the Protection of Human Health (10^{-6} risk Carcinogens)	Units
	Criteria Maximum Concentration[2]	Criteria Continuous Concentration[3]	Consumption Water & Organisms[1]	
+&+';\V[_bebXg[TaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
+&,';\V[_bebXg[TaXĀ	'Ā	'Ā	*(-2Ā	yZ)BĀ
+&+';\V[_bebXg[l_XaXĀ	'Ā	'Ā	*(*/1Ā	yZ)BĀ
+&,';\V[_bebcebcTaXĀ	'Ā	'Ā	*(/,Ā	yZ)BĀ
+&-' ;\V[_bebcebcl_XaXf&Ā Ih`Ā	'Ā	'Ā	+*Ā	yZ)BĀ
<g[l_UXamXaXĀ	'Ā	'Ā	-+**Ā	yZ)BĀ
9eb`b`Xg[TaXĀ	'Ā	'Ā	.2Ā	yZ)BĀ
CXg[l_Ā:[_be\WXĀ	'Ā	'Ā	TĀ	yZ)BĀ
CXg[l_XaXĀ:[_be\WXĀ	'Ā	'Ā	.(1Ā	yZ)BĀ
+&+&,&,' JXgeTV[_bebXg[XaXĀ	'Ā	'Ā	*(+1Ā	yZ)BĀ
JXgeTV[_bebXg[XaXĀ	'Ā	'Ā	*(2Ā	yZ)BĀ
Jb_hXaXĀ	'Ā	'Ā	02**Ā	yZ)BĀ
geTaf'+&,' ;\V[_bebXg[TaXĀ	'Ā	'Ā	1**Ā	yZ)BĀ
+&+&+'Je\V[_bebXg[TaXĀ	'Ā	'Ā	TĀ	yZ)BĀ
+&+&,'Je\V[_bebXg[TaXĀ	'Ā	'Ā	*(0Ā	yZ)BĀ
Je\V[_bebXg[XaXĀ	'Ā	'Ā	,(1Ā	yZ)BĀ
L\al_Ā:[_be\WXĀ	'Ā	'Ā	,Ā	yZ)BĀ
,'V[_bebc[Xab_Ā	'Ā	'Ā	+,*Ā	yZ)BĀ
,&.';\V[_bebc[Xab_Ā	'Ā	'Ā	3-Ā	yZ)BĀ
,&.';\`Xg[l_c[Xab_Ā	'Ā	'Ā	/.*Ā	yZ)BĀ
.&0';\a\geb',' `Xg[l_c[Xab_Ā	'Ā	'Ā	+-(.Ā	yZ)BĀ
,&.';\a\gebc[Xab_Ā	'Ā	'Ā	1*Ā	yZ)BĀ
,'D\gebc[Xab_Ā	'Ā	'Ā	'Ā	yZ)BĀ
.'D\gebc[Xab_Ā	'Ā	'Ā	'Ā	yZ)BĀ
.':[_beb'-' `Xg[l_c[Xab_Ā	'Ā	'Ā	'Ā	yZ)BĀ
FXagTV[_bebc[Xab_Ā	+3Ā	+/Ā	*(,2Ā	yZ)BĀ
F[Xab_&ĀI\aZ_XĀ :b`cbhaWĀ	'Ā	'Ā	,+***Ā	yZ)BĀ
,&.&0'Je\V[_bebc[Xab_Ā	'Ā	'Ā	,(+Ā	yZ)BĀ

Constituent	Criteria for the Protection of Aquatic Habitat (Freshwater)[1]		Criteria for the Protection of Human Health (10^{-6} risk Carcinogens)	Units
	Criteria Maximum Concentration[2]	Criteria Continuous Concentration[3]	Consumption Water & Organisms[1]	
8VXaTc[g[XaXĀ	'Ā	'Ā	+,**Ā	yZ)BĀ
8VXaTc[g[l_XaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
8ag[eTVXaXĀ	'Ā	'Ā	30**Ā	yZ)BĀ
9Xam\W\aXĀ	'Ā	'Ā	*(***+,Ā	yZ)BĀ
9Xamb"T#Tag[eTVXaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
9Xamb"T#cleXaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
9Xamb"U#Y_hbeTag[XaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
9Xamb"Z[\#cXel_XaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
9Xamb"^#Y_hbeTag[XaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
9\fĀ",':[_bebXg[bkl#Ā CXg[TaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
9\fĀ",':[_bebXg[l_#Ā <g[XeĀ	'Ā	'Ā	*(*-+Ā	yZ)BĀ
9\fĀ",':[_beb\fbcebcl_#Ā <g[XeĀ	'Ā	'Ā	+.**Ā	yZ)BĀ
9\fĀ",'<g[l_[Xkl_#Ā F[g[T_TgXĀ	'Ā	'Ā	+(2Ā	yZ)BĀ
.'9eb`bc[Xal_ĀF[Xal_Ā <g[XeĀ	'Ā	'Ā	'Ā	yZ)BĀ
9hgl_UXaml_ĀF[g[T_TgXĀ	'Ā	'Ā	-***Ā	yZ)BĀ
,':[_bebaTc[g[T_XaXĀ	'Ā	'Ā	+1**Ā	yZ)BĀ
.':[_bebc[Xal_ĀF[Xal_Ā <g[XeĀ	'Ā	'Ā	'Ā	yZ)BĀ
:[elfXaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
;\UXamb"T&[#Tag[eTVXaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
+&,';\V[_bebUXamXaXĀ	'Ā	'Ā	,1**Ā	yZ)BĀ
+&-';\V[_bebUXamXaXĀ	'Ā	'Ā	.**Ā	yZ)BĀ
+&.';\V[_bebUXamXaXĀ	'Ā	'Ā	.**Ā	yZ)BĀ
-&-';\V[_bebUXam\W\aXĀ	'Ā	'Ā	*(*.Ā	yZ)BĀ
;\Xg[l_ĀF[g[T_TgXĀ	'Ā	'Ā	,-***Ā	yZ)BĀ
;\`Xg[l_ĀF[g[T_TgXĀ	'Ā	'Ā	-+-***Ā	yZ)BĀ
;\'a'Uhgl_ĀF[g[T_TgXĀ	'Ā	'Ā	,1**Ā	yZ)BĀ
,&.';\a\gebgb_hXaXĀ	'Ā	'Ā	*(++Ā	yZ)BĀ
,&0';\a\gebgb_hXaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
;\'a'bVgl_ĀF[g[T_TgXĀ	'Ā	'Ā	'Ā	yZ)BĀ

Constituent	Criteria for the Protection of Aquatic Habitat (Freshwater)[1]		Criteria for the Protection of Human Health (10^{-6} risk Carcinogens)	Units
	Criteria Maximum Concentration[2]	Criteria Continuous Concentration[3]	Consumption Water & Organisms[1]	
+&,';\c[Xal_[lWeTm\aXĀ	'Ā	'Ā	*(*.Ā	yZ)BĀ
=_hbeTag[XaXĀ	'Ā	'Ā	-**Ā	yZ)BĀ
=_hbeXaXĀ	'Ā	'Ā	+-**Ā	yZ)BĀ
?XkTV[_bebUXamXaXĀ	'Ā	'Ā	*(***1/Ā	yZ)BĀ
?XkTV[_bebUhgTW\XaXĀ	'Ā	'Ā	*(..Ā	yZ)BĀ
?XkTV[_bebVlV_bcXagTW \XaXĀ	'Ā	'Ā	,.*Ā	yZ)BĀ
?XkTV[_bebXg[TaXĀ	'Ā	'Ā	+(3Ā	yZ)BĀ
@aWXabĀ"+&,&-'VW#Ā FleXaXĀ	'Ā	'Ā	*(**..Ā	yZ)BĀ
@fbc[bebaXĀ	'Ā	'Ā	2(.Ā	yZ)BĀ
DTc[g[T_XaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
D\gebUXamXaXĀ	'Ā	'Ā	+1Ā	yZ)BĀ
D;C8Ā	'Ā	'Ā	*(***03Ā	yZ)BĀ
D;F8Ā	'Ā	'Ā	*(**/Ā	yZ)BĀ
D' D\gebfbW\c[Xal_T`\aXĀ	'Ā	'Ā	/Ā	yZ)BĀ
F[XaTag[eXaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
FleXaXĀ	'Ā	'Ā	30*Ā	yZ)BĀ
+&,&.'Je\V[_bebUXamXaXĀ	'Ā	'Ā	'Ā	yZ)BĀ
8_We\aĀ	-Ā	ĀĀ	*(***+-Ā	yZ)BĀ
T_c[T'9?:Ā	'Ā	'Ā	*(**-3Ā	yZ)BĀ
UXgT'9?:Ā	'Ā	'Ā	*(*+.Ā	yZ)BĀ
ZT``T'9?:Ā	*(3/Ā	'Ā	*(*+3Ā	yZ)BĀ
WX_gT'9?:Ā	'Ā	'Ā	'Ā	yZ)BĀ
:[_beWTaXĀ	,(.Ā	*(**.-Ā	*(***/1Ā	yZ)BĀ
.&.';;JĀ	+(+Ā	*(**+Ā	*(***/3Ā	yZ)BĀ
.&.';;<Ā	'Ā	'Ā	*(***/3Ā	yZ)BĀ
.&.';;;Ā	'Ā	'Ā	*(***2-Ā	yZ)BĀ
;_XWe\aĀ	*(,.Ā	*(*/0Ā	*(***+.Ā	yZ)BĀ
<aWbfh_YTaĀ@Ā	*(,,Ā	*(*/0Ā	++*Ā	yZ)BĀ
<aWbfh_YTaĀ@@Ā	*(,,Ā	*(*/0Ā	++*Ā	yZ)BĀ
<aWbfh_YTaĀIh_YTgXĀ	'Ā	'Ā	++*Ā	yZ)BĀ
<aWe\aĀ	*(*20Ā	*(*-0Ā	*(10Ā	yZ)BĀ

Constituent	Criteria for the Protection of Aquatic Habitat (Freshwater)[1]		Criteria for the Protection of Human Health (10^{-6} risk Carcinogens)	Units
	Criteria Maximum Concentration[2]	Criteria Continuous Concentration[3]	Consumption Water & Organisms[1]	
<aWe\aĀ8_WX[lWXĀ	'Ā	'Ā	*(10Ā	yZ)BĀ
?XcgTV[_beĀ	*(/,Ā	*(**-2Ā	*(***,+Ā	yZ)BĀ
?XcgTV[_beĀ<cbk\WXĀ	*(/,Ā	*(**-2Ā	*(***+Ā	yZ)BĀ
Fb_lV[_be\aTgXWĀ 9\fc[Xal_fĀ	'Ā	*(*+.Ā	*(***+1Ā	yZ)BĀ
JbkTc[XaXĀ	*(1-Ā	*(**,Ā	*(***1-Ā	yZ)BĀ

+Ā:JHĀah`Xe\VĀVe\gXe\TĀYbeĀcebgXVg\baĀbYĀ[h`TaĀ[XT_g[ĀTaWĀTdhTg\VĀ_\YXĀTeXĀjTgXeĀdhT_\glĀVe\gXe\TĀc_hfĀ beZTa\f`f(Ā

,Ā:e\gXe\TĀ`Tk\`h`ĀVbaVXageTg\baĀ\fĀg[XĀ[\Z[XfgĀVbaVXageTg\baĀgbĀj[\V[ĀTdhTg\VĀ_\YXĀVTaĀUXĀ XkcbfXWĀYbeĀTĀf[begĀcXe\bWĀbYĀg\`XĀj\g[bhgĀWX_XgXe\bhfĀXYYXVg(Ā

-Ā:e\gXe\TĀVbag\ahbhfĀVbaVXageTg\baĀ\fĀg[XĀ[\Z[XfgĀVbaVXageTg\baĀgbĀj[\V[ĀTdhTg\VĀ_\YXĀVTaĀUXĀ XkcbfXWĀYbeĀYbheĀWTlfĀj\g[bhgĀWX_XgXe\bhfĀXYYXVg(

TĀ<F8Ā\fĀabgĀceb`h_ZTg\aZĀ[h`TaĀ[XT_g[ĀVe\gXe\TĀYbeĀg[\fĀVbaFg\ghXagĀ&ĀcXe`\gĀ Thg[be\g\XfĀf[bh_WĀTWWeXffĀg[XfXĀVbagT`\aTagfĀ\aĀDF8fĀhf\aZĀg[XĀfgTgXufĀXk\fg\aZĀ aTeeTg\iXĀVe\gXe\TĀYbeĀgbk\Vf(

Ā

Appendix D – Recommended CEC Monitoring

Ā

HXVb``XaWXWĀ:<:ĀVb`cbhaWfĀYbeĀ`ba\gbe\aZĀTeXĀ_\fgXWĀUX_bjĀTaWĀVTgXZbe\mXWĀTfĀYb__bjf4ĀĀ

- sCba\gbe\aZĀIgeTgXZ\XfĀYbeĀ:[X`\VT_fĀbYĀ<`XeZ\aZĀ:baVXeaĀ\aĀHXVlV_XWĀMTgXetĀ chU_\f[XWĀUlĀg[XĀIgTgXĀMTgXeĀHXfbheVXfĀ:bageb_ĀUbTeWĀ\aĀ,*+'ĀĀ
- J[XĀ=bheg[ĀKaeXZh_TgXWĀ:bagT`\aTagĀCba\gbe\aZĀHh_XĀ"KSCHĀF8&Ā,*+
- s<kT`\a\aZĀg[XĀ:e\gXe\TĀYbeĀ;\eXVgĀFbgTU_XĀHXhfXtĀUlĀg[XĀ<kcXegĀITg\ba HXfXTeV[Ā@afg\ghgXĀTfĀcTegĀbYĀMTgXeĀHXfXĀHXfXTeV[ĀYbhaWTg\bauf "DMH@ĀFTaX_#Ā":ebb^ĀXgĀT_(&Ā,*+-#Ā
- 8WW\g\baT_Ā:<:fĀceXfXagĀ\aĀjTfgXjTgXeĀg[TgĀ`TlĀUXĀW\YY\Vh_gĀYbe geXTg`XagĀgbĀeX`biXĀ"X(Z(&Ā8VXgbaX&Ā9Xambge\Tmb\aX&Ā;@DD&Ā@[Xac\WbX`&Ā FXeV[_beTgX&ĀF=8I&ĀXgV(#Ā
- :<:fĀgXfgXWĀWhe\aZĀf\`\_TeĀTWiTaVXWĀgeXTg`XagĀfghW\XfĀTaWĀYheg[eXVb``XaWTg\bafĀYeb`ĀcXXefĀj\g[ĀXkcXe\XaVXĀ\aĀg[XĀY\X_WĀbYĀfghW
- M[_XĀD'a\gebfbW\`Xg[l_T`\aXĀ"D;C8#ĀTaWĀD'a\gebfbW\Xg[l_T`\aXĀTeXĀ g[XĀce\`TelĀa\gebfT`\aXfĀbYĀ\agXeXfgĀWhXĀgbĀ[\Z[ĀVTeV\abZXa\V\g eXVb``XaWXWĀgbĀ\aV_hW\aZĀT__Āg[XĀa\gebfT`\aXĀVb`cbhaWfĀ\aĀJTU_XĀ;+Ā\a

Ā

Table D1 – Nitrosamines recommended for monitoring

Nitrosamine	Analytical Method	Reporting Limit (ng/L)
D;C8Ā	<F8Ā/,+Ā	+(0Ā
D;<8Ā	<F8Ā/,+Ā	,(+Ā
D;F8Ā	<F8Ā/,+Ā	+(,Ā
D'a\gebfbW\'a'Uhgl_T`\aXĀ"D;98#Ā	<F8Ā/,+Ā	+(.Ā
D'a\gebfb`Xg[l_Xg[l_T`\aXĀ"DC<8#Ā	<F8Ā/,+Ā	+(/Ā
D'a\gebfbcleb__\W\aXĀ"DFOH#Ā	<F8Ā/,+Ā	+(.Ā
D'Āa\gebfb`bec[b_\aXĀ"DCEH#Ā	<F8Ā/,+ [+]Ā	,(.Ā

[+] Ā<F8Ā/,+Ā\fĀ`bW\Y\XWĀTVVbeW\aZĀgbĀJXaZĀTaWĀC\gV[Ā",*+0#Ā

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Ā
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Ā
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Table D2 - Unregulated Contaminant Monitoring Rule (UCMR4) for PWS

Parameter	Units
gbgT_Ā`\VebVlfg\aĀ	hZ)BĀ
`\VebVlfg\a'B8Ā	hZ)BĀ
`\VebVlfg\a'B=Ā	hZ)BĀ
`\VebVlfg\a'BHĀ	hZ)BĀ
`\VebVlfg\a'BOĀ	hZ)BĀ
`\VebVlfg\a'HHĀ	hZ)BĀ
`\VebVlfg\a'OHĀ	hZ)BĀ
abWh_Te\aĀ	hZ)BĀ
TaTgbk\a'TĀ	hZ)BĀ
Vl_\aWebfcXe`bcf\aĀ	hZ)BĀ
ZXe`Ta\h`Ā	hZ)BĀ
`TaZTaXfXĀ	hZ)BĀ
T_c[T'[XkTV[_bebVlV_b[XkTaXĀ	hZ)BĀ
V[_becle\YbfĀ	hZ)BĀ
W\`Xg[\c\aĀ	hZ)BĀ
Xg[bcebcĀ	hZ)BĀ
bklY_hbeYXaĀ	hZ)BĀ
cebYXabYbfĀ	hZ)BĀ
gXUhVbaTmb_XĀ	hZ)BĀ
gbgT_ĀcXe`Xg[e\aĀ"V\f'Ā ĀgeTaf'#Ā	hZ)BĀ
ge\UhYbfĀ	hZ)BĀ
?88/Ā	hZ)BĀ
?8809eĀ	hZ)BĀ
?883Ā	hZ)BĀ
+'UhgTab_Ā	hZ)BĀ
,'`Xg[bklXg[Tab_Ā	hZ)BĀ
,'cebcXa'+'b_Ā	hZ)BĀ
Uhgl_TgXWĀ[lWebklTa\fb_XĀ	hZ)BĀ
b'gb_h\W\aXĀ	hZ)BĀ
dh\ab_\aXĀ	hZ)BĀ
EeZTa\VĀ:TeUba&ĀJbgT_Ā"JE:#Ā	`Z)BĀ
9eb`\WXĀ	hZ)BĀ

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Table D3 – Recommended CEC for monitoring

Chemical Name	Analytical Method	Reporting Limit	Units
+1w'<g[lal_Ā<fgeTW\b_Ā	<F8Ā/-3Ā	*(/Ā	aZ)BĀ
+1x'<fgeTW\b_Ā	<F8Ā/-3Ā	*(/Ā	aZ)BĀ
8VXfh_YT`XĀ	<F8Ā+03.Ā<I@%Ā	.Ā	aZ)BĀ
8gXab_b_Ā	<F8Ā+03.Ā<I@%Ā	+*Ā	aZ)BĀ
9Xambge\Tmb_XĀ	<F8Ā+03.Ā<I@%Ā	+*(2Ā	aZ)BĀ
9\fc[Xab_Ā8Ā	<F8Ā+03.Ā<I@'Ā	+*Ā	aZ)BĀ
:TYYX\aXĀ	<F8Ā+03.Ā<I@%Ā	/*Ā	aZ)BĀ
:TeUT`TmXc\aXĀ	<F8Ā+03.Ā<I@%Ā	/Ā	aZ)BĀ
:bg\a\aXĀ	<F8Ā+03.Ā<I@%Ā	/Ā	aZ)BĀ
;<<JĀ	<F8Ā/,/(-Ā	+Ā	aZ)BĀ
;\V_bYXaTVĀ	<F8Ā/.,Ā	/Ā	aZ)BĀ
;_Tag\aĀ"F[Xal_gb\a#Ā	<F8Ā+03.Ā<I@%Ā	+Ā	aZ)BĀ
;\c[Xa[lWeT`\aXĀ	<F8Ā+03.Ā<I@%Ā	,Ā	aZ)BĀ
<dh\ \aĀ	<F8Ā/-3Ā	/Ā	aZ)BĀ
<fge\b_Ā	<F8Ā/-3Ā	/Ā	aZ)BĀ
<fgebaXĀ	<F8Ā/-3Ā	*(/Ā	aZ)BĀ
= hbkXg\aXĀ	<F8Ā+03.Ā<I@%Ā	+*Ā	aZ)BĀ
>X`Y\Uebm_Ā	<F8Ā+03.Ā<I@'Ā	/Ā	aZ)BĀ
@UhcebYXaĀ	<F8Ā+03.Ā<I@'Ā	/*Ā	aZ)BĀ
@bceb`\WXĀ	<F8Ā+03.Ā<I@'Ā	+*Ā	aZ)BĀ
CXcebUT`TgXĀ	<F8Ā+03.Ā<I@%Ā	+Ā	aZ)BĀ
DTcebkXaĀ	<F8Ā+03.Ā<I@'Ā	+*Ā	aZ)BĀ
FXeV[_beTgXĀ	<F8Ā-+.(*Ā	,Ā	µZ)BĀ
FXeY_hbebbVgTa\VĀ8V\WĀ	<F8Ā/-1ĀeXiĀ+(+Ā	+*Ā	aZ)BĀ
FXeY_hbebbVgTa\VĀ Ih_YbaTgXĀ	<F8Ā/-1ĀeXiĀ+(+Ā	+*Ā	aZ)BĀ
Fe\`\WbaXĀ	<F8Ā+03.Ā<I@%Ā	/Ā	aZ)BĀ
IhVeT_bfXĀ	<F8Ā+03.Ā<I@%Ā	+**Ā	aZ)BĀ
Ih_YT`Xg[bkTmb_XĀ	<F8Ā+03.Ā<I@%Ā	,Ā	aZ)BĀ
J:<FĀ	<F8Ā+03.Ā<I@%Ā	/Ā	aZ)BĀ
J:FFĀ	<F8Ā+03.Ā<I@%Ā	/Ā	aZ)BĀ
Je\V_bfTaĀ	<F8Ā+03.Ā<I@'Ā	,**Ā	aZ)BĀ
Je\`Xg[bce\`Ā	<F8Ā+03.Ā<I@%Ā	/Ā	aZ)BĀ
@b[Xkb_Ā	B:'CI'CIĀ'ĀIF<Ā	+*Ā	aZ)BĀ

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Appendix E – LVMWD Sewer Collection Source Control Program

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Table E1 – LVMWD Sewer Collection Source Control Program

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Constituents	Local Effluent Limits (mg/L)
8efXa\VĀ"JbgT_#Ā	*(*/Ā
9Xel__\h`Ā	*(**/Ā
9bebaĀ	+(/Ā
:TW`\h`Ā"JbgT_#Ā	*(*,Ā
:[_be\WXĀ	+1/Ā
:[eb`\h`Ā"JbgT_#Ā	*(*1Ā
:bccXeĀ"JbgT_#Ā	*(-*Ā
:lTa\WXĀ"JbgT_#Ā	*(*,Ā
:lTa\WXĀ"8`XaTU_X#Ā	"Ā
;\ffb_iXWĀIh_Y\WXĀ	*(+*Ā
=_hbe\WXĀ	+(,*Ā
BXTWĀ"JbgT_#Ā	*(,*Ā
CXeVhelĀ	*(**,Ā
D\V^X_Ā"JbgT_#Ā	*(/*Ā
E_Ā Ā>eXXfXĀ	+**Ā
c?ĀHTaZXĀ	0'+*Ā
IX_Xa\h`Ā	*(*,Ā
I_iXeĀ"JbgT_#Ā	*(*2Ā
Ih_YTgXĀ	-,/Ā
JX`cXeTgheXĀ	+.*Ā°=Ā
JbgT_Ā;\ffb_iXWĀfb_\WfĀ"J;I#Ā	+&***Ā
JbgT_ĀJbk\VĀEeZTa\VfĀ"JJE#Ā	"Ā
P\aVĀ"JbgT_#Ā	*(/*Ā

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ITEM 10C

INFORMATION ONLY

February 4, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Woolsey Fire Response and Recovery Effort: End of Emergency

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On January 29, 2019, the LVMWD Board, acting in part as the Administering Agent of the Las Virgenes-Triunfo Joint Powers Authority, ended the Declaration of Emergency due to the Woolsey Fire. The action included a summary of all expenses incurred for the immediate and emergency actions for the Woolsey Fire, which totaled $321,921. The JPA share of the costs was $27,268.

SUMMARY:

On November 12, 2018, the Board declared a state of emergency due to the Woolsey Fire that broke out on the afternoon of Thursday, November 8, 2018 in Ventura County near the Santa Susana Field Laboratory. The fire quickly spread into the District's service area due to low relative humidity and strong Santa Ana winds. District facilities experienced significant damage that required immediate action without delay to restore normal water and wastewater services.

The necessary immediate and emergency actions have been completed, so it is now appropriate for the Board to end the Declaration of Emergency for the District. It is important to note that the Woolsey Fire recovery efforts will remain a top priority for the District; however, staff proposes to adhere to all non-emergency District policies for those on-going efforts. Attached for reference is a summary of all expenses incurred for the District's immediate and emergency actions for the Woolsey Fire, which total $321,921.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact associated with ending the emergency declaration. However, it is

appropriate to report on the cost of the District's immediate and emergency actions at this time, which totaled $321,921 ($294,653 for LVMWD-only facilities and $27,268 for JPA facilities). Staff continues to coordinate with the District's insurance carrier, FEMA and CalOES representatives to seek reimbursement for the immediate and emergency actions, together with planned recovery work.

DISCUSSION:

On November 12, 2018, the Board declared a state of emergency due to the Woolsey Fire that broke out on the afternoon of Thursday, November 8, 2018 in Ventura County near the Santa Susana Field Laboratory. The fire quickly spread into the District's service area due to low relative humidity and strong Santa Ana winds. The fire burned almost 97,000 acres in Los Angeles and Ventura counties, destroyed 1,500 structures, and damaged 340 structures. Over 350 structures were destroyed in the District's service area.

District facilities experienced significant damage that required immediate action without delay to restore normal water and wastewater services and to ensure safe working conditions for staff. These facilities included the Westlake Filtration Plant, Rancho Las Virgenes Composting Facility, the potable water distribution system, the headquarters site and several tank sites. The necessary immediate and emergency actions have now been completed, so it is appropriate for the Board to end the Declaration of emergency for the District. It is important to note that the Woolsey Fire recovery efforts will remain a top priority for the District; however, staff proposes to adhere to all non-emergency District policies for those on-going efforts.

With respect to the immediate and emergency actions, 91 staff members logged over 6,000 hours responding to the fire. The cost for the immediate and emergency actions was $321,921, including $294,653 for LVMWD-only facilities and $27,268 for JPA facilities. Attached for reference is a summary of all the associated expenses incurred for the District's response.

With completion of the immediate and emergency needs, staff has directed its focus on recovery and restoration of the damaged facilities. Several Requests for Proposals (RFPs) were issued and identify the required restoration and enhancements to fire harden the damaged facilities. The scope of work consists of developing plans and specifications for the restoration work. The RFP responses are due on February 20, 2019, and a recommendation for award will be made to the JPA Board on March 4, 2019 (JPA facilities) and to the LVWMD Board on March 12, 2019 (LVMWD-only facilities).

Prepared by: David R. Lippman, P.E., Director of Facilities and Operations

ATTACHMENTS:

Summary of Woolsey Fire Expenses for Immediate and Emergency Actions

Las Virgenes - Triunfo Joint Powers Authority	
RW Tanks, Reservoirs and Wells	
W.Litten (erosion control)	$ 6,094
Rentals (pipe & clamps)	$ 2,871
Treatment/Centrate Treatment	
Diesel fuel	$ 876
Treatment/Composting	
Electrical supplies	$ 2,775
W.Litten (erosion control)	$ 5,580
Safety glasses, respirators, traffic cones	$ 1,529
Restoration services ($5.2K) HVAC services ($1.3K)	$ 6,510
Treatment/Reclamation	
HVAC	$ 1,033
Subtotal JPA:	***$ 27,268***
Las Virgenes Municipal Water District	
Administration	
Food and Supplies for EOC	$ 3,249
Building 8 Maintenance	
Piping supplies/parts	$ 4,011
HVAC services ($3K); facility restoration ($61K)	$ 63,515
Building 7 and Yard Maintenance	
HVAC services	$ 1,373
Customer Service	
Bankcard Center (Bulk Calls)	$ 2,919
Distribution	
Piping parts/supplies	$ 11,703
Mulholland & Troutdale valve installation	$ 34,036
33239 Mulholland Hwy main break repair	$ 66,400
Meter Service	
Misc. supplies	$ 381
Pump Stations	
Gas, diesel, misc. supplies	$ 23,352
Generator rental ($35.5K); replace analog card ($2.5K)	$ 38,106
Replacement PLC Panel	$ 10,416
Tanks and Reservoirs	
Solar charging kit	$ 569
W.Litten (erosion control)	$ 1,064
Treatment	
Facility restoration	$ 5,521
Fence/gate repair	$ 171
Pumps ($24K); misc. supplies ($1.5K)	$ 25,465
Chemical pump	$ 2,400
Subtotal LVMWD:	***$ 294,653***
Total Both Agencies:	**$ 321,921**