TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance

TOWN OF DISCOVERY BAY
COMMUNITY SERVICES DISTRICT
AGENDA PACKET

Regular Board Meeting
Wednesday, October 16, 2019

7:00 P.M. Regular Board Meeting

Community Center
1601 Discovery Bay Boulevard

TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance

President – Bill Mayer • Vice-President – Bill Pease • Director – Kevin Graves • Director – Robert Leete • Director – Bryon Gutow

NOTICE OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS
OF THE TOWN OF DISCOVERY BAY
Wednesday October 16, 2019
REGULAR MEETING 7:00 P.M.
Community Center
1601 Discovery Bay Boulevard, Discovery Bay, California
Website address: www.todb.ca.gov

REGULAR MEETING 7:00 P.M.

A. ROLL CALL AND PLEDGE OF ALLEGIANCE

1. Call business meeting to order 7:00 p.m.
2. Pledge of Allegiance.
3. Roll Call.

B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)

During Public Comments, the public may address the Board on any issue within the District's jurisdiction which is not on the Agenda. The public may comment on any item on the Agenda at the time the item is before the Board for consideration by filling out a comment form. The public will be called to comment in the order the comment forms are received. Any person wishing to speak must come up and speak from the podium and will have 3 minutes to make their comment. There is a device on the podium with a green, yellow, and red light. The yellow light will come on 30 seconds before the end of the 3 minutes. There will be no dialog between the Board and the commenter as the law strictly limits the ability of Board members to discuss matters not on the agenda. We ask that you refrain from personal attacks during comment, and that you address all comments to the Board only. Any clarifying questions from the Board must go through the President. Comments from the public do not necessarily reflect the view point of the Directors.

C. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion.

1. Approve DRAFT minutes of regular meeting for October 2, 2019.
2. Approve Register of District Invoices.

D. PRESENTATIONS

E. MONTHLY WATER AND WASTEWATER REPORT – VEOLIA

1. Veolia Report – Month of September.

F. BUSINESS AND ACTION ITEMS

1. Discussion and Possible Action Regarding Submittal of Comments to RWQCB on the Tentative Draft of the Town's NPDES Permit.

G. DIRECTORS' REPORTS

1. Standing Committee Reports.
2. Other Reportable Items.

H. MANAGER'S REPORT

I. GENERAL MANAGER'S REPORT

J. CORRESPONDENCE RECEIVED (Information Only)

1. Special District Risk Management Authority (SDRMA) Letters regarding No Paid Workers' Comp or Property/Liability Claims for the 2018/19 Fiscal Year.
2. Discovery Bay P-6 Citizen Advisory Committee meeting minutes for April 10, 2019.
3. Contra Costa County Aviation Advisory Committee meeting minutes for August 8, 2019.
4. Contra Costa County Aviation Advisory Committee meeting minutes for September 12, 2019.
5. East Contra Costa Fire Protection District meeting minutes for September 11, 2019.

K. FUTURE AGENDA ITEMS

L. ADJOURNMENT

1. Adjourn to the regular meeting on November 6, 2019 beginning at 7:00 p.m. at the Community Center located at 1601 Discovery Bay Boulevard.

"This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Town of Discovery Bay, at (925) 634-1131, during regular business hours, at least forty-eight hours prior to the time of the meeting."

"Materials related to an item on the Agenda submitted to the Town of Discovery Bay after distribution of the agenda packet are available for public inspection in the District Office located at 1800 Willow Lake Road during normal business hours."

TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance

President – Bill Mayer • Vice-President – Bill Pease • Director – Kevin Graves • Director – Robert Leete • Director – Bryon Gutow

MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS
OF THE TOWN OF DISCOVERY BAY
Wednesday October 2, 2019
REGULAR MEETING 7:00 P.M.
Community Center
1601 Discovery Bay Boulevard, Discovery Bay, California
Website address: www.todb.ca.gov

REGULAR MEETING 7:00 P.M.

A. ROLL CALL AND PLEDGE OF ALLEGIANCE

1. Call business meeting to order 7:00 p.m. – By President Mayer.
2. Pledge of Allegiance – Led by Alex with the Boy Scouts of America.
3. Roll Call – All present with the exception of Vice-President Pease.

B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)

Public Comment Regarding:

- Information shown on the Message Board.
- Background color on the Message Board.

C. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion.

1. Approve DRAFT minutes of regular meeting for September 18, 2019.
2. Approve Register of District Invoices.
3. Approve Board President to Sign Letter of Recognition to the Pacific Coast Water Rescue.

Motion by: Director Graves to approve the Consent Calendar.
Second by: Director Leete.
Vote: Motion Carried – AYES: 4 – President Mayer, Director Graves, Director Leete, Director Gutow, NOES: 0, ABSENT: 1 – Vice-President Pease.

D. AREA AGENCIES REPORTS / PRESENTATION

1. Supervisor Diane Burgis, District III Report - Deputy Chief of Staff Lea Castleberry provided the details regarding Code Enforcement (270 citations, some have complied and those that haven't will receive a notice of intent), update on Vasco Road work, and there is a Bethel Island Health and Safety Fair this Saturday 10am to 2pm.
2. Sheriff's Office Report - Lieutenant Foley – Provided the details of the Sheriff Report for calls of service for the month of September; no increase in crime. Also provided an update regarding the License Plate Readers (progressing).
3. CHP Report - Officer Thomas provided an update for the month of September; DUI's, citations for speed, registration, right away (Discovery Bay Boulevard and Highway 4 by the cones), and cell phone. Also update regarding the multi jurisdiction citations. There was discussion regarding the delineators (moving violation with a fine of approximately $300.00).
4. East Contra Costa Fire Protection District Report – No report.

E. LIAISON REPORTS

None.

F. PRESENTATIONS

None.

G. **BUSINESS AND ACTION ITEMS**

1. Discussion and Possible Action to Consider Rehabilitating Wastewater Treatment Plant 1 as Part of the Denitrification Project, or Decommissioning Wastewater Treatment Plant 1 and Expanding the Treatment Facilities at Wastewater Treatment Plant 2 to Provide Necessary Redundancy as part of the Denitrification Project.

District Engineer Harris – Provided an update regarding Plant 1, rough costs, and Option 1 (Rehabilitate Wastewater Treatment Plant No. 1 as part of the Denitrification Project for an estimated cost of $11,640,000 plus a 15% contingency) or Option 2 (Decommission Wastewater Treatment Plant No. 1 and expand the treatment facilities at Wastewater Treatment Plant No. 2 to provide necessary redundancy as part of the Denitrification Project for an estimated cost of $21,660,000 plus a 15% contingency).

Public Comment Regarding:

- Consideration to explore other solutions; push back regarding regulations.
- Rate increases, project financing, and reserves of the Wastewater Fund for the projects.
- Rates (current and projected).

Assistant General Manager Breitstein – Provided details regarding Option 1 and Option 2.

- Option 1 - $13,386,000, utilize $3m in reserves (drops financing down to $10,386,000, 30 years at approximately 5%) $680,000 debt service payment, $113,000 to the rate payer (on top of current rate),

There was discussion regarding the calculated amount per dwelling per month (a little over a dollar a month/$13.00 per year).

Assistant General Manager Breitstein – Provided additional details regarding Option 1 financing at $4m, $5m, $6m.

- Option 2 - $3m of reserves, drop to $24.9m, project down to $21m, 5% at 30 years, debt service payment of $1.496m a year, $249 per dwelling per year. $4m of reserves, finance $20.9m, debt service $1.428m, $238 per dwelling per year, $5m of reserves, finance $19.9m, debt service $1.36m, $226.67 per dwelling per year, $6m of reserves, finance $18.9m, debt service $1.292m, $215 per dwelling per year.

There was discussion regarding a recap of Option 1;

- Option 1 - $3m - $113.33 annual impact to the rate payer.
- Option 1 - $4m - $102.00 annual impact to the rate payer.
- Option 1 - $5m - $90.67 annual impact to the rate payer.
- Option 1 - $6m - $79.33 annual impact to the rate payer.

Additional details regarding the current impact per household for sewer (approximately $1,000 as of July 1, 2020).

The discussion continued regarding the cost estimates for Option 1 and Option 2 (costs estimates are project cost not design), costs similar to expand Plant 2 and rehabilitate Plant 1 with Denitrification at both locations. Additional discussion regarding new state mandates may cause Plant 1 to be obsolete in the next 20 years and Plant 1 to be an emergency or backup.

District Engineer Harris – Provided a background of the discussion 20 years ago regarding Hofmann's decision to not move Plant 1 to Plant 2 (expensive project and turned down). Also provided details regarding Plant 1 running as a standby (offline for 3 years).

Project Manager Sadler – Provided details regarding Filter problem and the use of Plant 1 for storage.

The discussion continued regarding the Clarifiers, the Filters, Denitrification by 2023, and Plant 1 to be used as a standby and for emergency.

District Engineer Harris – Provided additional details regarding the rotation of Plant 1 and Plant 2 (only during maintenance of Plant 2), and the cost of the projects for Denitrification.

Additional discussion regarding capacity, rotation of Plant 1 and Plant 2 and the solar project.

General Manager Davies – Stated other options were considered.

District Engineer Harris – Pointed out that there is no comparison to the two options.

Projects Manager Yeraka – Stated there are several options discussed with Stantec; land application (extensive report regarding cost, disposal of wastewater and storage, decent drainage), and the process of the Oxidation Ditches.

There was discussion regarding other options to save in the expense.

Motion by: Director Leete to direct Staff to move forward with Option 1: Rehabilitate Wastewater Treatment Plant No. 1 as part of the Denitrification Project for an estimated cost of $11,640,000 plus a 15% contingency.

Second by: Director Graves.

Vote: Motion Carried – AYES: 4 – President Mayer, Director Graves, Director Leete, Director Gutow, NOES: 0, ABSENT: 1 – Vice-President Pease.

H. MANAGER'S REPORT

None.

I. DIRECTORS' REPORTS

1. Standing Committee Reports.

a. Finance Committee Meeting (Committee Members Robert Leete and Bill Mayer)
October 2, 2019 – Director Leete provided the details regarding the Solar Panels, Denitrification, and an updated Purchasing Policy.

b. Internal Operations Committee Meeting (Committee Members Robert Leete and Kevin Graves
October 2, 2019. – ***Cancelled***.

c. Water and Wastewater Committee Meeting (Committee Members Bill Pease and Bill Mayer)
October 2, 2019 – President Mayer provided the details regarding Willow Lake Pipe repair, Wastewater Master Plan, NPDES Permit is moving along, and the Well No. 8 site locations.

2. Other Reportable Items.

Director Graves – Provided the details regarding the CSDA Annual Conference; productive event, ability to network with other Service Districts.

Director Gutow – Provided details regarding the CSDA Annual Conference; informative and educational, and having an opportunity to spend some time with the Directors.

Director Graves – Acknowledged General Manager Davies for an award of the Special District Administrator.

General Manager Davies – Provided the details of the Award; Special District Administrator Certification (requires experience and taking an exam), and this will raise the Gold Level to a Platinum Level of Governance.

Director Mayer – Provided details regarding the CSDA Annual Conference attendance by many Districts, very beneficial, and congratulations to the General Manager – going from Gold to Platinum.

J. GENERAL MANAGER'S REPORT

General Manager Davies – Provided details regarding the hiring of the Finance Manager starting on October 21, 2019 and will be introduced at the 1st meeting in November. The Parks and Landscaper Manager Interviews begin, Friday, October 04, 2019.

Director Graves – Commended Monica Gallo for completing many projects.

K. CORRESPONDENCE RECEIVED (Information Only)

1. Byron Municipal Advisory meeting minutes for August 27, 2019.

Director Graves – Stated he will be out of Town and will not be attending the October 16, 2019 Board Meeting.

L. FUTURE AGENDA ITEMS

None.

M. ADJOURNMENT

1. The meeting adjourned at 7:51 p.m. to the next regular meeting of October 16, 2019 beginning at 7:00 p.m. at the Community Center located at 1601 Discovery Bay Boulevard.

//cmc – 10-08-19
http://www.todb.ca.gov/agendas-minutes

Town of Discovery Bay

"A Community Services District"

STAFF REPORT

Meeting Date

October 16, 2019

Prepared By: Dina Breitstein, Assistant General Manager & Lesley Marable, Accountant
Submitted By: Michael R. Davies, General Manager

MRD

Agenda Title

Approve Register of District Invoices.

Recommended Action

Staff recommends that the Board approve the listed invoices for payment.

Executive Summary

District invoices are paid on a regular basis, and must obtain Board authorization prior to payment. Staff recommends Board authorization in order that the District can continue to pay warrants in a timely manner.

Fiscal Impact:

Amount Requested $ 1,040,521.59
Sufficient Budgeted Funds Available?: Yes **(If no, see attached fiscal analysis)**
Prog/Fund # See listing of invoices. **Category:** Operating Expenses and Capital Improvements

Previous Relevant Board Actions for This Item

Attachments

Request For Authorization to Pay Invoices for the Town of Discovery Bay CSD 2019/2020.

AGENDA ITEM: C-2

For The Meeting On October 16, 2019

Town of Discovery Bay CSD

For Fiscal Year 7/19 - 6/20

U.S. Bank	$753,211.63
Veolia Water North America	$138,248.14
Town of Discovery Bay CSD	$35,894.24
Stantec Consulting Services Inc	$17,503.75
CaliforniaChoice Benefit Admin	$15,438.42
Contra Costa County Treasurer-Tax Collct	$13,463.84
J.W. Backhoe & Construction, Inc.	$11,044.02
CPS HR Consulting	$10,263.03
U.S. Bank Corporate Payment System	$9,327.45
Badger Meter	$5,542.03
Terracon Consultants, Inc.	$5,000.00
BrightView Landscape Services, Inc.	$3,350.00
Kevin Graves	$2,629.73
Office Team	$2,528.00
Robert Leete	$2,133.04
Mt. Diablo Resource Recovery	$1,932.65
William Mayer	$1,418.60
Univar	$1,244.83
Brentwood Ace Hardware	$1,232.97
Bryon Gutow	$1,066.58
Karina Dugand	$934.50
Verizon Wireless	$841.81
Aflac	$665.10
California Park & Recreation Society	$550.00
Office Depot	$539.83
Ricoh USA, Inc	$517.92
Discovery Bay Designs	$509.40
Matrix Trust	$490.24
Bill Pease	$460.00
Comcast	$407.29
Lucia Peters	$387.00
Bay Area News Group	$321.30
ReliaStar Life Insurance Company	$200.00
Water Utility Customer	$173.08
Michael Davies	$170.55
Discovery Pest Control	$167.00
UniFirst Corporation	$128.06
Alhambra	$120.03
Denalect Alarm Company	$116.50
Zee Medical Service Company	$107.46
Concentra	$98.00
Community Center Refund Customer	$72.00
Cintas	$71.57
	$1,040,521.59

Town of Discovery Bay, CA
Water & Wastewater

MONTHLY OPERATIONS REPORT

Sept 2019

3687 **Days of Safe Operations**

181,210 **worked hours without a recordable incident**

TRAINING:

- **Safety**
  - **Respirator Training**

- **Operation**
  - **None**

REPORTS SUBMITTED TO REGULATORY AGENCIES:

- **Monthly Discharge Monitoring Report (DMR)**
- **Monthly electronic State Monitoring Report (eSMR)**
- **Monthly Coliform Report, State Water Board (DDW)**

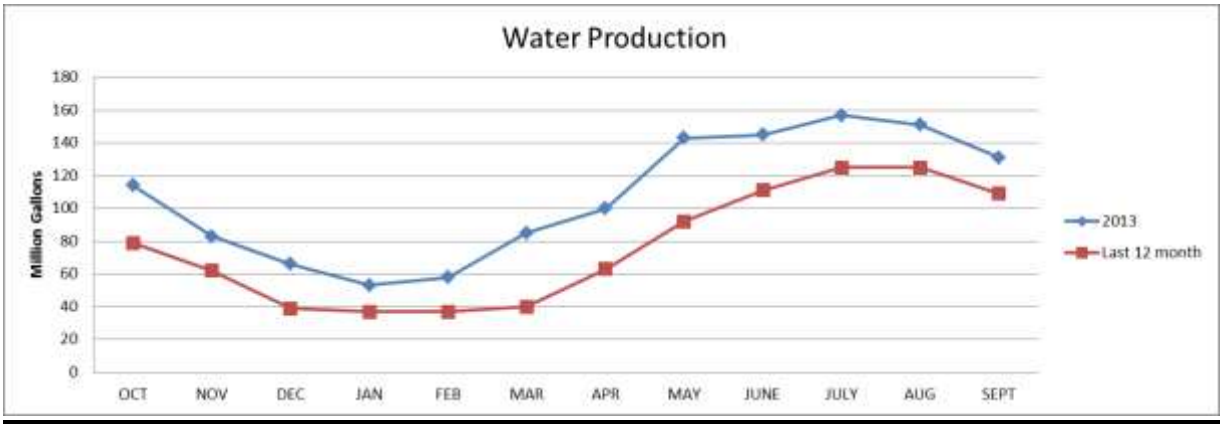
WATER SERVICES

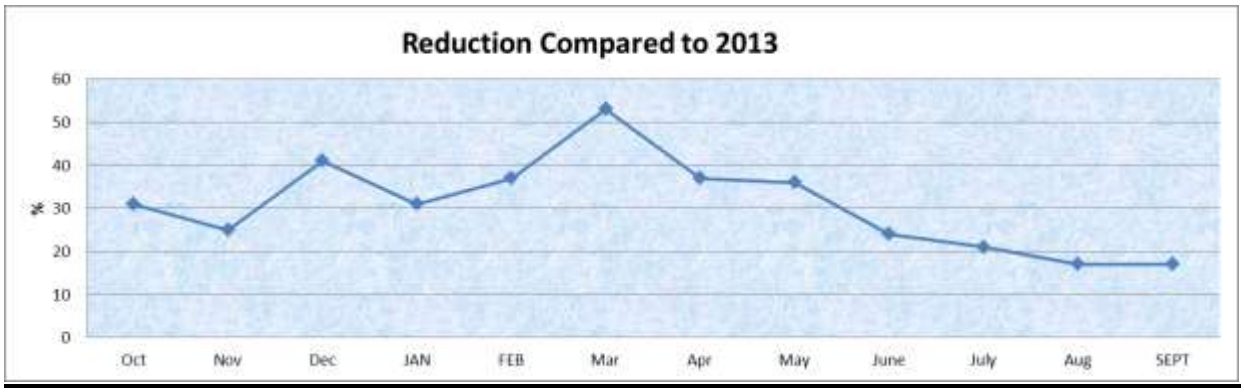
Groundwater Well:

- **1B - Active**
- **2 – Active**
- **4 – Active**
- **5B - Active (Standby only)**
- **6 – Active**
- **7 - Active**

2019 Monthly Water Production Table (MG):

January	February	March	April	May	June
37	37	40	63	92	111
July	**August**	**September**	**October**	**November**	**December**
125	125	109			





Bacteriological Test Results:

Routine Bacteria Samples Collected	No. Total Coliform Positives	No. Fecal/E. coli Positives	Brown Water Calls	Fire Hydrant Flushing
• 16	• 0	• 0	• 0	• 21

WASTEWATER SERVICE

Wastewater Laboratory Analysis

WW Effluent Parameter	*Permit Limits*	*August Lab Data*	*September Lab Data*
Flow, MG Effluent, **monthly total**	[redacted]	32	31
Flow, MG Daily Influent Flow, **avg**.	N/A	1.2	1.2
Flow, MG Daily Discharge Flow, **avg**.	2.35	1.0	1.0
Effluent BOD_5, lbs/d, **monthly avg**.	350	12	12
Effluent TSS, lbs/d, **monthly avg.**	200*	10	11
Effluent BOD_5, mg/L, **monthly avg**.	20	2	1
Effluent TSS, mg/L, **monthly avg.**	10*	1	1
Total Coli form 7 day Median Max	23	ND	ND
Total Coli form Daily Maximum	240	46	2
% Removal BOD_5, monthly avg.	85% min.	99%	99%
% Removal, TSS, monthly avg.	85% min.	99%	99%
Electrical Conductivity, umhos/cm **annual avg.**	2100	2264	2269

*New TSS Limit went into effect

National Pollution Discharge Elimination System (NPDES):

NPDES Related Excursions	Permit Parameter	NPDES Parameter Limit	Actual Parameter Result
• 0	• N/A	• N/A	• N/A

COLLECTION

Lift Station Status:

# of Active Lift Stations	# of Inactive Lift Stations	SSO	Wastewater Received (MG)
• 15	• 0	• 0	• 36

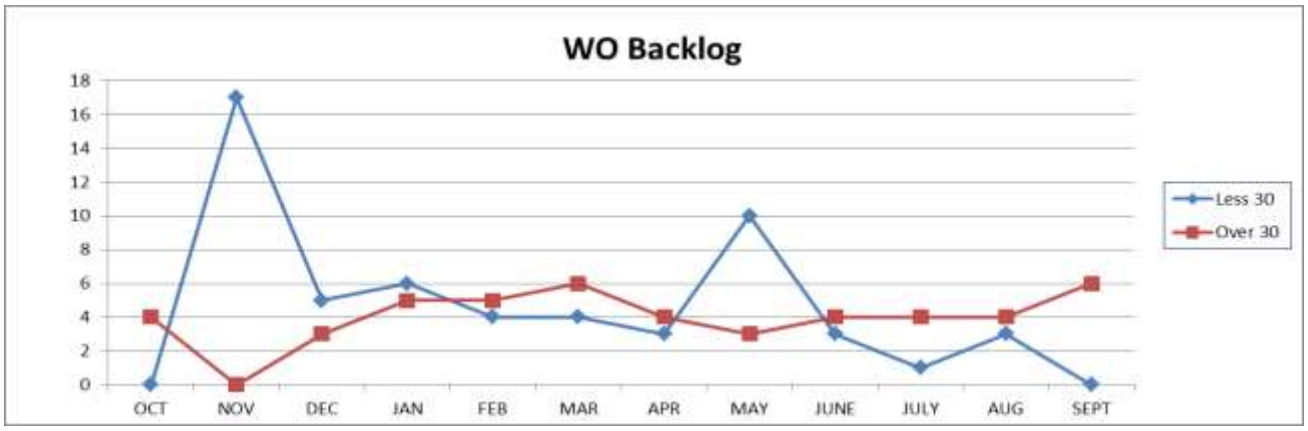
Performed weekly lift station inspections

Sewer System:

- Continue collection sanitary sewer line assessment
- Flushed/CCTV will be performed after assessment
- Manhole & covers are inspected during assessment.

MAINTENANCE

Preventive and Corrective:



Call & Emergency Response

Call Outs	Emergencies
6	**0**

Regular Hours	Overtime
1524	**21**

TERMS

WWTP	WASTEWATER TREATMENT PLANT
WTP	WATER TREAMENT PLANT
WL	WILLOW LAKE
NP	NEWPORT
VFD	VARIABLE FREQUENCY DRIVE
WO	WORK ORDER
PLC	PROGRAMMABLE LOGIC CONTROLLER
L/S	LIFT STATION
SSO	SANITARY SEWER OVERFLOW
BOD	BIOLOGICAL OXYGEN DEMAND
TSS	TOTAL SUSPENDED SOLIDS
MGD	MILLION GALLONS PER DAY
mg/l	MILLIGRAMS PER LITRE
CCTV	CLOSED CIRCUIT TELEVISION
PPM	PARTS PER MILLION
RAS	RETURN ACTIVATED SLUDGE
WAS	WATSE ACTIVATED SLUDGE
UV	ULTRAVIOLET LIGHT

Town of Discovery Bay

"A Community Services District"

STAFF REPORT

Meeting Date

October 16, 2019

Prepared By: Michael R. Davies, General Manager
Submitted By: Michael R. Davies, General Manager

Agenda Title

Discussion and Possible Action Regarding Submittal of Comments to RWQCB on the Tentative Draft of the Town's NPDES Permit.

Recommended Action

Provide comment, if any, to staff's written response to the RWQCB regarding the Tentative Draft of NPDES Permit No. CA0078590.

Executive Summary

Staff has submitted an application for a renewal of our wastewater five-year National Pollution Discharge Elimination Permit ("NPDES"). On July 24, 2019, staff received from the Regional Water Quality Control Board ("RWQCB") a "Preliminary Draft" of NPDES Permit No. CA0078590. Staff was given until August 7, 2019 to review the Preliminary Draft NPDES and provide comment to RWQCB. On August 7, 2019, the Board approved staff's draft written response in a comment letter that was subsequently sent to RWQCB.

On September 20, 2019, staff received a "tentative" NPDES Permit Renewal for comment. With the tentative NPDES Permit Renewal, the RWQCB required that the Town publish and post a Notice of Public Hearing regarding the renewal, along with a proof of posting as soon as possible (see attached). The public hearing on adopting the proposed order is scheduled for December 5/6, 2019 at the Central Valley Water Board Meeting. Written comments on the proposed permit renewal are due to RWQCB by October 21, 2019.

Staff has reviewed the tentative NPDES Permit Renewal (attached) and noted that some of the technical errors made in the "preliminary" draft version were corrected pursuant to our written comments. Staff's original comments requesting substantive changes to what staff considers unfair or unreasonable requirements were ignored.

Attached hereto are staff's updated comments on the tentative order. With Board approval tonight, staff will submit these comments to RWQCB prior to the October 21, 2019 deadline. It is the intention of staff to attend the public hearing and provide oral comment at the Central Valley Water Board Meeting (they will notify staff on whether the meeting will take place on December 5th or 6th).

Attachments

RWQCB Waste Discharge Requirements NPDES Permit No. CA0078590 – "Tentative" Draft.
TODB Comment Letter to RWQCB re: Renewal of NPDES Permit No. CA0078590 – Tentative Draft.
Letter Dated 09-27-19 to RWQCB Providing Proof of Posting of Public Hearing.

AGENDA ITEM: F-1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

11020 Sun Center Drive, #200 Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • Fax (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

ORDER R5-2019-XXXX

NPDES NO. CA0078590

WASTE DISCHARGE REQUIREMENTS FOR THE TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT DISCOVERY BAY WASTEWATER TREATMENT PLANT CONTRA COSTA COUNTY

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

Table 1. Discharger Information

Discharger	Town of Discovery Bay Community Services District
Name of Facility	Discovery Bay Wastewater Treatment Plant
Facility Address	2500 Channel Road (Plant 1) and 17501 Highway 4 (Plant 2)
	Discovery Bay, CA 94505
	Contra Costa County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated Municipal Wastewater	37° 53' 08"	121° 34' 30"	Old River

Table 3. Administrative Information

This Order was adopted on:	**<Adoption Date>**
This Order shall become effective on:	**<Effective Date>**
This Order shall expire on:	**<Expiration Date>**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**[Choose: 1-year prior to the Order expiration date OR <insert date>]**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**Major**

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **5/6 December 2019**.

PATRICK PULUPA, Executive Officer

TENTATIVE

CONTENTS

TABLES

ATTACHMENTS

TENTATIVE

I. FACILITY INFORMATION

Information describing the Town of Discovery Bay Community Services District (Discharger), Discovery Bay Wastewater Treatment Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

A. Legal Authorities. This Order serves as waste discharge requirements (WDR's) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDR's in this Order.

B. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E, G and H are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections VI.C.4 and VI.C.6.a are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."*

TENTATIVE

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

E. Notification of Interested Persons. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

F. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2014-0073 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

D. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

E. Average Dry Weather Flow. Discharges exceeding an average dry weather flow of 2.35 million gallons per day (MGD) are prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-001, as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

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Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	--	--	--
pH	standard units	--	--	--	6.5	8.5
Total Suspended Solids	mg/L	10	15	--	--	--
Priority Pollutants						
Copper, Total Recoverable	µg/L	45	--	63	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)[1]	mg/L	0.7	1.4	--	--	--
Nitrate Plus Nitrite (as N)[1]	mg/L	10	17	--	--	--

1. Final effluent limitations for ammonia nitrogen, total (as N), and nitrate plus nitrite (as N) are effective **31 December 2023**.

b. **Percent Removal:** The average monthly percent removal of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent.

c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and

ii. 90%, median for any three consecutive bioassays.

d. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.

e. **Total Coliform Organisms. Effective 31 December 2022.** Effluent total coliform organisms shall not exceed the following with compliance measured at Monitoring Locations UVS-001 and UVS-002:

i. 2.2 most probable number (MPN) per 100 mL, as a 7-day median.

ii. 23 MPN/100 mL, more than once in any 30-day period; and

iii. 240 MPN/100 mL, at any time.

f. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below:

i. **Average Monthly Effluent Limitation**

$$S_{AMEL} = \frac{C_{D\,AVG}}{0.079} + \frac{C_{C\,AVG}}{0.012} \leq 1.0$$

$C_{D\text{-}avg}$ = average monthly diazinon effluent concentration in µg/L.
$C_{C\text{-}avg}$ = average monthly chlorpyrifos effluent concentration in µg/L.

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ii. **Maximum Daily Effluent Limitation**

$$S_{MDEL} = \frac{C_{D\,MAX}}{0.16} + \frac{C_{C\,MAX}}{0.025} \leq 1.0$$

$C_{D\text{-}max}$ = maximum daily diazinon effluent concentration in µg/L.
$C_{C\text{-}max}$ = maximum daily chlorpyrifos effluent concentration in µg/L.

g. **Electrical Conductivity @ 25°C.** The effluent calendar annual average electrical conductivity shall not exceed 2,400 µmhos/cm.

h. **Methylmercury. Effective 31 December 2030**, the effluent calendar year annual methylmercury load shall not exceed 0.37 grams, in accordance with the Delta Mercury Control Program.

2. Interim Effluent Limitations

a. During the period beginning 1 February 2020 and ending on 30 December 2023, the Discharger shall maintain compliance with the following limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 5. Interim Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia Nitrogen, Total (as N)[1]	mg/L	--	--	8.4	--	--
Nitrate Plus Nitrite (as N)[1]	mg/L	--	--	39	--	--

1. Interim effluent limitations for ammonia nitrogen, total (as N) and nitrate plus nitrate (as N) are effective through **30 December 2023**.

b. **Total Coliform Organisms. Effective immediately and through 30 December 2022,** effluent total coliform organisms at Monitoring Locations UVS-001 and UVS-002 shall not exceed:

i. 23 MPN/100 mL, as a 7-day median; and

ii. 240 MPN/100 mL, more than once in any 30-day period.

These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified in Section IV.A.1.e for total coliform organisms during the time period indicated.

c. **Mercury, total. Effective immediately and until 30 December 2030**, for a calendar year, the total annual mass discharge of total mercury shall not exceed 24 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation for methylmercury (Sections III.A.1.h).

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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The discharge shall not cause the following in the Old River.

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen.** The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5**.**
9. **Pesticides:**
    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
    d. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
    e. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
    f. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR 131.12.);
    g. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
    h. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCL's); nor
    i. Thiobencarb to be present in excess of 1.0 µg/L.
10. **Radioactivity:**
    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
    b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.
15. **Temperature.** The discharge shall not cause the following in the Old River:
    a. The creation of a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of the river channel at any point.
    b. A surface water temperature rise greater than 4°F above the natural temperature of the receiving water at any time or place.
16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
17. **Turbidity.**
    a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
    b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
    c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
    d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
    e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Release of waste constituents from any storage, treatment, or disposal component associated with the Facility shall not, in combination with other sources of the waste constituents, cause groundwater within influence of the Facility to contain waste constituents in concentrations in excess of natural background quality or cause the following in groundwater:
    a. Beneficial uses to be adversely impacted or water quality objectives to be exceeded; and
    b. Total coliform organisms median of 2.2 MPN/100 mL over any 7-day period.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.

   b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

      i. violation of any term or condition contained in this Order;

      ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

      iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

      iv. a material change in the character, location, or volume of discharge.

      The causes for modification include:

      i. *New regulations.* New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

      i. *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

      ii. *Change in sludge use or disposal practice.* Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

      The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

   c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

      The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

   d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections

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301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

o. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

p. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, average weekly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, calendar year annual average, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

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b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and the mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

d. **Pollution Prevention.** This Order requires the Discharger to continue to implement pollution prevention plans following Water Code section 13263.3(d)(3) for ammonia nitrogen (as N), nitrate plus nitrite, mercury, Title 22, and salinity. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.

e. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a new chronic toxicity effluent limitation, a revised acute toxicity effluent limitation, and/or an effluent limitation for a specific toxicant identified in a TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions, this Order may be reopened to implement the new provisions.

f. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

g. **Drinking Water Policy.** On 26 July 2013 the Central Valley Water Board adopted Resolution No. R5-2013-0098 amending the Basin Plan and establishing a Drinking Water Policy. The State Water Board approved the Drinking Water Policy on 3 December 2013. This Order may be reopened to incorporate monitoring of drinking water constituents to implement the Drinking Water Policy.

h. **Ultraviolet (UV) Disinfection Operating Specifications.** The UV operating specifications in this Order are based on the UV guidelines developed by the National Water Research Institute and American Water Works Association Research Foundation titled, "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse." If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications.

i. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 31 May 2018, as part of the CV-SALTS initiative, the Central Valley Water Board approved Basin Plan Amendments to incorporate new strategies for addressing

ongoing salt and nitrate accumulation in the Central Valley. If approved by the State Water Board, the Office of Administrative Law, and U.S. EPA, the Amendments would impose certain new requirements on salt and nitrate discharges. More information regarding these Amendments can be found at the following link:

https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/

If the Amendments ultimately go into effect, this Order may be amended or modified to incorporate any newly-applicable requirements.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation Requirements.** This Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the chronic toxicity thresholds defined in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity.

i. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger is >10 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold above at which the Discharger is required to initiate additional actions to evaluate effluent toxicity as specified in subsection iii, below.

ii. **Chronic Toxicity Monitoring Trigger Exceeded.** When a chronic whole effluent toxicity result during routine monitoring exceeds the chronic toxicity effluent limitation, the Discharger shall proceed as follows:

(a) **Evaluate 6-week Median**. The Discharger may take two additional samples within 6 weeks of the initial routine sampling event exceeding the chronic toxicity monitoring trigger to evaluate compliance using a 6-week median. If the 6-week median is greater than 10 TUc (as $100/EC_{25}$) and the percent effect is greater than 25 percent at 10 percent effluent, proceed with subsection (c). Otherwise, the Discharger shall check for any operation or sample collection issues and return to routine chronic toxicity monitoring.

(b) **Toxicity Source Easily Identified.** If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall resume routine chronic toxicity monitoring; If the source of toxicity is not easily identified the Discharger shall conduct a site-specific TRE or participate in an approved TES as described in the following subsections.

(c) **Toxicity Reduction Evaluation.** If the percent effect is > 50 percent at 100 percent effluent, as the median of three consecutive chronic toxicity tests within a 6 week period, the Discharger shall initiate a site-specific TRE as follows:

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(1) **Within thirty (30) days** of exceeding the chronic toxicity monitoring trigger, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

- Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
- Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
- A schedule for these actions.

3. Best Management Practices and Pollution Prevention

a. **Pollution Prevention Plan for Mercury.** The Discharger shall continue to implement a pollution prevention plan for mercury in accordance with Water Code section 13263.3(d)(3), per the compliance schedule in this Order for methylmercury (section VI.C.7.c), and further described in the Fact Sheet. The minimum requirements for the pollution prevention plan are outlined in the Fact Sheet (Attachment F, section VI.B.3.a). Progress reports shall be submitted by the due dates in the Technical Reports Table and may be submitted with the Annual Operations Report. The progress reports shall discuss the effectiveness of the pollution prevention plan in the reduction of mercury in the discharge, include a summary of mercury and methylmercury monitoring results, and discuss updates to the pollution prevention plan.

b. **Pollution Prevention Plan for Title 22 (TSS, Turbidity, and Total Coliform).** The Discharger shall continue to implement its pollution prevention plan for TSS, turbidity, and total coliform in accordance with Water Code section 13263.3(d)(3). Progress reports shall be submitted by the due dates in the Technical Reports Table.

c. **Salinity Evaluation and Minimization Plan.** The Discharger shall continue to implement a salinity evaluation and minimization plan to identify and address sources of salinity discharged from the Facility.

The Discharger shall evaluate the effectiveness of the salinity evaluation and minimization plan and provide a summary by the due date in the Technical Reports Table.

4. Construction, Operation and Maintenance Specifications

a. **Filtration System Operating Specifications.** To ensure the filtration system is operating properly to provide adequate disinfection of the wastewater, the turbidity of the filter effluent measured at Monitoring Location FIL-001 shall not exceed:

i. 2 NTU as a daily average;

ii. 5 NTU more than 5 percent of the time within a 24-hour period; and

iii. 10 NTU, at any time.

b. **Ultraviolet (UV) Disinfection System Operating Specifications.** The UV disinfection system must be operated in accordance with an operations and maintenance program that assures adequate disinfection, and shall meet the following minimum specifications to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water:

i. **UV Dose.**

(a) **Effective immediately and ending on 30 December 2022,** the minimum hourly average UV dose in the UV reactor shall be 80 millijoules per square centimeter (mJ/cm^2).

(b) **Effective 31 December 2022**, the minimum hourly average UV dose in the UV reactor shall be 100 mJ/cm^2.

ii. **UV Transmittance**. **Effective 31 December 2022,** the minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at UVS-001 and UVS-001 shall not fall below 55 percent.

iii. The lamp sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

iv. The lamp sleeves must be cleaned periodically as necessary to meet the UV dose requirements.

v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.

c. **Treatment Pond Operating Requirements.**

i. The sludge ponds shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

ii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

iii. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

(a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

(b) Weeds shall be minimized.

(c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

iv. Freeboard in the ponds shall not be less than 2 feet (measured vertically to the lowest point of overflow), except if lesser freeboard does not threaten the integrity of the pond, no overflow of the pond occurs, and lesser freeboard is due to direct precipitation or storm water runoff occurring as a result of annual precipitation with greater than a 100-year recurrence interval, or a storm event with an intensity greater than a 25-year, 24-hour storm event.

v. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the disposal areas or property owned by the Discharger.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and

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shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503.

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section V.B. of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations included in section V.B. of this Order.

ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. part 503 whether or not they have been incorporated into this Order.

iii. The onsite sludge/biosolids treatment, processing, and storage for the Facility is described in the Fact Sheet (Attachment F, Section II.A). Any proposed change in the onsite treatment, processing, or storage of sludge/biosolids shall be reported to the Executive Officer at least **90 days** in advance of the change and shall not be implemented until written approval by the Executive Officer.

6. Other Special Provisions

a. **Title 22, or Equivalent, Disinfection Requirements. Effective 31 December 2022**, wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, Division of Drinking Water (DDW) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent**,** in accordance with the compliance schedule in Section V.C.7.a, below.

7. Compliance Schedules

a. **Compliance Schedule for Title 22, or Equivalent, Disinfection Requirements.** This Order requires compliance with final effluent limitations for total coliform organisms by **31 December 2022.** The Discharger shall comply with the time

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schedule shown in the Technical Reports Table to ensure compliance with the final effluent limitations.

b. **Compliance Schedule for Ammonia and Nitrate Plus Nitrite.** This Order requires compliance with the final effluent limitations for ammonia and nitrate plus nitrite by **31 December 2023**. The Discharger shall comply with the time schedule shown in the Technical Reports Table to ensure compliance with the final effluent limitations.

c. **Compliance Schedule for Final Effluent Limitations for Methylmercury.** This Order requires compliance with the final effluent limitations for methylmercury by **31 December 2030**. The Discharger shall comply with the time schedule shown in the Technical Reports Table to ensure compliance with the final effluent limitations.

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (Section IV.A.1.a). Compliance with the final effluent limitations for BOD_5 and TSS required in Waste Discharge Requirements section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.1.a for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. Total Mercury Mass Loading Effluent Limitations (Section IV.A.1.h). The procedures for calculating mass loadings are as follows:

1. The total pollutant mass load for each individual calendar month shall be determined using an average of all concentration data collected that month and the corresponding total monthly flow. All effluent monitoring data collected under the monitoring and reporting program, pretreatment program, and any special studies shall be used for these calculations. The total annual mass loading shall be the sum of the individual calendar months.

2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.

C. Average Dry Weather Flow Prohibition (Section II.K). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

D. Total Coliform Organisms Effluent Limitations (Section IV.A.1.e). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance.

E. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

   a. A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

   b. A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall not be deemed out of compliance.

F. Chronic Whole Effluent Toxicity Effluent Trigger (Section VI.C.3.a.ii). To evaluate compliance with the chronic whole effluent toxicity effluent trigger, the median chronic toxicity units (TUc) shall be the median of up to three consecutive chronic toxicity bioassays during a six week period. This includes a routine chronic toxicity monitoring event and two subsequent optional compliance monitoring events. If additional compliance monitoring events are not conducted the median is equal to the result for routine chronic toxicity monitoring event. If only one additional compliance monitoring event is conducted, the median will be established as the arithmetic mean of the routine monitoring event and compliance monitoring event.

Where the median chronic toxicity units exceed 10 TUc (as $100/EC_{25}$) for any endpoint, the Discharger will be deemed out of compliance with the chronic toxicity effluent trigger if the median percent effect at 10 percent effluent for the same endpoint also exceeds 25 percent. The percent effect used to evaluate compliance with the chronic toxicity effluent limitation shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result. If the median TUc is based on two equal chronic toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate compliance with the chronic toxicity effluent limitation.

G. Use of Delta Regional Monitoring Program and Other Receiving Water Data to Determine Compliance with Receiving Water Limitations. Delta Regional Monitoring Program data and other receiving water monitoring data that is not specifically required to be

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conducted by the Discharger under this Order will not be used directly to determine that the discharge is in violation of this Order. The Discharger may, however, conduct any site-specific receiving water monitoring deemed appropriate by the Discharger that is not conducted by the Delta Regional Monitoring Program and submit that monitoring data. As described in section VIII of Attachment E, such data may be used, if scientifically defensible, in conjunction with other receiving water data, effluent data, receiving water flow data, and other pertinent information to determine whether or not a discharge is in compliance with this Order.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the

dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effect Concentration (EC)
A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC_{25} is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Endpoint
An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inhibition Concentration
Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g., reproduction or growth), calculated from a continuous model (i.e., Interpolation Method). IC25 is a point estimate of the toxic concentration that would cause a 25-percent reduction in a non-lethal biological measurement.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = ($X_{n/2}$ + $X_{(n/2)+1}$)/2 (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum measured concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in in 40 C.F.R. part 136, Attachment B.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

No-Observed-Effect-Concentration (NOEC)
The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Percent Effect
The percent effect at the instream waste concentration (IWC) shall be calculated using untransformed data and the following equation:

$$\text{Percent Effect of the Sample} = \frac{\text{Mean Control Response} - \text{Mean Sample Response}}{\text{Mean Control Response}} \cdot 100$$

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:
- x is the observed value;
- μ is the arithmetic mean of the observed values; and
- n is the number of samples.

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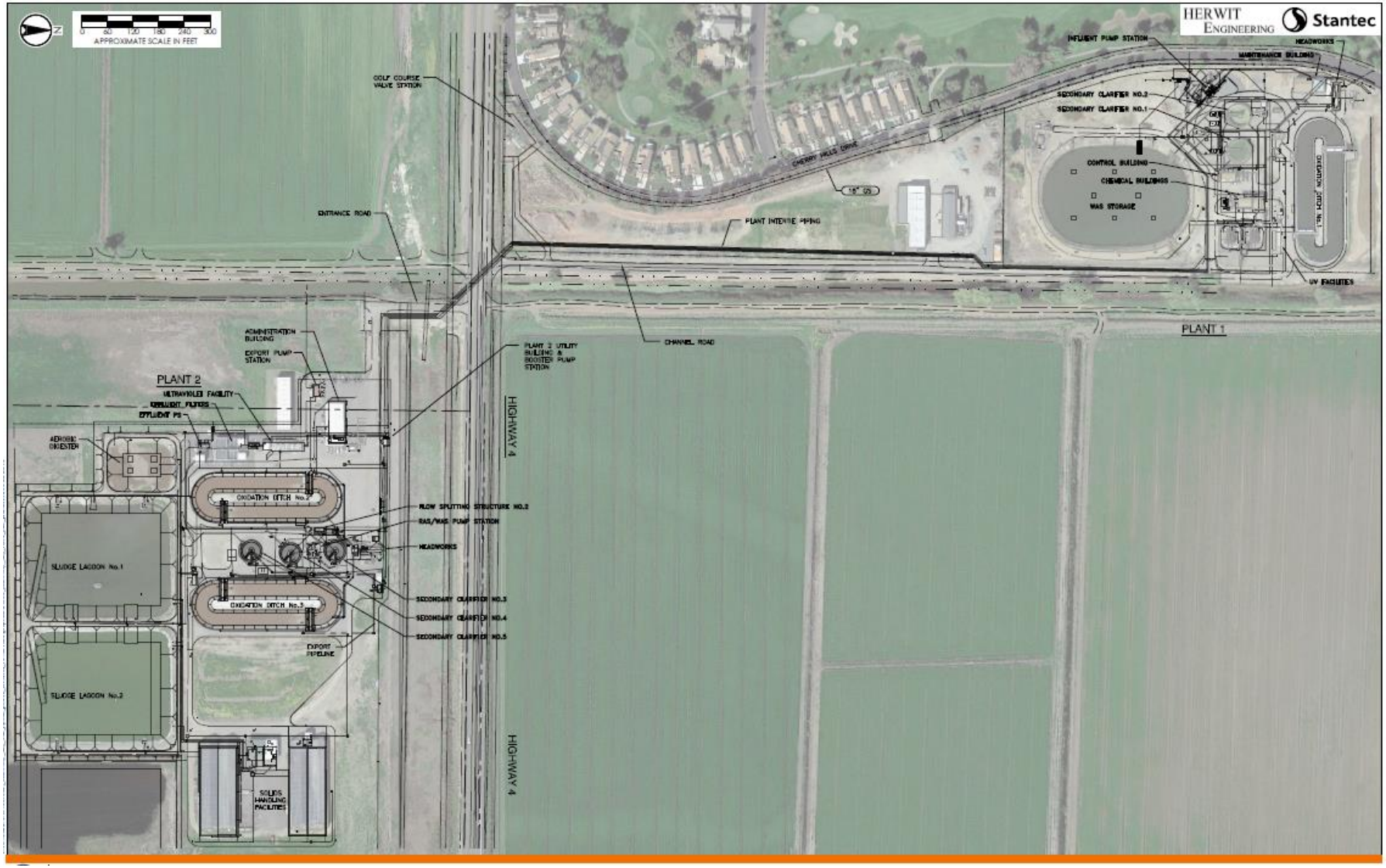
Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP



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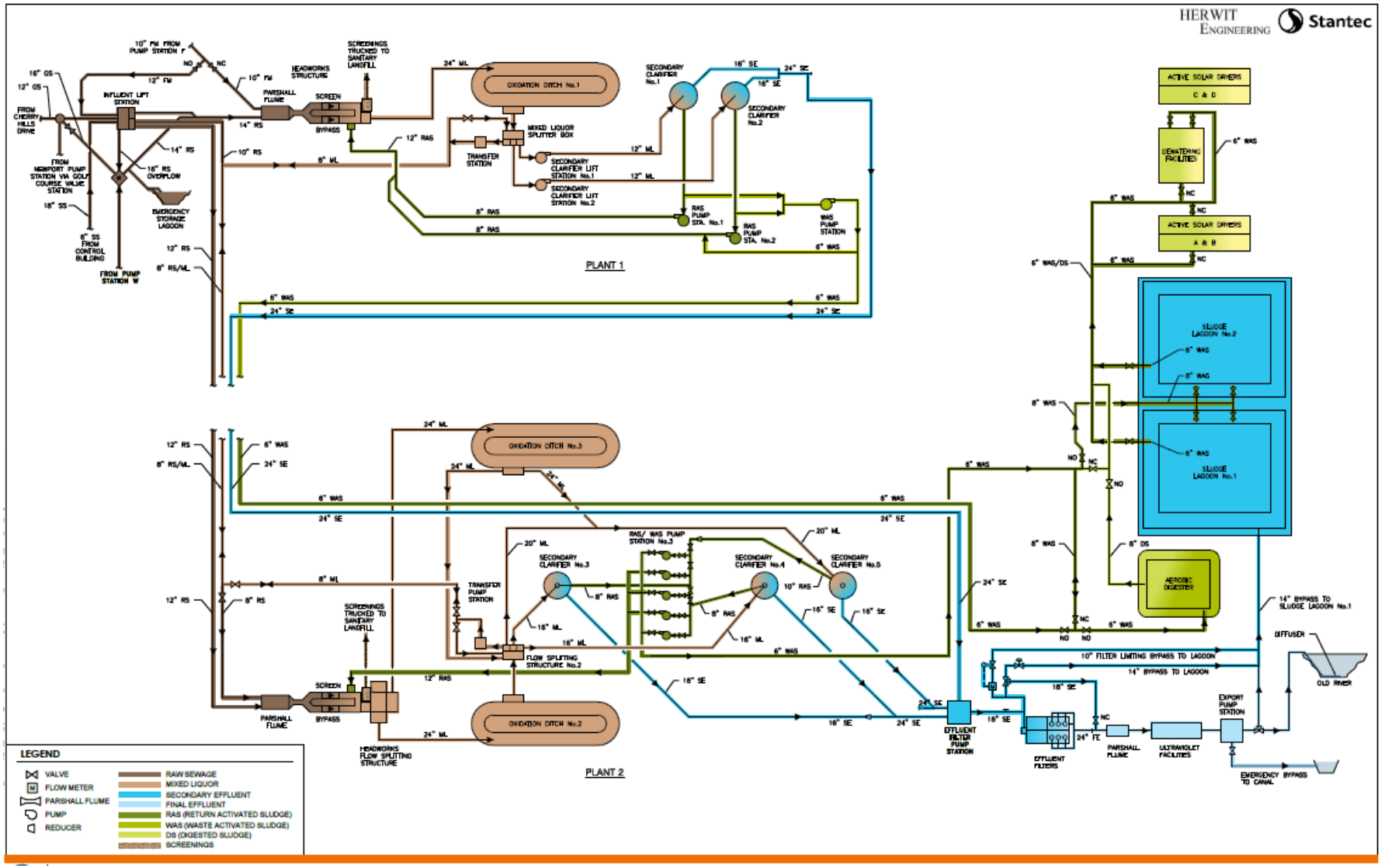
ATTACHMENT C – FLOW SCHEMATIC



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ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, § 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, § 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Central Valley Water Board. As of 21 December 2020, all notices shall be submitted electronically to the initial recipient (State Water Board), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Central Valley Water Board. As of 21 December 2020, all notices shall be submitted electronically to the initial recipient (State Water Board), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when the method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter, or when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and:
    a. The method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter, or;
    b. The method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge;

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. § 122.21(e)(3), 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all

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monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).
3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

6. Any person providing the electronic signature for such documents described in Standard Provision – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of 21 December 2016 all reports and forms must be submitted electronically to the initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in

the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather.

   As of 21 December 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient (State Water Board) defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3. They may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
   The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application

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process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).) Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

G. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Central Valley Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

H. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Central Valley Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

I. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTW's)

All POTW's shall provide adequate notice to the Central Valley Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Final effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory accredited for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health), in accordance with the provision of Water Code section 13176. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event an accredited laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a non-accredited laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:

- the method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;

- the method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;
- the method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R 136 U.S. EPA-approved analytical methods for the pollutant/parameter.

G. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814

H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

I. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected prior to entering the treatment process. Latitude: 37°53' 42" Longitude: -121°35'14”
001	EFF-001	A location where a representative sample of the effluent from the Facility can be collected after all treatment processes and prior to commingling with other waste streams or being discharged into the Old River. Latitude: 37° 53' 08" Longitude: -121° 34' 30"
--	RSW-001	500 feet north of the point of discharge to the Old River. Latitude: 37° 52' 40" Longitude: -121° 34' 38"
--	RSW-002	200 feet south of the point of discharge to the Old River. Latitude: 37° 53' 60" Longitude: -121° 34' 3"
--	RGW-001, RGW-002, and RGW-003	Groundwater monitoring well network.
--	INT-001	Internal monitoring location immediately downstream of the secondary clarifiers and prior to the tertiary filters.
--	INT-002	Internal monitoring location located immediately downstream of the secondary clarifiers or tertiary filters and prior to UVS-001..
--	UVS-001	A location where a representative sample of wastewater can be collected immediately downstream of the UV disinfection system.

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Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	PND-001	Sludge Lagoon #1
--	PND-002	Sludge Lagoon #2
--	BIO-001	A location where a representative sample of biosolids can be collected.
--	SPL-001	A location where a representative sample location for the municipal water supply can be collected.

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility or other description of monitored influent at INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand(5-day @ 20°C)	mg/L	24-hr Composite [1]	1/Week	[2]
pH	standard units	Grab[3]	1/Week	[2]
Total Suspended Solids	mg/L	24-hr Composite [1]	1/Week	[2]
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[2]
Temperature	°F	Grab	1/Week	[2]
Total Dissolved Solids	mg/L	Grab[3]	1/Month	[2]

[1] 24-hour flow proportional composite.

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board.

[3] Grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.

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IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20° C)	mg/L	24-hr Composite [2]	2/Week	[1]
	% removal	Calculate	2/Week	--
pH	standard units	Grab	1/Week [3, 4]	[1]
Total Suspended Solids	mg/L	24-hr Composite [2]	2/Week	[1]
	% removal	Calculate	2/Week	--
Priority Pollutants				
Copper, Total Recoverable	µg/L	24-hr Composite [2]	1/Month	[1, 5]
Mercury, Total Recoverable	µg/L	Grab	1/Year	[1, 5]
Priority Pollutants and Other Constituents of Concern	See Section IX.D	See Section IX.D	See Section IX.D	[1, 5]
Non-Conventional Pollutants				
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week[3, 6]	[1]
Chloride	mg/L	Grab	1/Month	[1]
Chlorpyrifos	µg/L	Grab	1/Year	[7]
Diazinon	µg/L	Grab	1/Year	[7]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month [8]	[1]
Mercury (methyl)	µg/L	Grab	1/Year	[9]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	2/Month [10]	[1]
Nitrite Nitrogen, Total (as N)	mg/L	Grab	2/Month [10]	[1]
Temperature	°C	Grab	1/Week [3, 4]	[1]
Total Dissolved Solids	mg/L	Grab	1/Month	[1]
Whole Effluent Toxicity (see Section V. below)	µg/L	--	--	--

1 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods requested by the Discharger that have been approved by the Central Valley Water Board or the State Water Board.

2 24-hour flow proportional composite.

3 pH and temperature shall be recorded at the time of ammonia sample collection.

4 A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

5 For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, **Table E-10**).

6 Concurrent with whole effluent toxicity monitoring

7 Chlorpyrifos and diazinon shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

8 Hardness samples shall be collected concurrently with metals samples.

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[9] Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.

[10] Monitoring for nitrite and nitrate shall be conducted concurrently.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – The Discharger shall perform quarterly acute toxicity testing, concurrent with effluent ammonia sampling.

2. *Sample Types* – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001.

3. *Test Species* – Test species shall be fathead minnows (*Pimephales promelas*).

4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency –* The Discharger shall perform routine quarterly chronic toxicity testing. If the result of the routine chronic toxicity testing event exhibits toxicity, demonstrated by a result greater than 10 TUc (as 100/NOEC), the Discharger has the option of conducting two additional compliance monitoring events and perform chronic toxicity testing using the species that exhibited toxicity in order to calculate a median. The optional compliance monitoring events shall occur at least one week apart, and the final monitoring event shall be initiated no later than 6 weeks from the routine monitoring event that exhibited toxicity. See Compliance Determination Section VII.L for procedures for calculating 6-week median.

2. *Sample Types* – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001. The receiving water control shall be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – The testing shall be conducted using the most sensitive species. The Discharger shall conduct chronic toxicity tests with green alga, *Pseudokirchneriella subcapitata* (growth test), unless otherwise specified in writing by the Executive Officer.

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5. *Methods* – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002.

6. *Reference Toxicant* – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – For routine and compliance chronic toxicity monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-5, below. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-5, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions [a] (%)					Control
	100	55	10	5	2.5	
% Effluent	100	55	10	5	2.5	0
% Control Water	0	45	90	95	97.5	100

[a] Receiving water control or laboratory water control may be used as the diluent.

8. *Test Failure* – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in the Method Manual.

C. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Routing and compliance chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the monthly self-monitoring report, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

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d. The dates of sample collection and initiation of each toxicity test; and

e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring type, i.e., routine, compliance, TES, or TRE monitoring.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE Reporting.** Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan, or as amended by the Discharger's TRE Action Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

   c. Any information on deviations or problems encountered and how they were dealt with.

E. Most Sensitive Species Screening. The Discharger shall perform rescreening to re-evaluate the most sensitive species if there is a significant change in the nature of the discharge. If there are no significant changes during the permit term, a rescreening must be performed prior to permit reissuance and results submitted with the Report of Waste Discharge.

1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed using 100 percent effluent and one control. If the first two species sensitivity re-screening events result in no change in the most sensitive species, the Discharger may cease the species sensitive re-screening testing and the most sensitive species will remain unchanged.

2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing exceeds 1 TUc (as 100/NOEC), then the species used in that test shall be established as the most sensitive species. If there is more than a single test that exceeds 1 TUc (as 100/NOEC), then of the species exceeding 1 TUc (as 100/NOEC) that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening exceeds 1 TUc (as 100/NOEC), but at least one of the species exhibits a percent effect greater than 10 percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location PND-001 and PND-002

1. The Discharger shall monito the sludge lagoons at PND-001 and PND-002 as follows:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Freeboard	Feet	Measurement	1/Month	--

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger is required to participate in the Delta Regional Monitoring Program[1]. Delta Regional Monitoring Program data is not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Order. Delta Regional Monitoring Program monitoring stations are established generally as "integrator sites" to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta Regional Monitoring Program monitoring stations would not normally be able to identify the source of any specific constituent but would be used to identify water quality issues needing further evaluation. Delta Regional Monitoring Program monitoring data, along with the individual Discharger data, may be used to help establish background receiving water quality for reasonable potential analyses (RPA's) in an NPDES permit after evaluation of the applicability of the data for that purpose. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place and time that can be used in conjunction with other information, such as other receiving water monitoring data, spatial and temporal distribution and trends of receiving water data, effluent data from the Discharger's discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in the exceedance of a water quality objective.

A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor the Old River at RSW-001 and RSW-002 as follows:

Table E-6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Direction of Old River Flow	North/South	Observation	Whenever Sampling	--
Conventional Pollutants				
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Quarter	[1]
pH	standard units	Grab[2]	1/Month	[1]

[1] While participating in the Delta Regional Monitoring Program, the Discharger shall continue to submit receiving water data for temperature. At a minimum, one representative upstream receiving water temperature sample shall be submitted annually for the month of January. The temperature data shall be submitted in the January SMR and will be used to determine compliance with the temperature effluent limitation. Temperature data may be collected by the Discharger for this purpose or the Discharger may submit representative temperature data from the Delta RMP or other appropriate monitoring programs (e.g., Department of Water Resources, United States Geological Survey, etc.).

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Priority Pollutants				
Copper, Total Recoverable	µg/L	Grab	1/Quarter	[1,3]
Priority Pollutants and Other Constituents of Concern	See Section IX.D	See Section IX.D	See Section IX.D	[1,3,4]
Non-Conventional Pollutants				
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Month	[1]
Chloride	mg/L	Grab	1/Month	[1]
Dissolved Oxygen	mg/L	Grab[2]	1/Month	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[2]	1/Month	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month	[1]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[1]
Temperature	°F(°C)	Grab[2]	1/Month	[1]
Total Dissolved Solids	mg/L	Grab	1/Month	[1]
Turbidity	NTU	Grab[2]	1/Month	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[2] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA -approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[3] For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, section IX.D).

[4] Monitoring required at Monitoring Location RSW-001 only.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the Old River. Attention shall be given to the presence of:

   a. Floating or suspended matter;

   b. Discoloration;

   c. Bottom deposits;

   d. Aquatic life;

   e. Visible films, sheens, or coatings;

   f. Fungi, slimes, or objectionable growths; and

   g. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in the monitoring report.

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B. Monitoring Location RGW-001, RGW-002, and RGW-003

1. Prior to construction and/or beginning a sampling program of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Well Nos. RGW-001,RGW-002, and RGW-003) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

2. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at RGW-001, RGW-002, RGW-003, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-7. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter	--
Groundwater Elevation [1]	±0.01 feet	Calculated	1/Quarter	--
Gradient	feet/feet	Calculated	1/Quarter	--
Gradient Direction	degrees	Calculated	1/Quarter	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
pH	standard units	Grab	1/Quarter	[2]
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter	[2]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[2]

[1] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

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IX. OTHER MONITORING REQUIREMENTS

A. Municipal Water Supply

1. Monitoring Location SPL-001

a. The Discharger shall monitor the municipal water supply at SPL-001 as follows:

Table E-8. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloride[1]	Mg/L	Grab	1/Year	[2]
Total Dissolved Solids[1]	mg/L	Grab	1/Year	[2]
Electrical Conductivity @ 25°C[1]	µmhos/cm	Grab	1/Year	[2]
Standard Minerals[3]	mg/L	Grab	1/Year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method

[1] If the water supply is from more than one source, the total dissolved solids and electrical conductivity shall be reported as a weighted average and include copies of supporting calculations.
[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[3] Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e., cation/anion balance).

B. Filtration System and Ultraviolet Light (UV) Disinfection System

1. Monitoring Locations UVS-001, UVS-002, INT-001,and INT-002

a. The Discharger shall monitor the filtration system at Monitoring Location FIL-001 and the UV disinfection system at Monitoring LocationsUVS-001 and UVS-002 as follows:

Table E-9. Filtration System and UV Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Flow	MGD	Meter	INT-002	Continuous [1]
Turbidity [4]	NTU	Meter	INT-001 and INT-002	Continuous [1, 2]
Number of UV banks in operation	Number	Observation	N/A	Continuous [1]
UV Transmittance	Percent (%)	Meter	INT-0020	Continuous [1]
UV Dose [3]	mJ/cm [2]	Calculated	N/A	Continuous [1]
Total Coliform Organisms[4]	MPN/100mL	Grab	UVS-001	3/Week

[1] For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation. If analyzer(s) fail to provide continuous monitoring for more than two hours and influent and/or effluent from the disinfection process is not diverted for retreatment, the Discharger shall obtain and report hourly manual and/or grab sample results. The Discharger shall not decrease power settings or reduce the number of UV lamp banks in operation while the continuous analyzers are out of service and water is being disinfected.
[2] Report daily average and maximum turbidity.
[3] Report daily minimum hourly average UV dose and daily average UV dose. The minimum hourly average dose shall consist of lowest hourly average dose provided in any channel that had at least one bank of lamps operating during the hour interval. For channels that did not operate for the entire hour interval, the dose will be averaged based on the actual operation time.
[4] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

C. Effluent and Receiving Water Characterization

1. **Quarterly Monitoring.** Quarterly samples shall be collected from the effluent and upstream receiving water (Monitoring Locations EFF-001 and RSW-001) and analyzed for the constituents listed in Table E-10, below. Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.d.2) using sufficiently sensitive analytical methods and Reporting Levels per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The "Reporting Level" is synonymous with the "Method Minimum Level" described in the SSM Rule. Quarterly monitoring shall be conducted for one year beginning with the fourth quarter of 2021 and the results of such monitoring be submitted to the Central Valley Water Board with the

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monthly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

2. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

3. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in **Table E-10**, below.

4. **Analytical Methods Report Certification.** Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit's Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table.

Table E-10. Effluent and Receiving Water Characterization Monitoring

CTR #	Parameter	CAS Number	Units	Effluent Sample Type
VOLATILE ORGANICS				
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab
17	Acrolein	107-02-8	µg/L	Grab
18	Acrylonitrile	107-13-1	µg/L	Grab
19	Benzene	71-43-2	µg/L	Grab
20	Bromoform[2]	75-25-2	µg/L	Grab
21	Carbon Tetrachloride	56-23-5	µg/L	Grab
22	Chlorobenzene	108-90-7	µg/L	Grab
24	Chloroethane	75-00-3	µg/L	Grab
26	Chloroform	67-66-3	µg/L	Grab
35	Methyl Chloride	74-87-3	µg/L	Grab
23	Dibromochloromethane[2]	124-48-1	µg/L	Grab
27	Dichlorobromomethane[2]	75-27-4	µg/L	Grab
36	Methylene Chloride	75-09-2	µg/L	Grab
33	Ethylbenzene	100-41-4	µg/L	Grab
89	Hexachlorobutadiene	87-68-3	µg/L	Grab
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab
94	Naphthalene	91-20-3	µg/L	Grab
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab
39	Toluene	108-88-3	µg/L	Grab
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab
44	Vinyl Chloride	75-01-4	µg/L	Grab
	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab
28	1,1-Dichloroethane	75-34-3	µg/L	Grab
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab
31	1,2-Dichloropropane	78-87-5	µg/L	Grab
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab

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CTR #	Parameter	CAS Number	Units	Effluent Sample Type
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab
SEMI-VOLATILE ORGANICS				
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab
51	4-Nitrophenol	100-02-7	µg/L	Grab
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab
68	Bis(2-Ethylhexyl)Phthalate[2]	117-81-7	µg/L	Grab
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab
73	Chrysene	218-01-9	µg/L	Grab
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab
79	Diethyl Phthalate	84-66-2	µg/L	Grab
80	Dimethyl Phthalate	131-11-3	µg/L	Grab
86	Fluoranthene	206-44-0	µg/L	Grab
87	Fluorene	86-73-7	µg/L	Grab
88	Hexachlorobenzene	118-74-1	µg/L	Grab
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab
91	Hexachloroethane	67-72-1	µg/L	Grab
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab
93	Isophorone	78-59-1	µg/L	Grab
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab

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CTR #	Parameter	CAS Number	Units	Effluent Sample Type
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab
95	Nitrobenzene	98-95-3	µg/L	Grab
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab
99	Phenanthrene	85-01-8	µg/L	Grab
54	Phenol	108-95-2	µg/L	Grab
100	Pyrene	129-00-0	µg/L	Grab
INORGANICS				
	Aluminum	7429-90-5	µg/L	24-hr Composite[3]
1	Antimony, Total Recoverable	7440-36-0	µg/L	24-hr Composite[3]
2	Arsenic, Total Recoverable	7440-38-2	µg/L	24-hr Composite[3]
15	Asbestos	1332-21-4	µg/L	24-hr Composite[3]
3	Beryllium, Total Recoverable	7440-41-7	µg/L	24-hr Composite[3]
4	Cadmium, Total Recoverable	7440-43-9	µg/L	24-hr Composite[3]
5a (III)	Chromium, Total	7440-47-3	µg/L	24-hr Composite[3]
6	Copper, Total Recoverable[1]	7440-50-8	µg/L	24-hr Composite[3]
14	Iron, Total Recoverable	7439-89-6	µg/L	24-hr Composite[3]
7	Lead, Total Recoverable	7439-92-1	µg/L	24-hr Composite[3]
8	Mercury, Total Recoverable[1]	7439-97-6	µg/L	Grab
	Mercury, Methyl[1]	22967-92-6	µg/L	Grab
15	Manganese, Total Recoverable	7439-96-5	µg/L	24-hr Composite[3]
9	Nickel, Total Recoverable	7440-02-0	µg/L	24-hr Composite[3]
10	Selenium, Total Recoverable	7782-49-2	µg/L	24-hr Composite[3]
11	Silver, Total Recoverable	7440-22-4	µg/L	24-hr Composite[3]
12	Thallium, Total Recoverable	7440-28-0	µg/L	24-hr Composite[3]
13	Zinc, Total Recoverable	7440-66-6	µg/L	24-hr Composite[3]
NON-METALS/MINERALS				
	Boron	7440-42-8	µg/L	24-hr Composite[3]
	Chloride	16887-00-6	mg/L	24-hr Composite[3]
14	Cyanide, Total (as CN)	57-12-5	µg/L	Grab
	Phosphorus, Total (as P)	7723-14-0	mg/L	24-hr Composite[3]
	Sulfate	14808-79-8	mg/L	24-hr Composite[3]
	Sulfide (as S)	5651-88-7	mg/L	24-hr Composite[3]
PESTICIDES/PCBs/DIOXINS				
110	4,4-DDD	72-54-8	µg/L	24-hr Composite[3]
109	4,4-DDE	72-55-9	µg/L	24-hr Composite[3]
108	4,4-DDT	50-29-3	µg/L	24-hr Composite[3]
112	alpha-Endosulfan	959-98-8	µg/L	24-hr Composite[3]
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hr Composite[3]
102	Aldrin	309-00-2	µg/L	24-hr Composite[3]
113	beta-Endosulfan	33213-65-9	µg/L	24-hr Composite[3]
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hr Composite[3]
107	Chlordane	57-74-9	µg/L	24-hr Composite[3]
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hr Composite[3]
111	Dieldrin	60-57-1	µg/L	24-hr Composite[3]
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hr Composite[3]
115	Endrin	72-20-8	µg/L	24-hr Composite[3]
116	Endrin Aldehyde	7421-93-4	µg/L	24-hr Composite[3]
117	Heptachlor	76-44-8	µg/L	24-hr Composite[3]
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hr Composite[3]
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hr Composite[3]
119	PCB 1016 (Polychlorinated Biphenyl)	12674-11-2	µg/L	24-hr Composite[3]

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CTR #	Parameter	CAS Number	Units	Effluent Sample Type
120	PCB 1221 (Polychlorinated Biphenyl)	11104-28-2	µg/L	24-hr Composite[3]
121	PCB 1232 (Polychlorinated Biphenyl)	11141-16-5	µg/L	24-hr Composite[3]
122	PCB 1242 (Polychlorinated Biphenyl)	53469-21-9	µg/L	24-hr Composite[3]
123	PCB 1248 (Polychlorinated Biphenyl)	12672-29-6	µg/L	24-hr Composite[3]
124	PCB 1254 (Polychlorinated Biphenyl)	11097-69-1	µg/L	24-hr Composite[3]
125	PCB 1260 (Polychlorinated Biphenyl)	11096-82-5	µg/L	24-hr Composite[3]
126	Toxaphene	8001-35-2	µg/L	24-hr Composite[3]
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hr Composite[3]
CONVENTIONAL PARAMETERS				
	pH[1]	--	SU	Grab
	Temperature[1]	--	°C	Grab
NONCONVENTIONAL PARAMETERS				
	Foaming Agents (MBAS)	MBAS	mg/L	24-hr Composite[3]
	Hardness (as CaCO3)[1]	471-34-1	mg/L	Grab
	Specific Conductance (Electrical Conductivity or EC)[1]	EC	µmhos/cm	24-hr Composite[3]
	Total Dissolved Solids (TDS)[1]	TDS	mg/L	24-hr Composite[3]
	Dissolved Organic Carbon (DOC)	DOC	mg/L	24-hr Composite[3]
NUTRIENTS				
7	Ammonia (as N)[1]	7664-41-7	mg/L	24-hr Composite[3]
8	Nitrate (as N)[1]	14797-55-8	mg/L	24-hr Composite[3]
9	Nitrite (as N)[1]	14797-65-0	mg/L	24-hr Composite[3]
OTHER CONSTITUENTS OF CONCERN				
	1,2,3-Trichloropropane (TCP)	96-18-4	ug/L	Grab
	Acetone	67-64-1	µg/L	Grab
	Carbon Disulfide	75-15-0	µg/L	Grab
	Stoddard Solvent	8052-41-3	µg/L	Grab
	Trichlorofluoromethane	75-69-4	µg/L	Grab
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab
	Styrene	100-42-5	µg/L	Grab
	Xylenes	1330-20-7	µg/L	Grab
	Barium	7440-39-3	µg/L	24-hr Composite[3]
	Fluoride	16984-48-8	mg/L	24-hr Composite[3]
	Molybdenum	7439-98-7	µg/L	24-hr Composite[3]
	Tributyltin	688-73-3	µg/L	24-hr Composite[3]
	Alachlor	15972-60-8	µg/L	24-hr Composite[3]
	Atrazine	1912-24-9	µg/L	24-hr Composite[3]
	Bentazon	25057-89-0	µg/L	24-hr Composite[3]
	Carbofuran	1563-66-2	µg/L	24-hr Composite[3]
	2,4-D	94-75-7	µg/L	24-hr Composite[3]
	Dalapon	75-99-0	µg/L	24-hr Composite[3]
	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	24-hr Composite[3]
	Di(2-ethylhexyl)adipate	103-23-1	µg/L	24-hr Composite[3]
	Dinoseb	88-85-7	µg/L	24-hr Composite[3]
	Diquat	85-00-7	µg/L	24-hr Composite[3]
	Endothal	145-73-3	µg/L	24-hr Composite[3]
	Ethylene Dibromide (EDB)	106-93-4	µg/L	24-hr Composite[3]
	Methoxychlor	72-43-5	µg/L	24-hr Composite[3]
	Molinate (Ordram)	2212-67-1	µg/L	24-hr Composite[3]
	Oxamyl	23135-22-0	µg/L	24-hr Composite[3]
	Picloram	1918-02-1	µg/L	24-hr Composite[3]

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CTR #	Parameter	CAS Number	Units	Effluent Sample Type
	Simazine (Princep)	122-34-9	µg/L	24-hr Composite[3]
	Thiobencarb	28249-77-6	µg/L	24-hr Composite[3]
	2,4,5-TP (Silvex)	93-72-1	µg/L	24-hr Composite[3]
	Chlorpyrifos[1]	2921-88-2	µg/L	24-hr Composite[3]
	Diazinon[1]	333-41-5	µg/L	24-hr Composite[3]

[1] The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-3, except for hardness, pH, and temperature, which shall be conducted concurrently with the effluent sampling.

[2] In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

[3] 24-hour flow proportional composite.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "*Emergency Planning and Community Right to Know Act*" of 1986.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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Monthly SMRs are required even if there is no discharge. If no discharge occurs during the month, the monitoring report must be submitted stating that there has been no discharge.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
1/Hour	Permit effective date	Hourly	Submit with monthly SMR
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year

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4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory's Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported

value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data.** When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.

7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:

   a. **Calendar Annual Average Limitations**. For constituents with effluent limitations specified as "calendar annual average" (electrical conductivity) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

b. **Removal Efficiency (BOD_5 and TSS).** The Discharger shall calculate and report the percent removal of BOD_5 and TSS in the SMRs. The percent removal shall be calculated as specified in Section VII.A. of the Limitations and Discharge Requirements.

c. **Total Coliform Organisms Effluent Limitations**. The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7 day median of total coliform organisms shall be calculated as specified in Section VI.D. of the Waste Discharge Requirements.

d. **Dissolved Oxygen Receiving Water Limitations**. The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent (EFF-001) and the receiving water (RSW-001 and RSW-002).

e. **Turbidity Receiving Water Limitations**. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.17.a-e. of the Waste Discharge Requirements.

f. **Temperature Effluent Limitation**. For every day receiving water temperature samples are collected at Monitoring Locations RSW-001 and RSW-002, the Discharger shall calculate and report the difference between the effluent temperature and the "upstream" receiving water temperature based on the difference in the effluent temperature at Monitoring Location EFF-001 and receiving water temperature of grab samples collected at Monitoring Location RSW-001 or Monitoring Location RSW-002, depending on the direction of Old River flow at the time of sampling. Due to the tidal nature of the receiving water, the direction of flow in Old River shall be recorded at the time of sampling to ascertain which location (i.e., Monitoring Location RSW-001 or Monitoring Location RSW-002) is "upstream" or "downstream" of the Facility's discharge.

g. **Temperature Receiving Water Limitations**. The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

C. Discharge Monitoring Reports (DMR's)

DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMR's together with SMR's using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at:
(http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/).

D. Other Reports

1. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM

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Rule. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.

2. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table:

   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

   b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

   c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

   d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

   e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

3. **Technical Report Submittals**. This Order includes requirements to submit a Report of Waste Discharge (ROWD), special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as "technical reports"). The Technical Reports Table below summarizes all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-12. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
Standard Reporting Requirements			
1	Report of Waste Discharge	**<1 YEAR PRIOR TO PERMIT EXPIRATION DATE>**	ROWD
2	Analytical Methods Report (see attachment I)	**<WITHIN 60 DAYS OF PERMIT ADOPTION DATE>**	MRP X.D.3
3	Analytical Methods Report Certification Form (see Attachment J)	**<3 MONTHS PRIOR TO START OF CHARACTERIZATION MONITORING>**	MRP IX.D.5
4	Annual Operations Report	30 June 2020	MRP X.D.4
5		30 June 2021	MRP X.D.4
6		30 June 2022	MRP X.D.4
7		30 June 2023	MRP X.D.4

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Report #	Technical Report	Due Date	CIWQS Report Name
8		30 June 2024	MRP X.D.4
Compliance Schedule for Final Effluent Limitations for Title 22 Disinfection Requirements (WDR Section VI.C.7.a)			
9	**Submit Method of Compliance Workplan.** Submit workplan that ensures compliance with final effluent limitations for **total coliform organisms** by the final compliance date.	Complete	WDR VI.C.7.a.i
10	**Submit and Implement Pollution Prevention Plan (PPP) for TSS, Turbidity, and Total Coliform in accordance with Water Code section 13263.3(d)(3).** The PPP shall be prepared and implemented in accordance with Attachment F, Section VI.B.3.a of the permit.	Complete	WDR VI.C.7.a.ii
11	**Rate Analysis Report.** Submit a report with the annual progress report that includes the following: a) Identification of the funding alternatives and sources, such as revenue bonds, State Revolving Fund loan, etc.; and b) An evaluation of the source of rate revenue necessary to fund the selected compliance project(s).	Complete	WDR VI.C.7.a.iii
12	**Complete Financing Plan.** Submit with the annual progress report a financing plan for the selected compliance project(s) and a schedule for obtaining funding.	1 December 2019	WDR VI.C.7.a.iv
13	**Obtain Funding.** Submit a letter confirming compliance with this task.	30 June 2020	WDR VI.C.7.a.v
14	**Approval of Project by District Board.** Submit with the annual progress report confirmation of compliance with this task that includes a summary of the outcome of the District Board meeting (e.g., resolution on compliance alternative).	30 June 2020	WDR VI.C.7.a.vi
15	**Complete UV Improvement Design Plan.** Submit with the annual progress report confirmation of compliance with this task.	30 June 2021	WDR VI.C.7.a.vii
16	**Award Construction Bid.** Submit a letter confirming and describing detailed information on awarded construction bid process (e.g. date awarded, company, etc.).	30 August 2021	WDR VI.C.7.a.viii
17	**Final Compliance.** Submit report demonstrating compliance with the final effluent limits for total coliform organisms in Section IV.A.1, the operational specifications for UV disinfection in	31 December 2022	WDR VI.C.7.a.ix

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Report #	Technical Report	Due Date	CIWQS Report Name
	Section VI.C.4.b, and the Title 22 (or equivalent) disinfection requirements in Section VI.C.6.a.		
18	**Annual Progress Reports.** The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date.	30 June 2020	WDR VI.C.7.a.x
19		30 June 2021	WDR VI.C.7.a.x
20		30 June 2022	WDR VI.C.7.a.x
Compliance Schedule for Final Effluent Limitations for Ammonia and Nitrate Plus Nitrite (WDR Section VI.C.7.a)			
21	**Submit Method of Compliance Workplan.** Submit workplan that ensures compliance with final effluent limitations for ammonia and nitrate plus nitrite by the final compliance date.	Complete	WDR VI.C.7.b.i
22	**Submit and Implement Pollution Prevention Plan (PPP) for Ammonia and Nitrate Plus Nitrite in accordance with Water Code section 13263.3(d)(3).** The PPP shall be prepared and implemented in accordance with attachment F, Section VI.B.3.a of the permit.	Complete	WDR VI.C.7.b.ii
23	**Rate Analysis Report**. Submit a report with the annual progress report that includes the following: 1) Identification of the funding alternatives and sources, such as revenue bonds, State Revolving Fund loan, etc.; and 2) An evaluation of the source of rate revenue necessary to fund the selected compliance project(s).	Complete	WDR VI.C.7.b.iii
24	**Complete Construction of Oxidation Ditch and Secondary Clarifier.** Submit letter demonstrating compliance with this task.	Complete	WDR VI.C.7.b.iv
25	**Complete Financing Plan.** Submit with the annual progress report a financing plan for the selected compliance project(s) and a schedule for obtaining funding.	31 December 2019	WDR VI.C.7.b.v
26	**Obtain Funding.** Submit with the annual progress report confirmation of compliance with this task.	30 June 2021	WDR VI.C.7.b.vi
27	**Approval of Project by District Board.** Submit with the annual progress report	30 June 2021	WDR VI.C.7.b.vii

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Report #	Technical Report	Due Date	CIWQS Report Name
	confirmation of compliance with this task that includes a summary of the outcome of the District Board meeting (e.g., resolution on compliance alternative).		
28	**Complete Design.** Submit with the annual progress report confirmation of compliance with this task.	30 June 2022	WDR VI.C.7.b.viii
29	**Award Construction Bid.** Submit a letter confirming and describing detailed information on awarded construction bid process (e.g. date awarded, company, etc.).	30 August 2022	WDR VI.C.7.b.ix
30	**Final Compliance.** Submit report demonstrating compliance with the final effluent limits for ammonia and nitrate plus nitrite.	31 December 2023	WDR VI.C.7.b.x
31	**Progress Reports.** The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date.	30 June 2020	WDR VI.C.7.b.xi
32		30 June 2021	WDR VI.C.7.b.xi
33		30 June 2022	WDR VI.C.7.b.xi
34		30 June 2023	WDR VI.C.7.b.xi
Compliance Schedule for Final Effluent Limitations for Methylmercury (WDR Section VI.C.7.c)			
35	Mercury Pollution Prevention Plan Annual Progress Reports[1]	30 June 2020	WDR VI.C.7.c.i
36		30 June 2021	WDR VI.C.7.c.ii
37		30 June 2022	WDR VI.C.7.c.ii
38		30 June 2023	WDR VI.C.7.c.iv
39		30 June 2024	WDR VI.C.7.c.v
40	Notification of Full Compliance Signed by Legally Responsible Official (LRO)	31 December 2030[3]	WDR VI.C.7.X.vi
Other Reports			
41	Annual Pretreatment Reports	28 February 2020	MRP X.D.5
42		28 February 2021	MRP X.D.5
46		28 February 2022	MRP X.D.5
44		28 February 2023	MRP X.D.5
45		28 February 2024	MRP X.D.5
46	Salinity Evaluation and Minimization Plan Summary of Effectiveness	31 March 2023	WDR XI.C.3.c.

[1] Beginning **30 June 2020** and annually thereafter until the Facility achieves compliance with the final effluent limitations for methylmercury, the Discharger shall submit annual progress reports on the previously-submitted pollution prevention plan for mercury. This annual report may be combined with the Annual Operations Report and submitted as one report. The progress reports shall discuss the effectiveness of the pollution prevention plan in the reduction of mercury in the discharge, include a summary of mercury and methylmercury monitoring results, and discuss updates to the pollution prevention plan.

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ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet discusses the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	5B070105003
CIWQS Facility Place ID	220315
Discharger	Town of Discovery Bay Community Services District
Name of Facility	Discovery Bay Wastewater Treatment Plant
Facility Address	2500 Channel Road (Plant 1) and 17501 Highway 4 (Plant 2) Discovery Bay, CA 94505 Contra Costa County
Facility Contact, Title and Phone	Michael Davies, Facility Manager, (925) 634-1131
Authorized Person to Sign and Submit Reports	Michael Davies, Facility Manager, (925) 634-1131
Mailing Address	1800 Willow Lake Road, Discovery Bay, CA 94505
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	2.35 MGD, average dry weather flow
Facility Design Flow	2.35 MGD, average dry weather flow
Watershed	Sacramento-San Joaquin Delta
Receiving Water	Old River
Receiving Water Type	Estuary

A. Veolia West Operating Services, Inc. is the operator of Discovery Bay Wastewater Treatment Plant (hereinafter Facility), a POTW. The Town of Discovery Bay Community Services District owns the properties at 2500 Channel Road (Plant 1) and 17501 Highway 4 (Plant 2) on which the Facility is located. The Town of Discovery Bay Community Services District is hereinafter referred to as the Discharger.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable

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federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the Old River, a water of the United States, within the Sacramento-San Joaquin Delta. The Discharger was previously regulated by Order R5-2014-0073-01 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078590 adopted on 6 June 2014 and expires on 31 July 2019. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.

D. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDR's) and NPDES permit on 23 January 2019. The application was deemed complete on 12 March 2019. A site visit was conducted on 31 January 2019, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.]

E. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits, if State law allows it. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the Town of Discovery Bay and serves a population of approximately 16,000. The design daily average flow capacity of the Facility is 2.35 million gallons per day (MGD).

A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system at the Facility includes two plants (Plant 1 and Plant 2). Plant 1 consists of a Hycor headworks screen, an oxidation ditch, and two secondary clarifiers flow equalization and storage basin. Plant 2 consists of a Hycor headworks screen, two oxidation ditches, and three secondary clarifiers, sand filtration, two ultraviolet light (UV) disinfection systems. The influent is sent to Plant 2 during normal flow conditions and in high flow conditions influent can be diverted to Plant 1 for additional capacity. The secondary treated effluent from both plants converges at Plant 2 and then flows into the sand filter and then into the two UV disinfection system channels prior to discharge at Discharge Point 001 to Old River.

Sludge handling takes place at Plant 2 and consists of an aerated clay-lined lagoon (referred to as an aerobic digester), two clay lined sludge lagoons, three belt filter presses, and four greenhouse solar drying beds. The Discharger produces Class A biosolids. Biosolids are stored on site in the solar drying bed buildings or adjacent to the buildings on a concrete floor and are hauled to a local landfill once per year.

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B. Discharge Points and Receiving Waters

1. Plant 1 is located in Section 31, T1N, R3E, MDB&M and Plant 2 is located in Section 31, T1N, R4E, MDB&M, as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point 001 to the Old River, a water of the United States within the Sacramento-San Joaquin Delta, at a point latitude 37° 53' 08" N and longitude 121° 34' 30" W.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2014-0073-01 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2014-0073-01 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (1 October 2015 – 31 October 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20ºC)	mg/L	10	15	20	7	13	15
	lbs/day	200	290	390	60	100	160
pH	standard units	--	--	6.5 – 8.5	--	--	7.2 – 8.4
Total Suspended Solids	mg/L	10	15	20	11	15	15
	lbs/day	200	290	390	90	140	NR
Copper, Total Recoverable	µg/L	45	--	63	30	--	41
Ammonia Nitrogen, Total (as N)	mg/L	0.7	--	2.1	1.2	--	4.2
	lbs/day	14	--	41	NR	--	33
Nitrate Plus Nitrite (as N)	mg/L	10	--	--	32	--	--
Acute Toxicity	% survival	--	--	70[1]/90[2]	--	--	88[3]
Temperature	ºF	--	--	[4]	--	--	11[5]
Total Coliform Organisms	MPN/ 100 mL	2.2[6]	23[7]	240[8]	122	--	920
Average Daily Discharge Flow	MGD	--	--	2.35	--	--	2.18
Electrical Conductivity @ 25°C	µmhos/cm	2100[9]	--	--	2200[10]		

NR - Not Reported

1. Minimum for any one bioassay.
2. Median for any three consecutive bioassays.
3. Represents the minimum observed percent survival.
4. The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20ºF.
5. Represents the maximum observed temperature difference between the effluent and upstream receiving water at Monitoring Locations EFF-001 and RSW-001.

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6. Applied as a 7-day median effluent limitation.
7. Not to be exceeded more than once in any 30-day period.
8. Applied as an instantaneous maximum effluent limitation.
9. Applied as an annual average effluent limitation.
10. Represents the maximum observed annual average effluent concentration.

D. Compliance Summary

The Central Valley Water Board issued Administrative Civil Liability (ACL) Complaint No. R5-2018-0514 on 5 March 2018 which proposed to assess a civil liability of $15,000 against the Discharger for violations of effluent limitations in Orders R5-2008-0179 and R5-2014-0079 for biochemical oxygen demand, electrical conductivity, nitrate plus nitrite that between 1 May 2013 and 30 November 2018. ACLC R5-2018-0514 was dismissed through Order R5-2018-0521, which settled ACLC R5-2018-0514 through the Central Valley Water Board's Expedited Payment Program by the payment of the sum of $3,000.

E. Planned Changes –

The Discharger has determined that portions of the Facility's multi-port outfall diffuser to Old River have become plugged and many ports have broken off, compromising the capacity of the diffuser. Therefore, the Discharger intends to repair the Facility's diffuser. Planned diffuser repairs include upsizing the 10-inch and 6-inch segments of the diffuser to 18 inches. This change will reduce the pressure difference between Port #1 and Port #36. The aforementioned changes in diameter the repaired diffuser is expected to provide similar, or better, mixing compared to the original diffuser design. Thus, Regional Board staff have concluded that a new dilution study is not necessary for the repaired outfall diffuser.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.

   a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, May 2018 (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water

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Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Table F-3. Basin Plan Beneficial Uses.

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Old River	Existing: Municipal and domestic water supply (MUN); agricultural supply, including stock watering (AGR); industrial process supply (PROC); industrial service supply (IND); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD); and navigation (NAV).
--	Groundwater	Existing: Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

b. **Bay-Delta Plan**. The *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) was adopted in December 2006 by the State Water Board superseding the 1991 Bay-Delta Plan. The Bay-Delta Plan identifies the beneficial uses of the estuary and includes objectives for flow, salinity, and endangered species protection.

The State Water Board adopted Decision 1641 (D-1641) on 29 December 1999, and revised on 15 March 2000. D-1641 implements flow objectives for the Bay-Delta Estuary, approves a petition to change points of diversion of the Central Valley Project and the State Water Project in the Southern Delta, and approves a petition to change places of use and purposes of use of the Central Valley Project.

The Bay-Delta Plan includes water quality objectives for electrical conductivity for the South Delta in the vicinity of the discharge. On 25 February 2019, the Office of Administrative Law approved the 2018 Bay-Delta Plan amendments, which include a numeric water quality objective of 1,000 µmhos/cm maximum, applied as a 30-day running average of mean daily electrical conductivity (see Table F-11 below). The water quality objectives of the Bay-Delta Plan are implemented as part of this Order.

c. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on 7 January 1971, and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters. The Thermal Plan is applicable to the discharge from the Facility. For the purposes of the Thermal Plan, the discharge is considered to be an *Existing Discharge of Elevated Temperature Waste to an Estuary*, as defined in the Thermal Plan. Therefore, the Discharger must meet the water quality objective at Section 5.A(1) of the Thermal Plan, which requires compliance with the following:

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i. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.

ii. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

iii. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

iv. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

Requirements of this Order implement the Thermal Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be

as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that *"the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective"*.

   The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to Water Code section 13263.6(a).

   However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

9. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The Discharger has submitted a Notice of Intent (NOI) and been approved for coverage under the State Water Board's Industrial Storm water General Order. Therefore, this Order does not regulate storm water.

10. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on 2 May 2006. The State Water Board amended the MRP for the General Order through Order WQ

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2013-0058-EXEC on 6 August 2013. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMP's) and report all sanitary sewer overflows (SSO's), among other requirements and prohibitions.

The Discharger is subject to the requirements of, and must comply with, State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC and any subsequent order.

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 11 October 2011 U.S. EPA gave final approval to California's 2008-2010 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." The listing for the central portion of the Sacramento-San Joaquin Delta includes: chlorpyrifos, DDT, diazinon, Group A pesticides, invasive species, mercury, and unknown toxicity.
2. **Total Maximum Daily Loads (TMDL's).** Table F-4, below, identifies the 303(d) listings and any applicable TMDLs. This permit includes WQBELs that are consistent with the assumptions and considerations of the applicable WLAs in the TMDL's identified in Table 4 below.

Table F-4. 303 (d) List for Sacramento-San Joaquin Delta (Central Portion)

Pollutant	Potential Sources	TMDL Completion[1]
Chlorpyrifos	Urban runoff/storm sewers and agricultural return flows	10 October 2007
DDT	Agriculture	(2011)
Diazinon	Agriculture, urban runoff/storm sewers	10 October 2007
Group A Pesticides	Agriculture	(2011)
Invasive Species	Unknown	(2019)
Mercury	Resource Extraction	20 October 2011

[1] Dates in parenthesis are proposed TMDL dates. The proposed completion dates for DDT and Group A Pesticides will be updated on next 303(d) listing.

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3. The 303(d) listings and TMDL's have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section VI.C.X of this Fact Sheet.

E. Other Plans, Polices and Regulations

1. **Title 27.** The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

   a. The waste consists primarily of domestic sewage and treated effluent;

   b. The waste discharge requirements are consistent with water quality objectives; and

   c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality." Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that "[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits."

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBEL's to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page 4-27, contains an implementation policy, "Policy for Application of Water Quality Objectives", that specifies that the Central Valley Water Board "will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives." This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water

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quality criteria (i.e., the Central Valley Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. § 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at Section 3.1.20) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)*" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.*"

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.

2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR section122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance

4. **Prohibition III.D (No discharge of hazardous waste). This prohibition is based on California Code of Regulations, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.**

5. **Prohibition III.E (Average Dry Weather Flow).** This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility and ensures the Facility is operated within its treatment capacity. Previous Order R5-2014-0073-01 included flow as an effluent limit based on the Facility design flow. Flow is not a pollutant and therefore has been changed from an effluent limit to a discharge prohibition in this Order, which is an equivalent level of regulation. This Order is not less stringent

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because compliance with flow as a discharge prohibition will be calculated the same way as the previous Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133.

Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTW's [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. In addition, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month. This Order requires Water Quality Based Effluent Limitations (WQBEL's) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR Part 133 (See section IV.C.3.d of the Fact Sheet for a discussion on Pathogens which includes WQBEL's for BOD_5 and TSS).

b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6.0 and 9.0 standard units. This Order, however, requires more stringent WQBEL's for pH to comply with the Basin Plan's water quality objectives for pH.

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Summary of Technology-based Effluent Limitations
Discharge Point 001

Table F-5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20º C)[1]	mg/L	30	45	--	--	--
				--	--	--
pH[1]	standard units	--	--	--	6.0	9.0
Total Suspended Solids[1]	mg/L	30	45	--	--	--
				--	--	--

1 Note that more stringent WQBEL's for BOD_5, pH, and TSS are applicable and are established as final effluent limitations in this Order (see section IV.C.3.c of this Fact Sheet).

2 Based on an average dry weather flow of 2.35 MGD.

C. Water Quality-Based Effluent Limitations (WQBEL's)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment, is discussed in section IV.C.3 of this Fact Sheet**.**

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBEL's must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBEL's when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

Finally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available wasteload allocations developed and approved for the discharge.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters

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addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page 2-1 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "*...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses.

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from 1 October 2015 through 31 October 2018, which includes effluent and ambient background data submitted in SMRs and the Report of Waste Discharge (ROWD).

c. **Assimilative Capacity/Mixing Zone.**

   i. **Receiving Water Characteristics.** The Facility discharges to the Old River within the tidal estuary of the Delta. The Old River in the vicinity of the discharge is influenced by natural tidal cycles and Delta water exports. The allowed mixing zone is 105 feet wide, 13.5 feet deep, and 5 feet in longitudinal diameter.

   ii. **Regulatory Guidance for Dilution Credits and Mixing Zones.** In the ROWD, the Discharger requested mixing zones and dilution credits for aquatic life water quality criteria. The Central Valley Water Board has the discretion to accept or deny mixing zones and dilution credits. The CWA directs the states to adopt water quality standards to protect the quality of its waters. U.S. EPA's current water quality standards regulation authorizes states to adopt general policies, such as mixing zones, to implement state water quality standards (40 CFR § 122.44 and 122.45). The U.S. EPA allows states to have broad flexibility in designing its mixing zone policies. Primary policy and guidance on determining mixing zone and dilution credits is provided by the SIP and the Basin Plan. If no procedure applies in the SIP or the Basin Plan, then the

Central Valley Water Board may use the U.S. EPA *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001)(TSD).

For non-Priority Pollutant constituents the allowance of mixing zones by the Central Valley Water Board is discussed in the Basin Plan, *Policy for Application of Water Quality Objectives*, which states in part, "*In conjunction with the issuance of NPDES and storm water permits, the Regional Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Board will consider the applicable procedures and guidelines in the EPA's Water Quality Standards Handbook and the [TSD]. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge.*"

For Priority Pollutants, the SIP supersedes the Basin Plan mixing zone provisions. Section 1.4.2 of the SIP states, in part, "…*with the exception of effluent limitations derived from TMDL's, in establishing and determining compliance with effluent limitations for applicable human health, acute aquatic life, or chronic aquatic life priority pollutant criteria/objectives or the toxicity objective for aquatic life protection in a basin plan, the Regional Board may grant mixing zones and dilution credits to dischargers…The applicable priority pollutant criteria and objectives are to be met through a water body except within any mixing zone granted by the Regional Board.* ***The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis.*** *The Regional Board may consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that is regulated through an NPDES permit issued by the Regional Board*." [emphasis added]

For incompletely-mixed discharges, the Discharger must complete an independent mixing zone study to demonstrate to the Central Valley Water Board that a dilution credit is appropriate. In granting a mixing zone, Section 1.4.2.2 of the SIP requires the following to be met:

"**A mixing zone shall be as small as practicable**. The following conditions must be met in allowing a mixing zone: [emphasis added]

A: A mixing zone shall not:

1. compromise the integrity of the entire water body;

2. cause acutely toxic conditions to aquatic life passing through the mixing zone;

3. restrict the passage of aquatic life;

4. adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;

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5. produce undesirable or nuisance aquatic life;

6. result in floating debris, oil, or scum;

7. produce objectionable color, odor, taste, or turbidity;

8. cause objectionable bottom deposits;

9. cause nuisance;

10. dominate the receiving water body or overlap a mixing zone from different outfalls; or

11. be allowed at or near any drinking water intake. A mixing zone is not a source of drinking water. To the extent of any conflict between this determination and the Sources of Drinking Water Policy (Resolution No. 88-63), this SIP supersedes the provisions of that policy."

Section 1.4.2.1 of the SIP establishes the authority for the Central Valley Water Board to consider dilution credits based on the mixing zone conditions in a receiving water. Section 1.4.2.1 in part states:

"The dilution credit, D, is a numerical value associated with the mixing zone that accounts for the receiving water entrained into the discharge. The dilution credit is a value used in the calculation of effluent limitations (described in Section 1.4). **Dilution credits may be limited or denied on a pollutant-by-pollutant basis, which may result in a dilution credit for all, some, or no priority pollutants in the discharge.**" [emphasis added]

iii. **Dilution/Mixing Zone Study Results.** Order R5-2003-0067 required the Discharger to conduct a study to verify that the diffuser achieved the dilution levels it was designed to achieve, confirm that the Old River has sufficient assimilative capacity for the constituents of concern, examine flow reversals in the receiving water, and evaluate conditions during the 10-year, worst-case, low-flow condition within the receiving water. Flow Science conducted a dye study on 6 and 7 December 2005 and conducted diffuser modeling using the Visual Plumes dilution model to determine assimilative capacity of the receiving water for the discharge and initial dilution of the effluent.

The dye study was conducted on those dates due to the results of flow modeling done using the Fischer Delta Model. The dye study was scheduled for a time when the river would be bi-directional and when slack tides would be most likely to occur. Data collected during the study were used to verify model predictions of plume behavior. Prior to the study, a tide/velocity gauge was installed approximately 100 meters south of the diffuser. On the first day of the dye study, a mixture of fluorescent dye and a conservative tracer (lithium, as lithium chloride) were added to the effluent stream. The resulting plume was measured by a boat mounted fluorometer. Periodic grab samples were taken to measure the lithium chloride concentration. On the second day of testing, a fluorescent dye was added to the effluent. The sampling boat stayed near the diffuser during this test to evaluate diffuser performance.

Field measurements demonstrated the effluent was diluted rapidly after discharge. Measurements of the lithium chloride concentrations were generally consistent with the fluorescent measurements.

The results indicate that for the 10-year worst case concentration of effluent, the Old River provides a dilution of 13.2:1 for the acute condition and a dilution

of 23:1 for the chronic condition. Assumed conditions for the worst-case scenario included an effluent flow rate of 3.0 MGD, zero river velocity, and low tide. The acute and chronic dilution factors above were utilized in determining effluent limitations for pollutants with reasonable potential. The results of the studies and modeling confirm the mixing zone are protective and that performance is greater than estimated in the initial mixing zone study (see Order R5-2003-0067 for a description of the Zone of Initial Dilution and Assimilative Capacity Analysis).

Based on the study results, the following dilution credits were allowed in Order R5-2014-0073-01 and are retained in this Order:

Table F-6. Summary of Mixing Zones

Criteria	Dilution Credit	Width	Length[1]
Acute aquatic life	13.2:1	105 ft	5 ft
Chronic aquatic life	23:1	105 ft	5 ft

[1] Longitudinal diameter

Dilution credits allowed for in this Order are in accordance with Section 1.4.2.2 of the SIP. The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The Central Valley Water Board has determined that the maximum dilution credit on a constituent-by-constituent basis needed for this discharge are shown in the following table (also discussed further in section IV.C.3.c).

iv. **Evaluation of Available Dilution for Acute and Chronic Aquatic Life Criteria.** U.S. EPA Region VIII, in its "EPA Region VIII Mixing Zones and Dilution Policy", recommends no dilution for acute aquatic life criteria, stating the following, "*In incomplete mix situations, discharge limitations to implement acute chemical-specific aquatic life criteria and narrative (no acute toxicity) criteria shall be based on achieving such acute criteria at the end-of-pipe (i.e., without an allowance for dilution). This approach is intended to implement the narrative requirement prohibiting acutely toxic conditions in the mixing zone*." The Discharger has requested acute and chronic mixing zones for compliance with acute and chronic water quality criteria. Based on the mixing zone study, the requested acute and chronic aquatic life mixing zones are less than 105 feet wide and extends less than 5 feet upstream and downstream of the diffuser.

The acute and chronic mixing zones meet the requirements of the SIP as follows:

1. *Shall not compromise the integrity of the entire waterbody* - The TSD states that, "*If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a waterbody (such as a river segment), then mixing zones are likely to have little effect on the integrity of the waterbody as a whole, provided that the mixing zone does not impinge on unique or critical habitats*." The Old River is approximately 400 feet wide, bank to bank, at the diffuser. The mixing zone is very small relative to the large size or the receiving water (approximately 25% of the river width,

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only 105 feet wide by 5 feet in length). The mixing zones do not compromise the integrity of the entire waterbody.

2. *Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone* – The SIP requires that the acute mixing zone be appropriately sized to prevent lethality to organisms passing through the mixing zone. This Order includes an acute toxicity effluent limitation that requires compliance to be determined based on acute bioassays using 100% effluent. Compliance with these requirements ensures that acutely toxic conditions to aquatic life passing through the acute and chronic mixing zones do not occur.

3. *Shall not restrict the passage of aquatic life* – The acute and chronic mixing zones are very small relative to the large size or the receiving water and constitute approximately 25% of the river width; therefore, there is an adequate zone of passage for aquatic life in the Old River.

4. *Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws* – The acute and chronic mixing zones will not cause acutely toxic conditions, allow an adequate zone of passage, and are sized appropriately to ensure that there will be no adverse impacts to biologically sensitive or critical habitats.

5. *Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance* – The current discharge has not been shown to result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance. This Order requires end-of-pipe limitations for individual constituents and discharge prohibitions to prevent these conditions from occurring, which will ensure continued compliance with these mixing zone requirements. With these requirements the acute and chronic mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance.

6. *Shall not dominate the receiving water body or overlap a mixing zone from different outfalls* – The acute and chronic mixing zones are small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zones do not overlap mixing zones from other outfalls. There are no outfalls or mixing zones in the vicinity of the discharge.

7. *Shall not be allowed at or near any drinking water intake* – The acute and chronic mixing zones are small and do not impact any drinking water intakes. The nearest drinking water intake is a Contra Costa Water District Old River intake located

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approximately 500 feet upstream, which is outside the mixing zones.

The aquatic life mixing zone therefore complies with the SIP. The mixing zone also complies with the Basin Plan, which requires that the mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zone, the Central Valley Water Board considered the procedures and guidelines in the EPA's Water Quality Standards Handbook, 2d Edition (updated July 2007), Section 5.1, and Section 2.2.2 of the TSD. The SIP incorporates the same guidelines.

v. **Evaluation of Available Dilution for Specific Constituents (Pollutant-by-Pollutant Evaluation).** When determining to allow dilution credits for a specific pollutant several factors must be considered, such as, available assimilative capacity, facility performance, and best practicable treatment or control (BPTC). In this subsection a pollutant-by-pollutant evaluation of dilution is discussed.

(a) **Copper.** The receiving water contains assimilative capacity for copper and acute and chronic mixing zones for copper meet the mixing zone requirements of the SIP. The WQBELs for copper based on acute and chronic dilution credits of 13.2:1 and 23:1, respectively, summarized in Table F-7, below. Section 1.4.2.2 of the SIP requires that, "A mixing zone shall be as small as practicable.", and Section 1.4.2.2.B requires, "The RWQCB shall deny or significantly limit a mixing zone and dilution credits as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements." As shown in Table F-7, below, based on historic monitoring data the Facility would be unable to achieve more stringent effluent limitations calculated based on Facility performance. Therefore, the mixing zones for copper are considered as small as practicable, and fully meet the requirements of the SIP.

Table F-7. Copper Mixing Zone Specifications

Length	Width	Dilution Credit
5 ft	105 ft	13:1 (Acute) 23:1 (Chronic)

(b) **Chronic Whole Effluent Toxicity.** As discussed above, a mixing zone for chronic toxicity meets the requirements of the SIP. Section 1.4.2.2 of the SIP requires that, "*A mixing zone shall be as small as practicable*", and Section 1.4.2.2.B requires, "*The RWQCB shall deny or significantly limit a mixing zone and dilution credits as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements*." Based on the Discharger's mixing zone studies, the chronic mixing zone extends 5 feet upstream and downstream. Order R5-2014-0073-01 allowed a chronic whole effluent toxicity monitoring trigger of 10 TUc, which allows for a dilution credit of 10:1. This Order retains the chronic WET numeric trigger of 10 TUc.

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To fully comply with all applicable laws, regulations and policies of the State, Central Valley Water Board approved a mixing zone and the associated dilution credits shown in Table F-7 based on the following:

i. Mixing zones are allowed under the SIP provided all elements contained in Section 1.4.2.2 are met. Based on the mixing zone study conducted by the Discharger the Central Valley Water Board has determined that these factors are met.

ii. Section 1.4.2.2 of the SIP requires mixing zones to be as small as practicable. Based on the mixing zone study conducted by the Discharger the Central Valley Water Board has determined the mixing zone is as small as practicable.

iii. In accordance with Section 1.4.2.2 of the SIP, the Board has determined the mixing zone is as small as practicable, will not compromise the integrity of the entire water body, restrict the passage of aquatic life, dominate the water body or overlap existing mixing zones from different outfalls. The mixing zone is small (approximately five feet upstream and downstream of the discharge) relative to the large size of the receiving water (approximately 400 feet wide at the point of discharge), is not at or near a drinking water intake, and does not overlap a mixing zone from a different outfall.

iv. The Central Valley Water Board is allowing a mixing zone for acute and chronic aquatic toxicity criteria constituents only and has determined allowing such mixing zone will not cause acutely toxic conditions to aquatic life passing through the mixing zone.

v. The Central Valley Water Board has determined the discharge will not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under the federal or State endangered species laws, because the mixing zone is for human health criteria only, is relatively small, and acutely toxic conditions will not occur in the mixing zone. The discharge will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum, produce objectionable odor, taste, or turbidity, cause objectionable bottom deposits, or cause nuisance, because the proposed Order establishes end-of-pipe effluent limitations (e.g., for BOD_5 and TSS) and discharge prohibitions to prevent these conditions from occurring.

vi. As required by the SIP, in determining the extent of or whether to allow a mixing zone and dilution credit, the Central Valley Water Board has considered the presence of pollutants in the discharge that are carcinogenic, mutagenic, teratogenic, persistent, bioaccumulative, or attractive to aquatic organisms, and concluded that the allowance of the mixing zone and dilution credit is adequately protective of the beneficial uses of the receiving water.

vii. The Central Valley Water Board has determined mixing zone complies with the SIP for priority pollutants.

viii. The mixing zone study indicates the maximum allowed dilution factor to be acute and chronic aquatic toxicity criteria to be 13.2:1 and 23:1, respectively. Section 1.4.2.2B of the SIP, in part states, *"The RWQCB shall deny or significantly limit a mixing zone and dilution credits as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements."* The Central Valley Water Board has determined a

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that these dilution factors are not needed or necessary for the Discharger to achieve compliance with this Order, except for copper, as described above.

ix. The Central Valley Water Board has determined the mixing zone complies with the Basin Plan for non-priority pollutants. The Basin Plan requires a mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zone, the Central Valley Water Board has considered the procedures and guidelines in Section 5.1 of U.S. EPA's *Water Quality Standards Handbook*, 2nd Edition (updated July 2007) and Section 2.2.2 of the TSD. The SIP incorporates the same guidelines.

x. The Central Valley Water Board has determined that allowing dilution factors that exceed those proposed by this Order would not comply with the State Anti-degradation Policy for receiving waters outside the allowable mixing zone for copper. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 (State Anti-Degradation Policy). The State Anti-Degradation Policy incorporates the federal antidegradation policy and requires that existing quality of waters be maintained unless degradation is justified based on specific findings. Item 2 of the State Anti-Degradation Policy states:

> *"Any activity which produces or may produce a waste or increased volume or concentration of waste and which dischargers or proposed to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*

The effluent limitations established in the Order for copper that have been adjusted for dilution credits provided in Table F-7 were developed based on performance of the Discharger's current wastewater treatment capabilities. Therefore, the Central Valley Water Board determined the effluent limitations required by this Order will result in the Discharger implementing best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained. The Central Valley Water Board also determined the Discharger will be in immediate compliance with the effluent limitations,

The Central Valley Water Board also determined establishing effluent limitations for copper that have been adjusted for dilution credits provided in Table F-7 is consistent with Section 1.4.2.2B of the SIP that requires the Central Valley Water Board to shall deny or significantly limit a mixing zone and dilution credits as necessary to comply with other regulatory requirements.

xi. Therefore, the Central Valley Water Board has determined the effluent limitations established in the Order for copper that have been adjusted for dilution credits provided in Table F-7 are appropriate and necessary to comply with the Basin Plan, SIP, Federal anti-degradation regulations and the State Anti-Degradation Policy.

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d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP[1] and the CTR[2]. The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones[3]. Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10).[4] This section of the CTR also indicates that the design conditions should be established such that the appropriate criteria are not exceeded more than once in a three year period on average.[5] The CTR requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge.[6] The CTR does not define the term "ambient," as applied in the regulations. Therefore, the Central Valley Water Board has considerable discretion to consider upstream and downstream ambient conditions when establishing the appropriate water quality criteria that fully complies with the CTR and SIP.

Summary findings

The ambient hardness for the Old River is represented by the data in Figure F-1, below, which shows ambient hardness ranging from 30 mg/L to 119 mg/L based on collected ambient data from October 2015 through October 2018. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 30 mg/L (minimum) up to 119 mg/L (maximum). Staff recommends that the

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[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used (40 C.F.R. § 131.38(c)(4)).

[3] 40 C.F.R. §131.3(c)(4)(ii)

[4] 40 C.F.R. §131.38(c)(2)(iii) Table 4

[5] 40 C.F.R. §131.38(c)(2)(iii) Table 4, notes 1 and 2

[6] 40 C.F.R. §131.38(c)(2)(i)

Board use the ambient hardness values shown in Table F-6 for the following reasons.

i. Using the ambient receiving water hardness values shown in Table F-6 will result in criteria and effluent limitations that ensure protection of beneficial uses under all ambient receiving water conditions.

ii. The Water Code mandates that the Central Valley Water Board establish permit terms that will ensure the reasonable protection of beneficial uses. In this case, using the lowest measured ambient hardness to calculate effluent limitations is not required to protect beneficial uses. Calculating effluent limitations based on the lowest measured ambient hardness is not required by the CTR or SIP, and is not reasonable as it would result in overly conservative limits that will impart substantial costs to the Discharger and ratepayers without providing any additional protection of beneficial uses. In compliance with applicable state and federal regulatory requirements, after considering the entire range of ambient hardness values, Board staff has used the ambient hardness values shown in Table F-6 to calculate the proposed effluent limitations for hardness-dependent metals. The proposed effluent limitations are protective of beneficial uses under all flow conditions.

iii. Using an ambient hardness that is higher than the minimum of 34 mg/L will result in limits that may allow increased metals to be discharged to the river, but such discharge is allowed under the State Antidegradation Policy (State Water Board Resolution 68-16). The Central Valley Water Board finds that this degradation is consistent with the antidegradation policy (see antidegradation findings in Section IV.D.4 of the Fact Sheet). The Antidegradation policy requires the Discharger to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that: a) a pollution or nuisance will not occur, and b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

iv. Using the ambient hardness values shown in Table F-8 is consistent with the CTR and SIP's requirements for developing metals criteria.

Table F-8. Summary of CTR Criteria for Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)[2,3]	CTR Criteria (µg/L, total recoverable)[1]	
		acute	chronic
Copper	99	9.2	14
Chromium III	99	1700	210
Cadmium	92 (acute) 99 (chronic)	3.9	2.4
Lead	86	66	2.6
Nickel	99	470	52
Silver	71	2.3	--
Zinc	99	120	120

[1] Metal criteria rounded to two significant figures in accordance with the CTR (40 C.F.R. §131.38(b)(2)).

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[2] The ambient hardness values in this table represent actual observed receiving water hardness measurements from the dataset shown in Figure F-1.

[3] The CTR's hardness dependent metals criteria equations vary differently depending on the metal, which results in differences in the range of ambient hardness values that may be used to develop effluent limitations that are protective of beneficial uses and comply with CTR criteria for all ambient flow conditions.

Background

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant (Davis Order) and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant (Yuba City Order). The State Water Board recognized that the SIP and the CTR do not discuss the manner in which hardness is to be ascertained, thus regional water boards have considerable discretion in determining ambient hardness so long as the selected value is protective of water quality criteria under the given flow conditions. (Davis Order, p.10). The State Water Board explained that it is necessary that, "The [hardness] value selected should provide protection for all times of discharge under varying hardness conditions." (Yuba City Order, p. 8). The Davis Order also provides that, "Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions." (Davis Order, p. 11)

The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

$$\text{CTR Criterion} = \text{WER} \times (e^{m[\ln(H)]+b}) \quad \text{(Equation 1)}$$

Where:

H = ambient hardness (as $CaCO_3$) [7]

WER = water-effect ratio

m, b = metal- and criterion-specific constants

The direction in the CTR regarding hardness selection is that it must be based on ambient hardness and consistent with design discharge conditions for design flows and mixing zones. Consistent with design discharge conditions and design flows means that the selected "design" hardness must result in effluent limitations under design discharge conditions that do not result in more than one exceedance of the applicable criteria in a three year period.[8] Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10). The 1Q10 and 7Q10 Old River flows are 0.0 cfs and 34.9 cfs, respectively.

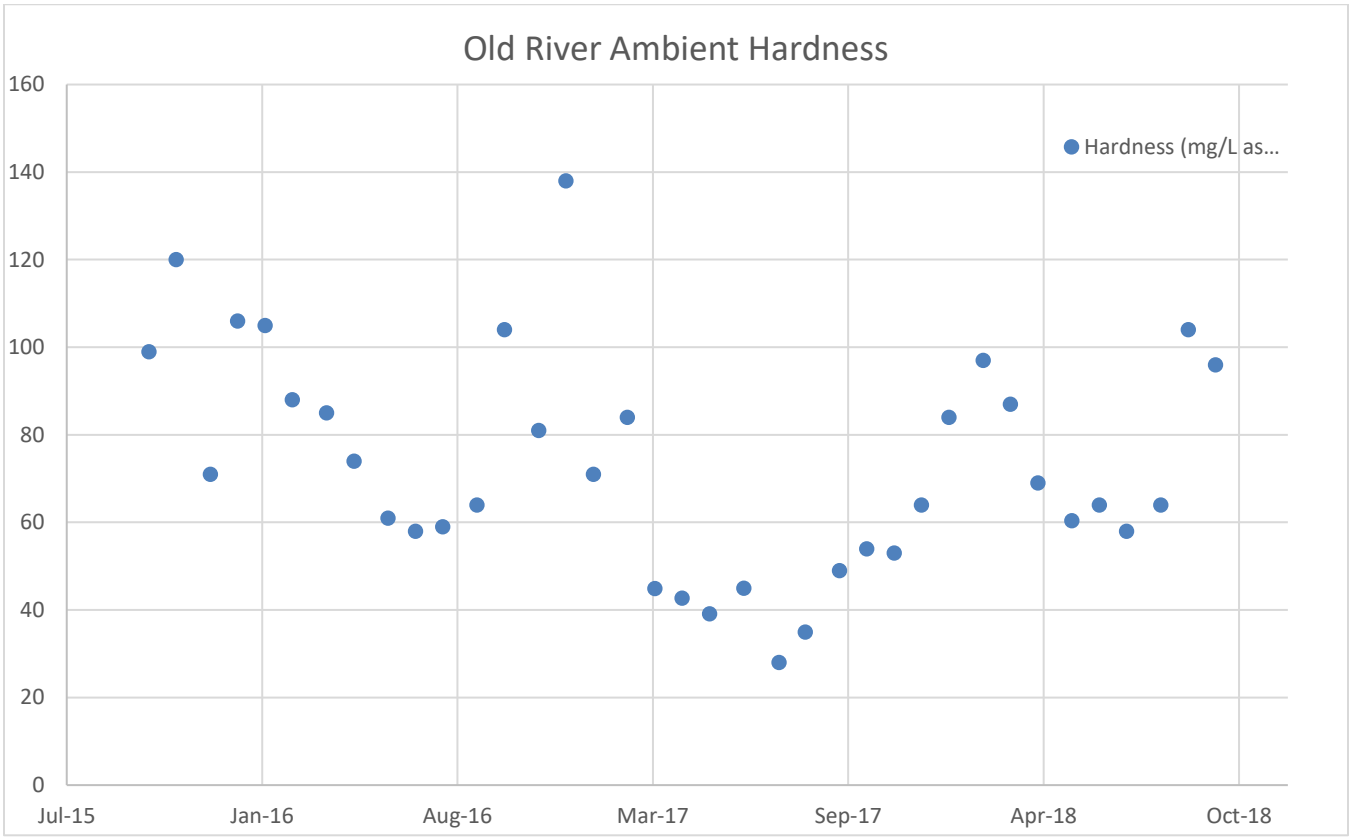
Ambient conditions

The ambient receiving water hardness varied from 30 mg/L to 119 mg/L, based on 35 samples from 1 October 2015 through 31 October 2018 (see Figure F-1).

[7] For this discussion, all hardness values are expressed in mg/L as $CaCO_3$.

[8] 40 C.F.R. §131.38(c)(2)(iii) Table 4, notes 1 and 2

Figure F-1. Observed Ambient Hardness Concentrations October 2015 through October 2018



In this analysis, the entire range of ambient hardness concentrations shown in Figure F-1 were considered to determine the appropriate ambient hardness to calculate the CTR criteria and effluent limitations that are protective under all discharge conditions.

Approach to derivation of criteria

As shown above, ambient hardness varies substantially. Because of the variation, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum, mid-point). While the hardness selected must be hardness of the ambient receiving water, selection of an ambient receiving water hardness that is too high would result in effluent limitations that do not protect beneficial uses. Also, the use of minimum ambient hardness would result in criteria that are protective of beneficial uses, but such criteria may not be representative considering the wide range of ambient conditions.

Reasonable worst-case ambient conditions. To determine whether a selected ambient hardness value results in effluent limitations that are fully protective while complying with federal regulations and state policy, staff have conducted an analysis considering varying ambient hardness and flow conditions. To do this, the Central Valley Water Board has ensured that the receiving water hardness and criteria selected for effluent limitations are protective under "reasonable-worst case ambient conditions." These conditions represent the receiving water conditions under which derived effluent limitations would ensure protection of beneficial uses under all ambient flow and hardness conditions.

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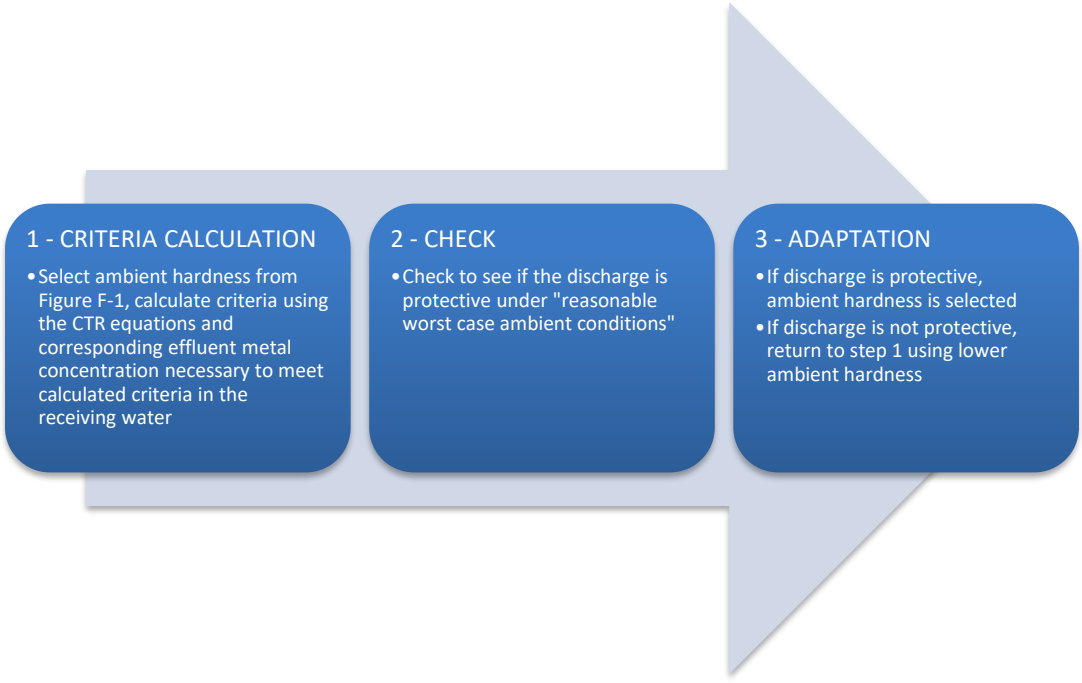
Reasonable worst-case ambient conditions:

- "Low receiving water flow." CTR design discharge conditions (1Q10 and 7Q10) have been selected to represent reasonable worst case receiving water flow conditions.
- "High receiving water flow (maximum receiving water flow)." This additional flow condition has been selected consistent with the Davis Order, which required that the hardness selected be protective of water quality criteria under all flow conditions.
- "Low receiving water hardness." The minimum receiving water hardness condition of 34 mg/L was selected to represent the reasonable worst case receiving water hardness.
- "Background ambient metal concentration at criteria." This condition assumes that the metal concentration in the background receiving water is equal to CTR criteria (upstream of the facility's discharge). Based on data in the record, this is a design condition that has not occurred in the receiving water and is used in this analysis to ensure that limits are protective of beneficial uses even in the situation where there is no assimilative capacity.

Iterative approach. An iterative analysis has been used to select the ambient hardness to calculate the criteria that will result in effluent limitations that protect beneficial uses under all flow conditions.

The iterative approach is summarized in the following algorithm and described below in more detail.



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1. CRITERIA CALCULATION. CTR criteria are calculated using the CTR equations based on actual measured ambient hardness sample results, starting with the maximum observed ambient hardness of 119 mg/L. Effluent metal concentrations necessary to meet the above calculated CTR criteria in the receiving water are calculated in accordance with the SIP.[9] This should not be confused with an effluent limit. Rather, it is the Effluent Concentration Allowance (ECA), which is synonymous with the wasteload allocation defined by U.S. EPA as "a definition of effluent water quality that is necessary to meet the water quality standards in the receiving water."[10] If effluent limits are found to be needed, the limits are calculated to enforce the ECA considering effluent variability and the probability basis of the limit.

2. CHECK. U.S. EPA's simple mass balance equation[11] is used to evaluate if discharge at the computed ECA is protective. Resultant downstream metal concentrations are compared with downstream calculated CTR criteria under reasonable worst-case ambient conditions.

3. ADAPT. If step 2 results in:

   (A) receiving water metal concentration that complies with CTR criteria under reasonable worst-case ambient conditions, then the hardness value is selected.

   (B) receiving water metal concentration greater than CTR criteria, then return to bullet 1, selecting a lower ambient hardness value.

The CTR's hardness dependent metals criteria equations contain metal-specific constants, so the criteria vary depending on the metal. Therefore, steps 1 through 3 must be repeated separately for each metal until ambient hardness values are determined that will result in criteria and effluent limitations that comply with the CTR and protect beneficial uses for all metals.

Results of iterative analysis

The above iterative analysis for each CTR hardness-dependent metal results in the selected ambient hardness values shown in Table F-8, above. Using these hardness values to calculate criteria, which are actual sample results collected in the receiving water, will result in effluent limitations that are protective under all ambient flow conditions. Copper and silver are used as examples below to illustrate the results of the analysis. Tables F-9 and F-10 below summarize the numeric results of the three step iterative approach for copper and silver. As shown in the example tables, ambient hardness values of 99 mg/L (copper) and 71 mg/L (silver) are used in the CTR equations to derive criteria and effluent limitations. Then under the "check" step, worst-case ambient receiving water conditions are used to test whether discharge results in compliance with CTR criteria and protection of beneficial uses.

The results of the above analysis, summarized in the tables below, show that the ambient hardness values selected using the three-step iterative process results in protective effluent limitations that achieve CTR criteria under all flow conditions.

[9] SIP Section 1.4.B, Step 2, provides direction for calculating the Effluent Concentration Allowance.
[10] U.S. EPA Technical Support Document for Water Quality-based Toxics Control (TSD), pg. 96.
[11] U.S. EPA NPDES Permit Writers' Handbook (EPA 833-K-10-001 September 2010, pg. 6-24)

Tables F-9 and F-10 below, summarize the critical flow conditions. However, the analysis evaluated all flow conditions to ensure compliance with the CTR criteria at all times.

Table F-9. Verification of CTR Compliance for Copper

Receiving water hardness used to compute effluent limitations				**99 mg/L**
Effluent Concentration Allowance (ECA) for Copper[1]				**9.2 µg/L**
	Downstream Ambient Concentrations Under Worst-Case Ambient Receiving Water Conditions			**Complies with CTR Criteria?**
	Hardness	**CTR Criteria (µg/L)**	**Ambient Copper Concentration[2] (µg/L)**	
1Q10	99.0	9.2	9.2	**Yes**
7Q10	33.8	3.7	3.6	**Yes**
Max receiving water flow	27.0	3.1	3.1	**Yes**

1 The ECA defines effluent quality necessary to meet the CTR criteria in the receiving water. This Order includes average monthly and maximum daily effluent limits for copper of 45 µg/L and 60 µg/L, respectively. The effluent limits were calculated per section 1.4 of the SIP, which ensures compliance with the ECA considering effluent variability and the probability basis of each effluent limit.

2 This concentration is derived using worst-case ambient conditions. These conservative assumptions will ensure that the receiving water always complies with CTR criteria.

Table F-10.Verification of CTR Compliance for Silver

Receiving water hardness used to compute effluent limitations				**71 mg/L**
Effluent Concentration Allowance (ECA) for Silver[1]				**2.3 µg/L**
	Downstream Ambient Concentrations Under Worst-Case Ambient Receiving Water Conditions			**Complies with CTR Criteria?**
	Hardness	**CTR Criteria (µg/L)**	**Ambient Silver Concentration[2] (µg/L)**	
1Q10	99.0	4.0	2.3	**Yes**
7Q10	33.8	0.6	0.6	**Yes**
Max receiving water flow	27.0	0.4	0.4	**Yes**

1 The ECA defines effluent quality necessary to meet the CTR criteria in the receiving water. There is no effluent limitation for silver as it demonstrates no reasonable potential.

2 This concentration is derived using worst-case ambient conditions. These conservative assumptions will ensure that the receiving water always complies with CTR criteria.

3. Determining the Need for WQBEL's

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. § 122.44(d) requires NPDES permits to include conditions that are necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. Federal regulations at 40 C.F.R 122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the

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Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Additionally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available wasteload allocations developed and approved for the discharge. The process to determine whether a WQBEL is required as described in 40 C.F.R. § 122.44(d)(1)(i) is referred to as a *reasonable potential analysis or RPA*. Central Valley Water Board staff conducted RPA's for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. This section includes details of the RPA's for constituents of concern for the Facility. The entire RPA is included in the administrative record and a summary of the constituents of concern is provided in Attachment G. For priority pollutants, the SIP dictates the procedures for conducting the RPA. For non-priority pollutants the Central Valley Water Board is not restricted to one particular RPA method, therefore, the RPA's have been conducted based on EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge.

a. **Constituents with Total Maximum Daily Load (TMDL).** 40 C.F.R. § 122.44(d)(1)(vii) provides: *"When developing water quality-based effluent limits under [§ 122.44(d)(1)], the permitting authority shall ensure that: (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to [Total Maxiumum Daily Loads regulations]*." U.S. EPA construes 40 C.F.R. § 122.44(d)(1)(vii)(B) to mean that "when WLAs are available, they must be used to translate water quality standards into NPDES permit limits." 54 Fed. Reg. 23868, 23879 (June 2, 1989).

Old River is subject to TMDLs for diazinon and chlorpyrifos and mercury, and wasteload allocations under those TMDLs are available. The Central Valley Water Board developed WQBEL's for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis.

i. **Diazinon and Chlorpyrifos.**

(a) **WQO.** The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos in the Sacramento – San Joaquin Delta Waterways and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento – San Joaquin Delta was adopted by the Central Valley Water Board on 23 June 2006 and became effective on 10 October 2007.

The amendment "…modifies Basin Plan Chapter III (Water Quality Objectives) to establish site specific number objectives for diazinon and chlorpyrifos in the Delta Waterways." The amendment also "…identifies the requirements to meet the additive formula already in Basin Plan Chapter IV (Implementation), for the additive toxicity of diazinon and chlorpyrifos."

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The amendment states that "The waste load allocations for all NPDES-permitted dischargers…shall not exceed the sum (S) of one (1) as defined below.

$$S = \frac{C_d}{WQO_d} + \frac{C_c}{WQO_c} \leq 1.0$$

Where:

Cd = diazinon concentration in µg/L of point source discharge

Cc = chlorpyrifos concentration in µg/L of point source discharge

WQOd = acute or chronic diazinon water quality objective in µg/L

WQOc = acute or chronic chlorpyrifos water quality objective in µg/L

Available samples collected within the applicable averaging period for the water quality objective will be used to determine compliance with the allocations and loading capacity. For purposes of calculating the sum (S) above, analytical results that are reported as 'non-detectable' concentrations are considered to be zero."

Appendix A of the Diazinon and Chlorpyrifos TMDL lists waterways subject to the TMDL and includes the Old River.

(b) **RPA Results.** Chlorpyrifos and diazinon were not detected in the effluent during two sampling events conducted in January 2016 and January 2017. However, since these pesticides have been banned for public use, they are not expected to be present in the effluent. The discharge does not have reasonable potential, but due to the TMDL for diazinon and chlorpyrifos in the Delta, WQBELs for these constituents are required. The TMDL waste load allocation applies to all NPDES dischargers to Delta waterways and will serve as the basis for WQBELs at Discharge Point 001.

(c) **WQBELs.** WQBELs for diazinon and chlorpyrifos are required based on the TMDL for diazinon and chlorpyrifos for the Delta. Therefore, this Order includes effluent limits calculated based on the waste load allocations contained in the TMDL, as follows:

(1) Average Monthly Effluent Limitation (AMEL)

$$S_{AMEL} = \frac{C_{D\ AVG}}{0.079} + \frac{C_{C\ AVG}}{0.012} \leq 1.0$$

$C_{D\text{-}avg}$ = average monthly diazinon effluent concentration in µg/L

$C_{C\text{-}avg}$ = average monthly chlorpyrifos effluent concentration in µg/L

(2) Maximum Daily Effluent Limitation (MDEL)

$$S_{MDEL} = \frac{C_{D\ MAX}}{0.16} + \frac{C_{C\ MAX}}{0.025} \leq 1.0$$

$C_{D\text{-}max}$ = maximum daily diazinon effluent concentration in µg/L

$C_{C\text{-}max}$ = maximum daily chlorpyrifos effluent concentration in µg/L

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(d) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not detected in the effluent during two sampling events conducted in January 2016 and January 2017. Furthermore, since these pesticides have been banned for public use, they are not expected to be present in the influent to the Facility. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

ii. **Mercury**

(a) **WQO.** The Basin Plan contains fish tissue objectives for all Delta waterways listed in Appendix 43 of the Basin Plan that states "…*the average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150-500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length*." The Delta Mercury Control Program contains aqueous methylmercury waste load allocations that are calculated to achieve these fish tissue objectives. Methylmercury reductions are assigned to dischargers with concentrations of methylmercury greater than 0.06 ng/L (the concentration of methylmercury in water to meet the fish tissue objective). The Facility is allocated 0.37 g/year of methylmercury, as listed in Table IV-7B of the Basin Plan.

The CTR contains a human health criterion (based on a threshold dose level causing neurological effects in infants) of 50 ng/L for total mercury for waters from which both water and aquatic organisms are consumed. However, in 40 CFR Part 131, U.S. EPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…*more stringent mercury limits may be determined and implemented through use of the State's narrative criterion*." In the CTR, U.S. EPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

(b) **RPA Results.** Section 1.3 of the SIP states, "*The RWQCB shall conduct the analysis in this section for each priority pollutant with an applicable criterion or objective,* ***excluding priority pollutants for which a TMDL has been developed, to determine if a water quality-based effluent limitation is required in the discharger's permit****.*" (emphasis added) Although an RPA is not required, based on the available effluent and receiving water methylmercury data, it appears the discharge is causing or contributing to an exceedance of the concentration of methylmercury in water to meet the site-specific fish tissue objectives in the Basin Plan. The MEC for methylmercury was 0.087 ng/L based on 12 samples collected between 1 October 2015 and 31 October 2018. Upstream receiving water data for methylmercury is not available. The MEC for total mercury was 20.3 ng/L based on 11 samples collected between 1 October 2015 and 31 October 2018. Upstream receiving water data for total mercury is not available.

(c) **WQBEL's.** The Basin Plan's Delta Mercury Control Program includes wasteload allocations for POTWs in the Delta, including for the Discharger. This Order contains a final WQBEL for methylmercury based

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on the wasteload allocation. The total calendar annual methylmercury load shall not exceed 0.37 grams.

(d) **Plant Performance and Attainability.** Based on available effluent methylmercury data, the Central Valley Water Board finds the Discharger is unable to immediately comply with the final WQBELs for methylmercury. Therefore, a compliance schedule in accordance with the State Water Board's Compliance Schedule Policy and the Delta Mercury Control Program has been established in this Order.

b. **Constituents with No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. All reasonable potential analyses are included in the administrative record and a summary of the constituents of concern is provided in Attachment G. WQBEL's are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. This section only provides the rationale for the reasonable potential analyses for the following constituents of concern that were found to have no reasonable potential after assessment of the data:

i. **Salinity**

(a) **WQO.** The Basin Plan contains a chemical constituents objective that incorporates state MCL's, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA NAWQC for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. The Bay-Delta Plan includes numeric water quality criteria for the protection of agricultural and MUN beneficial uses.

Table F-11. Salinity Water Quality Criteria/Objectives

Parameter	Bay – Delta Plan	Secondary MCL[1]	U.S. EPA NAWQC	Effluent	
				Average[2]	Maximum
Chloride (mg/L)	N/A	250, 500, 600	860 1-hr 230 4-day	355	419
EC (µmhos/cm) or TDS (mg/L)	1,000[3] or N/A	EC: 900, 1600, 2200 or TDS: 500, 1000, 1500	N/A	2174	2270
Sulfate (mg/L)	N/A	250, 500, 600	N/A	--	--

1 The secondary MCLs are for protection of public welfare and are stated as a recommended level, upper level, and a short-term maximum level.

2 Maximum calendar annual average.

3 Maximum 30-day running average of mean daily electrical conductivity.

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(1) **Chloride.** The Secondary MCL for chloride is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The NAWQC acute criterion for the protection of freshwater aquatic life for chloride is 860 mg/L and the chronic criterion is 230 mg/L.

(2) **Electrical Conductivity or Total Dissolved Solids.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum.

The Bay-Delta Plan contains a site-specific electrical conductivity objective of 1,000 µmhos/cm as a maximum monthly average of mean daily values, applicable between 1 October and 30 September, for the West Canal at Mouth of Clifton Court Forebay (the entrance to the State Water Project) to protect AGR uses.

(3) **Sulfate.** The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chloride, electrical conductivity, and total dissolved solids are not priority pollutants. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for these non-priority pollutant constituents. For conducting the RPA, the U.S. EPA recommends using a mass-balance approach to determine the expected critical downstream receiving water concentration using a steady-state approach[12]. This downstream receiving water concentration is then compared to the applicable water quality objectives to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion. This approach allows assimilative capacity and dilution to be factored into the RPA. This U.S. EPA recommended approach has been used for chloride, electrical conductivity, and total dissolved solids. The critical downstream receiving water concentration is calculated using equation 2 below:

$$C_r = \frac{Q_s C_s + Q_d C_d}{Q_s + Q_d} \quad \text{(Equation 2)}$$

Where:

Q_s = Critical stream flow (harmonic mean flow)

Q_d = Critical effluent flow from discharge flow data (maximum permitted discharge)

C_s = Critical upstream pollutant concentration

C_d = Critical effluent pollutant concentration

[12] U.S. EPA NPDES Permit Writers' Handbook (EPA 833-K-10-001 September 2010)

C_r = Critical downstream receiving water pollutant concentration

Although the objectives for chloride and electrical conductivity are based on protection of AGR and MUN uses, the averaging periods for the objectives have a short-term duration (i.e., 1-day average for chloride and 30-day average for electrical conductivity). Therefore, a critical stream flow (Qs) of 13.2 cfs was used for chloride and a critical stream flow of 70 cfs was used for electrical conductivity. A critical effluent flow (Qd) of 1 cfs was used for the RPA for chloride and electrical conductivity, which correspond to a dilution credit of 13.2:1 and 70:1, respectively. The Secondary MCL for total dissolved solids is a long-term objective. Therefore, a critical stream flow (Qs) of 700 cfs was used for the RPA for total dissolved solids, which represents the harmonic mean flow. The critical effluent flow (Qd) of 3.63 cfs (2.35 MGD) was used for total dissolved solids, which is the permitted flow allowed in this Order. The critical effluent pollutant concentration, Cd, was determined using statistics recommended in the TSD for statistically calculating the projected maximum effluent concentration (i.e., Table 3-1 of the TSD using the 99% probability basis and 99% confidence level).

(1) **Chloride.** Chloride concentrations in the effluent ranged from 283 mg/L to 419 mg/L, with an average of 342 mg/L for 33 samples. Based on this data, the projected maximum effluent chloride concentration is 460 mg/L[13]. Background concentrations in the Old River ranged from 8 mg/L to 178 mg/L, with an average of 67 mg/L, for 37 samples collected by the Discharger from 1 October 2015 through 31 October 2018. Thus, the receiving water has been consistently in compliance with the Bay-Delta objectives resulting in available assimilative capacity for consideration in the RPA. Considering the large dilution and assimilative capacity in the receiving water, the small increase in chloride caused by the discharge does not result in a reasonable potential to cause or contribute to an exceedance of the objectives for chloride in the receiving water.

Qs = 13.2 cfs

Qd = 1 cfs

Cs = 178 mg/L

Cd = 460 mg/L

$$C_r = \frac{(13.2\ cfs \times 178\ mg/L\ ) + (1\ cfs \times 460\ mg/L\ )}{(23\ cfs + 1\ cfs)} = 117\ mg/L$$

The critical downstream receiving water chloride concentration, C_r, is 117 mg/L, which does not exceed the Bay-Delta objective of

[13] Projected maximum effluent concentration determined using TSD Table 3-1 (99% probability basis and 99% confidence level).

250 mg/L. Therefore, the discharge does not have reasonable potential for chloride

(2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger's monitoring reports shows an average effluent EC of 2126 µmhos/cm, with a range from 2010 µmhos/cm to 2270 µmhos/cm. Based on this data, the projected maximum effluent electrical conductivity concentration is 2,300 µmhos/cm. Background receiving water electrical conductivity concentrations ranged from 105 µmhos/cm to 798 µmhos/cm, with an average of 388 µmhos/cm based on 37 samples collected between 1 October 2015 and 31 October 2018. Thus, the receiving water has been consistently in compliance with the Bay-Delta objectives resulting in available assimilative capacity for consideration in the RPA. Considering the large dilution and assimilative capacity in the receiving water, the small increase in electrical conductivity caused by the discharge does not result in a reasonable potential to cause or contribute to an exceedance of the objectives for electrical conductivity in the receiving water.

Qs = 70 cfs

Qd = 1 cfs

Cs = 798 µmhos/cm

Cd = 2,300 µmhos/cm

$$C_r = \frac{(70\ cfs \times 798\ \mu mhos/cm\ ) + (1\ cfs \times 2{,}300\ \mu mhos/cm\ )}{(70\ cfs + 1\ cfs)} = 819\ \mu mhos/cm$$

The critical downstream receiving water electrical conductivity concentration, C_r, is 819 µmhos/cm, which does not exceed the Bay-Delta objective of 1,000 µmhos/cm. Therefore, the discharge does not have reasonable potential for electrical conductivity.

Total dissolved solids concentrations in the effluent ranged from 1,200 mg/L to 1,300 mg/L, with an average of 1,300 mg/L, based on 36 samples collected between 1 October 2015 and 31 October 2018. Based on this data, the projected maximum effluent total dissolved solids concentration is 1,400 mg/L. Background receiving water total dissolved solids concentrations ranged from 58 mg/L to 421 mg/L, with an average of 214 mg/L based on 37 samples collected between 1 October 2015 and 31 October 2018. Thus, the receiving water has been consistently in compliance with the Secondary MCL resulting in available assimilative capacity for consideration in the RPA. Considering the large dilution and assimilative capacity in the receiving water, the small increase in total dissolved solids caused by the discharge does not result in a reasonable potential to cause or contribute to an exceedance of the objectives for total dissolved solids in the receiving water.

Q_s = 700 cfs

Q_d = 3.63 cfs

C_s = 421 mg/L

C_d = 1,400 mg/L

$$C_r = \frac{(700\ cfs \times 421\ mg/L\ ) + (3.63\ cfs \times 1{,}400\ mg/L\ )}{(700\ cfs + 3.63\ cfs)} = 426\ mg/L$$

The critical downstream receiving water total dissolved solids concentration, C_r, is 426 mg/L, which does not exceed the Secondary MCL of 500 mg/L. Therefore, the discharge does not have reasonable potential for total dissolved solids.

(3) **Sulfate.** Effluent and upstream receiving water monitoring data for sulfate is not available.

(c) **WQBELs.** The discharge does not have reasonable potential to cause or contribute to an instream exceedance of the applicable water quality objectives for salinity. However, due to concerns with salinity in the Delta, this Order includes a performance-based effluent limit for EC to ensure the discharge of salinity does not increase. Order R5-2014-0073-01 contained an annual average effluent limitation for EC of 2,100 µmhos/cm. Since the adoption of Order R5-2014-0073-01, water conservation efforts in the region have reduced inflows to the Facility which has caused the EC in the influent to increase incrementally over the permit term. As a result of water conservation success in the community increasing EC concentrations in the influent, this Order includes an annual average performance-based effluent limitation for EC of 2,400 µmhos/cm. This Order also requires the Discharger to continue to implement its Pollution Prevention Plan (PPP) for salinity.

(d) **Plant Performance and Attainability.** The effluent exceeded the annual average effluent limitation for EC in 2018 (2,174 µmhos/cm). The Discharger evaluated the increase in effluent salinity and found that the driving cause of the salinity concentration increase is water conservation due to the recent drought. Therefore, the annual average performance-based effluent limitation EC has been recalculated based on data collected during the previous permit term. The Central Valley Water Board concludes, therefore, that immediate compliance with the effluent limitation for EC is feasible.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, copper, mercury, nitrate plus nitrite, pathogens, pH, and temperature. WQBEL's for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Ammonia**

(a) **WQO.** The 1999 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia (the "1999 Criteria"), recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC.

The U.S. EPA recently published national recommended water quality

criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (the "2013 Criteria")[14]. The 2013 Criteria is an update to U.S. EPA's 1999 Criteria, and varies based on pH and temperature. Although the 2013 Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including new toxicity data on sensitive freshwater mussels in the Family Unionidae, the species tested for development of the 2013 Criteria may not be present in some Central Valley waterways. The 2013 Criteria document therefore states that, "*unionid mussel species are not prevalent in some waters, such as the arid west …*" and provides that, "*In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.*"

The Central Valley Water Board issued a 3 April 2014 *California Water Code Section 13267 Order for Information: 2013 Final Ammonia Criteria for Protection of Freshwater Aquatic Life* (13267 Order) requiring the Discharger to either participate in an individual or group study to determine the presence of mussels or submit a method of compliance for complying with effluent limitations calculated assuming mussels present using the 2013 Criteria. The Discharger submitted a letter to the Central Valley Water Board indicating their participation in the Central Valley Clean Water Association Freshwater Collaborative Mussel Study. Studies are currently underway to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria can be implemented in the Central Valley Region as part of a Basin Planning effort to adopt nutrient and ammonia objectives. Until the Basin Planning process is completed, the Central Valley Water Board will continue to implement the 1999 Criteria to interpret the Basin Plan's narrative toxicity objective. The 1999 NAWQC for the protection of freshwater aquatic life for total ammonia, recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. U.S. EPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because the Old River has a beneficial use of cold freshwater habitat and the presence of salmonids and early fish life stages in the Old River is well-documented, the recommended criteria for waters where salmonids and early life stages are present were used.

Order R5-2014-0073-01 contained an acute criterion based on the 2013 criteria calculated for each day when paired temperature data and pH were measured using effluent data for temperature and pH. The minimum observed acute criterion based on the paired data was established as the

[14] Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, published August 2013 [EPA 822-R-13-001]

applicable acute criterion, or 1-hour CMC. The most stringent acute criterion was 2.08 mg/L (as N).

Order R5-2014-0073-01 also contained a chronic criterion based on the 2013 criteria calculated for each day when paired temperature data and pH were measured using effluent data for temperature and pH. Rolling 30-day average criteria were calculated from effluent data using the criteria calculated for each day and the minimum observed 30-day average criterion was established as the applicable 30-day average chronic criterion, or 30-day CCC. The most stringent 30-day CCC was 0.63 mg/L (as N). The 4-day average concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 0.63 mg/L (as N), the 4-day average concentration that should not be exceeded is 1.58 mg/L (as N).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan narrative toxicity objective. Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Ammonia is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTW's, U.S. EPA recommends that, "*POTW's should also be characterized for the possibility of chlorine and ammonia problems.*" (TSD, p. 50)

Nitrification is a biological process that converts ammonia to nitrite and

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nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia in concentrations that produce detrimental physiological responses to human, plant, animal, or aquatic life would violate the Basin Plan's narrative toxicity objective. Although the Discharger nitrifies the discharge, inadequate or incomplete nitrification creates the potential for ammonia to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the NAWQC. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBEL's are required.

(c) **WQBEL's.** The Central Valley Water Board calculates WQBEL's in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day CCC, and 30-day CCC is then selected for deriving the average monthly effluent limitation (AMEL) and the average weekly effluent limitation (AWEL). The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

Using the above described method for calculating ammonia effluent limitations resulted in an AMEL and AWEL of 0.4 mg/L and 0.8 mg/L, respectively, which are overly stringent and cannot be reliably achieved by the Discharger. Therefore, this Order maintains the existing AMEL of 0.7 mg/L for ammonia from Order R5-2014-0073 and establishes an AWEL for ammonia of 1.4 mg/L, which is based on the previous MDEL of 2.1 mg/L contained in Order R5-2014-0073.

(d) **Plant Performance and Attainability.** Based on 162 samples collected between 1 October 2015 and 31 October 2018, the maximum monthly average ammonia concentration was 1.2 mg/L and the maximum concentration was 4.2 mg/L. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. The Discharger submitted an infeasibility analysis on 18 March 2014 (revised on 20 March 2014). As discussed in section IV.E of this Fact Sheet, a compliance schedule has been included in this Order.

ii. **Copper**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic

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criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

The Basin Plan includes a site-specific objective for the Sacramento – San Joaquin Delta of 10 µg/L (dissolved) as a maximum concentration. Using the default U.S. EPA translator, the Basin Plan objective for copper is 10.4 µg/L (total recoverable).

Footnote 4, page 3, of the Introduction of the SIP states, "If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies." The Basin Plan objective cannot be directly compared to the CTR criteria to determine which is the most stringent objective because they have different averaging periods and the CTR criteria vary with hardness. In this situation, the RPA has been conducted considering both the CTR criteria and the Basin Plan site-specific objective.

(b) **RPA Results.** Section IV.C.2. of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as copper. The CTR includes hardness-dependent criteria for copper for the receiving water. The maximum observed upstream receiving water copper concentration was 4.1 µg/L, based on 12 samples collected between 1 October 2015 and 31 October 2018. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and likewise using the reasonable worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA.

Table F-12. Copper RPA

	CTR Chronic Criterion (Total Recoverable)	Maximum Concentration (Total Recoverable)	Reasonable Potential? (Y/N)
Receiving Water	9.2 µg/L[1]	4.1 µg/L	No[3]
Effluent	9.2 µg/L[2]	41 µg/L	Yes[4]

1. Based on lowest observed upstream hardness of 27 mg/L (as $CaCO_3$)
2. Based on reasonable worst-case downstream hardness of 99 mg/L (as $CaCO_3$)
3. Per Section 1.3, step 4 of the SIP.
4. Per Section 1.3, step 6 of the SIP.

Based on the available data, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life

(c) **WQBELs.** The receiving water contains assimilative capacity for copper; therefore, acute and chronic aquatic life dilution credits of 13.2:1 and 23:1, respectively, were allowed in the development of the WQBELs for copper. In accordance with the SIP, the more stringent of the two applicable criteria, the CTR criteria and the Basin Plan objective, was used to determine reasonable potential. The resulting WQBELs that are calculated based on the CTR criteria result in WQBELs more stringent than the Basin Plan objective (see table below).

WQBELs	AMEL	MDEL
CTR Chronic Criterion (Aquatic Life)	87 µg/L	130 µg/L
Basin Plan Objective[1]	--	182 µg/L

[1] Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins, Table III-1, Copper. Applicable to the Sacramento – San Joaquin Delta.

(d) **Plant Performance and Attainability.** The AMEL and MDEL of 87 µg/L and 130 µg/L, respectively, which were developed using the full allowable dilution credits, are not necessary for the Discharger to maintain reliable compliance. Therefore, this Order maintains the AMEL and MDEL for copper of 45 µg/L and 63 µg/L, respectively, which were established in Order R5-2014-0073. Based on 74 samples collected between 1 October 2015 and 31 October 2018, the discharge has been in compliance with the existing effluent limits for copper. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Nitrate and Nitrite**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan's narrative toxicity objective. This Order, therefore, requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrate and nitrite, and will result in effluent nitrate concentrations above the Primary MCL for nitrate plus nitrite. Nitrate concentrations in a drinking water supply above the Primary MCL threatens the health of human fetuses and newborn babies by reducing the oxygen-carrying capacity of the blood (methemoglobinemia).

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-

priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTW'S, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The concentration of nitrogen in raw domestic wastewater is sufficiently high that the resultant treated wastewater has a reasonable potential to exceed or threaten to exceed the Primary MCL for nitrate plus nitrite unless the wastewater is treated for nitrogen removal, and therefore an effluent limit for nitrate plus nitrite is required. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification/denitrification to remove ammonia, nitrite, and nitrate from the waste stream**.** Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of nitrate plus nitrite in concentrations that exceed the Primary MCL would violate the Basin Plan's narrative chemical constituents objective. Although the Discharger denitrifies the discharge, inadequate or incomplete denitrification creates the potential for nitrate and nitrite to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBEL's are required.

WQBEL's. This Order contains a final AMEL and AWEL for nitrate plus nitrite of 10 mg/L (total as N) and 17 mg/L (total as N), respectively, based on the Primary MCL.

(c) **Plant Performance and Attainability.** Analysis of the effluent data shows that the maximum effluent nitrate concentration of 35 mg/L (as N) is greater than applicable WQBEL. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. The Discharger submitted an infeasibility analysis on

18 March 2014 (revised on 20 March 2014). As discussed in section IV.E of this Fact Sheet, a compliance schedule has been included in this Order.

iv. **Pathogens**

(a) **WQO.** DDW has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL, at any time.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as *"…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.*" Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by the DDW's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

(b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC Section 13050 if discharged untreated to the receiving water. Reasonable potential for pathogens therefore exists and WQBEL's are required.

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Pathogens are not priority pollutants. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting*

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authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*" (TSD, p. 50)

The beneficial uses of Old River include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBEL's are required.

(c) **WQBEL's.** In accordance with the requirements of Title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum.

The tertiary treatment process, or equivalent, is capable of reliably treating wastewater to a turbidity level of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure compliance with the DDW recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity. This Order includes operational specifications for turbidity of 2 NTU as a daily average; 5 NTU, not to be exceeded more than 5 percent of the time within a 24-hour period; and 10 NTU as an instantaneous maximum.

This Order contains effluent limitations for BOD_5, total coliform organisms, and TSS and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Central Valley Water Board has previously considered the factors in Water Code section 13241 in establishing these requirements.

Final WQBEL's for BOD_5 and TSS are based on the technical capability of the tertiary process, which is necessary to protect the beneficial uses of the receiving water. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The tertiary treatment

standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed. Therefore, this Order requires AMEL's for BOD_5 and TSS of 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the Discharger can immediately comply with the effluent limitations for BOD_5, TSS, and operational specifications for turbidity and UV disinfection, but the Discharger cannot currently comply with the effluent limitations for total coliform. The Discharger submitted an infeasibility analysis on 18 March 2014 (revised on 20 March 2014). As discussed in section IV.E of this Fact Sheet, a compliance schedule has been included in this Order.

v. **pH**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the *"…pH shall not be depressed below 6.5 nor raised above 8.5.*"

(b) **RPA Results.** Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH which if not properly controlled, would violate the Basin Plan's numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBEL's are required.

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge*

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characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*" (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Based on 85 samples taken from 1 October 2015 to 31 October 2018, the maximum pH reported was 8.4 and the minimum was 7.2. Although the Discharger has proper pH controls in place, the pH for the Facility's influent varies due to the nature of municipal sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's numeric objective for pH in the receiving water. Therefore, WQBEL's for pH are required in this Order.

(c) **WQBEL's.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the range of the pH concentration in the effluent is 7.2 to 8.4, which meets the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible. Only include the effluent limitation below for temperature if Delta discharger. Temperature effluent limitation required per the Thermal Plan.

vi. **Temperature**

(a) **WQO.** The Thermal Plan requires that, "The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F."

(b) **RPA Results.** Treated domestic wastewater is an elevated temperature waste, which could cause or threaten to cause the receiving water temperature to exceed temperature objectives established in the Thermal Plan. Therefore, reasonable potential exists for temperature and WQBEL's are required.

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Temperature is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*" (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater, which is an elevated temperature waste. This provides the basis for the discharge to have a reasonable potential to cause or contribute to an excursion above the Thermal Plan requirements.

(c) **WQBEL's.** To ensure compliance with the Thermal Plan, an effluent limitation for temperature is included in this Order.

(d) **Plant Performance and Attainability.** Analysis of the effluent and upstream receiving water data shows that the maximum effluent increase in temperature from the receiving water was 11ºF on 9 December 2015. The Central Valley Water Board concludes, therefore, that immediate compliance with this effluent limitation is feasible.

4. WQBEL Calculations

a. This Order includes WQBEL's for ammonia, BOD_5, copper, diazinon and chlorpyrifos, electrical conductivity, methylmercury, nitrate plus nitrite, pH, temperature, total coliform organisms, and TSS. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.5.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

$$ECA = C + D(C - B) \quad \text{where } C>B, \text{ and}$$
$$ECA = C \quad \text{where } C \leq B$$

where:

ECA = effluent concentration allowance
D = dilution credit

C = the priority pollutant criterion/objective
B = the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples.

c. **Primary and Secondary MCLs.** For non-priority pollutants with primary MCL's to protect human health (e.g., nitrate plus nitrite), the AMEL is set equal to the primary MCL and the AWEL is calculated using the AWEL/AMEL multiplier, where the AWEL multiplier is based on a 98th percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP.

For non-priority pollutants with secondary MCL's that protect public welfare (e.g., taste, odor, and staining), WQBEL's were calculated by setting the LTA equal to the secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated using the MDEL/AMEL multiplier from Table 2 of the SIP.

d. **Aquatic Toxicity Criteria.** For priority pollutants with acute and chronic aquatic toxicity criteria, the WQBEL's are calculated in accordance with Section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTAacute and LTAchronic) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers. For non-priority pollutants, WQBEL's are calculated using similar procedures, except that an AWEL is determined utilizing multipliers based on a 98th percentile occurrence probability.

e. **Human Health Criteria.** For priority pollutants with human health criteria, the WQBEL's are calculated in accordance with Section 1.4 of the SIP. The AMEL is set equal to the ECA and the MDEL is calculated using the MDEL/AMEL multiplier from Table 2 of the SIP. For non-priority pollutants with human health criteria, WQBEL's are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:
$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

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Summary of Water Quality-Based Effluent Limitations
Discharge Point No. 001

Table F-13. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	--	--	--
pH	standard units	--	--	--	6.5	8.5
Total Suspended Solids	mg/L	10	15	--	--	--
Priority Pollutants						
Copper, Total Recoverable	µg/L	45	--	63	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)[1]	mg/L	0.8	1.8	--	--	--
Diazinon and Chlorpyrifos	µg/L	[3]	--	[4]	--	--
Electrical Conductivity @ 25°C	µmhos/cm	2,400[5]	--	--	--	--
Methylmercury	grams/year	--	--	0.37[6]	--	--
Nitrate Plus Nitrite (as N)[1]	mg/L	10	17	--	--	--
Temperature	°F	--	--	[7]	--	--
Total Coliform Organisms	MPN/100 mL	--	2.2[8]	23[9]	--	240

1. Based on an average dry weather flow of 2.35 MGD
2. Final effluent limitations for ammonia nitrogen, total (as N) and nitrate plus nitrite (as N) are effective 31 December 2023.
3. Average Monthly Effluent Limitation

   $S_{avg} = \frac{C_{D\ avg}}{0.079} + \frac{C_{C\ avg}}{0.012} \leq 1.0$

   $C_{D\ avg}$ = average monthly diazinon effluent concentration in µg/L

   $C_{C\ avg}$ = average monthly chlorpyrifos effluent concentration in µg/L
4. Maximum Daily Effluent Limitation

   $S_{max} = \frac{C_{D\ max}}{0.16} + \frac{C_{C\ max}}{0.025} \leq 1.0$

   $C_{D\ avg}$ = maximum daily diazinon effluent concentration in µg/L

   $C_{C\ avg}$ = maximum daily chlorpyrifos effluent concentration in µg/L
5. Applied as an annual average effluent limitation.
6. Applied as an annual average effluent limitation.
7. The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20^0 F.
8. Applied as a 7-day median effluent limitation.
9. Not to be exceeded more than once in any 30-day period.

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5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute and chronic toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at Section 3.1.20) The Basin Plan also states that, *"…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…*".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA . U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" Although the discharge has been consistently in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc.*" Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

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Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ---------- 70%
Median for any three consecutive bioassays ---------- 90%

b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page Section 3.1.20.) The table below is chronic WET testing performed by the Discharger from 1 October 2015 through 31 October 2018. This data was used to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

Table F-14. Whole Effluent Chronic Toxicity Testing Results

	Fathead Minnow *Pimephales promelas*		**Water Flea** *Ceriodaphnia dubia*		**Green Algae** *Selenastrum capricornutum*
Date	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
10/12/2015	1	1	1	1	1.33
1/4/2016	1	1	1	1	1
4/4/2016	1	1	1	1	1
7/11/2016	1	1	1	1	2
10/10/2016	1	1	1	1	1.33
1/12/2017	1	1	1	1	1
4/3/2017	1	1	1	1	1
7/10/2017	1	1	1	1	1
10/9/2017	1	1	1	1	4
3/5/2018	1	1	1	1	1
4/16/2018	1	1	1	1	1
8/6/2018	1	1	1	1	4
10/23/2018	1	1	1	1	8

i. **RPA.** A dilution ratio of 23:1 is available for chronic whole effluent toxicity, however, the full dilution ratio has not been used to determine a chronic toxicity trigger. Chronic toxicity testing results exceeding 10 chronic toxicity units (TUc) (as 100/NOEC) and a percent effect at 100 percent effluent exceeding 25 percent demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Based on chronic toxicity testing conducted between 1 October 2015 and 31 October 2018, the maximum chronic toxicity result was 8 TUc on 23 October 2018 with a percent effect of 44 percent. Therefore; the discharge does not have reasonable potential to cause or contribute to an instream exceedance of the Basin Plan's narrative toxicity objective and this Order carries forward a chronic toxicity trigger of 10 TUc.

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D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CF.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCL's) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the design flow (Average Dry Weather Flow) permitted in section II.K of this Order.

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTW's unless impracticable. For copper, chlorpyrifos, and diazinon, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with Section 1.4 of the SIP. Furthermore, BOD, pH, and TSS weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for electrical conductivity, biochemical oxygen demand, total suspended solids, and ammonia. The effluent limitations for these pollutants are less stringent than those in Order R5-2014-0073-01. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits "*except in compliance with Section 303(d)(4).*" CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

   i. For waters where standards are not attained, CWA section 303(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDL's or WLAs will assure the attainment of such water quality standards.

   ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

   The Old River is considered an attainment water for electrical conductivity, BOD_5, TSS, and ammonia because the receiving water is not listed as impaired on the

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303(d) list for these constituents.[15] As discussed in section IV.D.4, below, relaxation of the effluent limits complies with federal and state antidegradation requirements. Thus, relaxation of the effluent limitations for electrical conductivity, BOD_5, TSS, and ammonia from Order R5-2014-0073-01 meets the exception in CWA section 303(d)(4)(B).

4. Antidegradation Policies

This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order relaxes effluent limitations for electrical conductivity based on updated information that was not available at the time that Order R5-2014-0073-01 was adopted. The relaxation of WQBEL's for electrical conductivity could result in an increase in the concentration of electrical conductivity in the discharge, however, it will not results in an increase in loading, a decrease in the level of treatment or control, or a reduction of water quality. Therefore, the Central Valley Water Board finds that the relaxation of the effluent limitations does not result in an increase in pollutants or any additional degradation of the receiving water. Thus, the relaxation of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

This Order also removes maximum daily and mass-based effluent limitations for BOD_5 and TSS based on 40 CFR Part 122.45 (d) and (f). The removal of maximum daily and mass-based effluent limits for BOD_5 and TSS will not result in a decrease in the level of treatment or control or a reduction in water quality.

Furthermore, both concentration-based AMEL's and AWEL's remain for BOD_5 and TSS, as well as an average dry weather flow prohibition that limits the amount of flow that can be discharged to the receiving water during dry weather months. The combination of concentration-based effluent limits and a flow prohibition in this Order are equivalent to mass-based effluent limitations, which were redundant limits contained in previous Orders by multiplying the concentration-based effluent limits and permitted average dry weather flow by a conversion factor to determine the mass-based effluent limitations. The Central Valley Water Board finds that the removal of maximum daily and mass-based effluent limits for BOD_5 and TSS does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of maximum daily and mass-based effluent limits for BOD_5 and TSS is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

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[15] "The exceptions in Section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list." State Water Board Order WQ 2008-0006, Berry Petroleum Company, Poso Creek/McVan Facility.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5, pH, and TSS. Restrictions on BOD_5, pH, and TSS are discussed in Section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

WQBEL's have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBEL's were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for total coliform organisms that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in Section IV.C.3 of this Fact Sheet. In addition, the Central Valley Water Board has considered the factors in Water Code section 13241 in Section IV.C.3 of this Fact Sheet.

Summary of Final Effluent Limitations
Discharge Point 001

Table F-15. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants							
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	--	--	--	TTC
pH	standard units	--	--	--	6.5	8.5	BP
Total Suspended Solids	mg/L	10	15	--	--	--	TTC
Priority Pollutants							
Copper, Total Recoverable	µg/L	45	--	63	--	--	CTR
Non-Conventional Pollutants							
Ammonia Nitrogen, Total (as N)	mg/L	0.7	1.4	--	--	--	NAWQC
Diazinon and Chlorpyrifos	µg/L	[3]	--	[4]	--	--	TMDL
Electrical Conductivity @ 25°C	µmhos/cm	2,400[5]	--	--	--	--	PB
Methylmercury	grams/year	--	--	0.37[6]	--	--	TMDL
Nitrate Plus Nitrite	mg/L	10	--	--	--	--	BP
Temperature	°F	--	--	[7]	--	--	TP
Total Coliform Organisms	MPN/100 mL	--	2.2[8]	23[9]	--	240	Title 22
Acute Toxicity	% Survival	70[10]/90[11]	--	--	--	--	BP

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1. DC – Based on the design capacity of the Facility.
   TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
   CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
   BP – Based on water quality objectives contained in the Basin Plan.
   CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
   NAWQC – Based on U.S. EPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
   TMDL – Based on the applicable TMDL.
   PB – Based on Facility performance.
   TP – Based on the Thermal Plan.
   Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).
2. Based on an average dry weather flow of 2.3 MGD.
3. Average Monthly Effluent Limitation

   $$S_{avg} = \frac{C_{D\ avg}}{0.079} + \frac{C_{C\ avg}}{0.012} \leq 1.0$$

   $C_{D\ avg}$ = average monthly diazinon effluent concentration in µg/L

   $C_{C\ avg}$ = average monthly chlorpyrifos effluent concentration in µg/L
4. Maximum Daily Effluent Limitation

   $$S_{max} = \frac{C_{D\ max}}{0.16} + \frac{C_{C\ max}}{0.025} \leq 1.0$$

   $C_{D\ avg}$ = maximum daily diazinon effluent concentration in µg/L

   $C_{C\ avg}$ = maximum daily chlorpyrifos effluent concentration in µg/L
5. Applied as an annual average effluent limitation.
6. The total calendar annual load of methylmercury shall not exceed 0.37 grams.
7. The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20ºF.
8. Applied as a 7-day median effluent limitation.
9. Not to be exceeded more than once in any 30-day period.
10. 70% minimum of any one bioassay.
11. 90% median for any three consecutive bioassays.

E. Interim Effluent Limitations

1. **Interim Limits for Ammonia, Mercury, Nitrate plus Nitrite, and Total Coliform Organisms.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for compliance schedules longer than one year. Interim effluent limitations must be based on current treatment plant performance or previous final permit limitations, whichever is more stringent.

   The interim limitations for ammonia, mercury, nitrate plus nitrite, and total coliform in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row). Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data.

   When there are less than 10 sampling data points available, the EPA *Technical Support Document for Water Quality-based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater

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effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than 10 sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5 2).

The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved. Short-term degradation is consistent with state and federal policies and is specifically authorized by 40 C.F.R. section 122.47 and the EPA-approved Compliance Schedule Policy.

a. **Ammonia.** The interim effluent limitation for ammonia have been retained from Order R5-2014-0073-01, and consists of a statistically-calculated performance-based MDEL derived using sample data provided by the Discharger. The interim effluent limitation was developed using the statistical approach provided in the TSD. The TSD provides guidance on estimating the projected maximum effluent concentration using a lognormal distribution of the observed effluent concentrations at a desired confidence level, as detailed in Section 3.3 of the TSD. The multipliers in Table 3-1 of the TSD were used to calculate the 99th percent confidence level and 99th percentile of the dataset based on the number of effluent samples and the coefficient of variation. The multipliers from the table were multiplied by the highest observed effluent concentration to estimate the maximum expected effluent concentration; this value was used as the interim MDEL.

Table F-16. Interim Effluent Limitation Calculation Summary for Ammonia

Parameter	Units	MEC	Mean	Std Dev	Count	CV	Multiplier	Interim MDEL
Ammonia Nitrogen Total (as N)	mg/L	5.5	0.16	0.4	211	2.5	1.53	8.4

b. **Nitrate Plus Nitrite.** The interim effluent limitation for nitrate plus nitrite consists of a statistically-calculated performance-based MDEL derived using sample data provided by the Discharger. The interim effluent limitation was developed using the statistical approach provided in the TSD. The TSD provides guidance on estimating the projected maximum effluent concentration using a lognormal distribution of the observed effluent concentrations at a desired confidence level, as detailed in Section 3.3 of the TSD. The multipliers in Table 3-1of the TSD were used to calculate the 99th percent confidence level and 99th percentile of the dataset based on the number of effluent samples and the coefficient of variation. The multipliers from the table were multiplied by the highest observed effluent concentration to estimate the maximum expected effluent concentration; this value was used as the interim MDEL.

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The following table summarizes the calculations of the interim effluent limitations for nitrate plus nitrite:

Table F-17. Interim Effluent Limitation Calculation Summary for Nitrate Plus Nitrite

Parameter	Units	Maximum Effluent Concentration	Mean	Standard Deviation	Number of Samples	Interim Limitation
Nitrate Plus Nitrite	mg/L	35	25	4	73	39

c. **Total Mercury.** During Phase 1, the Delta Mercury Control Program requires POTWs to limit their discharges of inorganic (total) mercury to Facility performance-based levels. The interim inorganic (total) mercury effluent mass limit is to be derived using current, representative data and shall not exceed the 99.9th percentile of 12-month running effluent inorganic (total) mercury loads. At the end of Phase 1, the interim inorganic (total) mercury mass limit will be re-evaluated and modified as appropriate. The Delta Mercury Control Program also requires interim limits established during Phase 1 and allocations will not be reduced as a result of early actions that result in reduced inorganic (total) mercury and/or methylmercury in discharges.

The interim limitation for total mercury in this Order is based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9 percent of the data points lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the 99.9th percentile was determined using the mean plus 3.3 standard deviations of the available data.

Interim effluent limitations for total mercury have been retained from Order R5-2014-0073-01. In Order R5-2014-0073-01 total mercury effluent data collected from January 2009 through December 2012 was used to determine the performance-based interim effluent limitation. The 12-month running mercury loads were calculated, and the average and standard deviation of the 12-month running mercury loads were determined and used to calculate the 99.9th percentile. The following table summarizes the calculations of the interim effluent limitations for total mercury. Since Discharger has not implemented early actions to reduce mercury, this performance-based interim limit has been established in this Order and does not penalize the Discharger for early actions to reduce mercury.

Table F-18. Interim Effluent Limitation Calculation Summary for Total Mercury

Parameter	Units	Maximum Annual Effluent Loading	Mean	Standard Deviation	Number of Samples	Interim Limitation
Mercury, Total Recoverable	g/year	17	10	4.4	18	24

d. **Title 22 (or equivalent) Disinfection Requirements.** The establishment of Title 22 (or equivalent) disinfection requirements had not been previously required for this discharge prior to the adoption of Order R5-2014-0073-01; therefore, a schedule for compliance with these requirements was included as a Provision in Order R5-0214-0073-01. This Order provides interim effluent limitations for total coliform organisms based on the previous effluent limitations required by Order

No. R5-2014-0073-01, which the Discharger is currently capable of meeting. Full compliance with the final effluent limitations for total coliform is not required by this Order until 30 December 2022. The compliance schedule for tertiary treatment has been developed in accordance with the Discharger's implementation schedule.

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply

with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Mercury.** The Delta Mercury Control Program was designed to proceed in two phases. Phase 1 spans a period of approximately 9 years. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. At the end of Phase 1, the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations and/or the Final Compliance Date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load and wasteload allocations after implementing all reasonable load reduction strategies. The fish tissue objectives, the linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules may be adjusted at the end of Phase 1, or subsequent program reviews, as appropriate. Therefore, this Order may be reopened to address changes to the Delta Mercury Control Program.

b. **Pollution Prevention.** This Order requires the Discharger prepare pollution prevention plans following Water Code section 13263.3(d)(3) for ammonia, nitrate plus nitrite, mercury, and salinity. This reopener provision allows the Central Valley Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for these constituents based on a review of the pollution prevention plans.

c. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a site-specific Toxicity Reduction Evaluation (TRE) This Order may be reopened to include a new chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the .

d. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Regional Monitoring Program.** The Central Valley Water Board is developing a Regional Monitoring Program for the Sacramento-San Joaquin Delta. This Order

may be reopened to modify the monitoring requirements to implement the Regional Monitoring Program.

f. **Drinking Water Policy.** On 26 July 2013 the Central Valley Water Board adopted Resolution No. R5-2013-0098 amending the Basin Plan and establishing a Drinking Water Policy. The State Water Board approved the Drinking Water Policy on 3 December 2013. This Order may be reopened to incorporate monitoring of drinking water constituents to implement the Drinking Water Policy.

g. **Diazinon and Chlorpyrifos Basin Plan Amendment.** Central Valley Water Board staff is developing a Basin Plan Amendment to provide a chlorpyrifos and diazinon effluent limitation exemption if a discharger can demonstrate that diazinon and chlorpyrifos have not been detected in the effluent. The proposed Basin Plan Amendment may result in needed changes to the diazinon and chlorpyrifos requirements in this Order. Therefore, this Order may be reopened to modify diazinon and chlorpyrifos effluent limitations, as appropriate, in accordance with an amendment to the Basin Plan.

h. **Ultraviolet Light (UV) Disinfection Operating Specifications.** UV system operating specifications are required to ensure that the UV system is operated to achieve the required pathogen removal. UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. The UV specifications in this Order are based on the National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWRF) "*Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse"* first published in December 2000 and revised as a Third Edition dated August 2012 (NWRI guidelines). If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation required by Title 22 for disinfected tertiary recycled water, this Order may be reopened to modify the UV specifications, in accordance with Reopener Provision VI.C.1.e.

i. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 31 May 2018, as part of the CV-SALTS initiative, the Central Valley Water Board approved Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley. If approved by the State Water Board, the Office of Administrative Law, and U.S. EPA, the Amendments would impose certain new requirements on salt and nitrate discharges. More information regarding these Amendments can be found at the following link:

https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/

If the Amendments ultimately go into effect, this Order may be amended or modified to incorporate any newly-applicable requirements.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at Section 3.1.20) Based on

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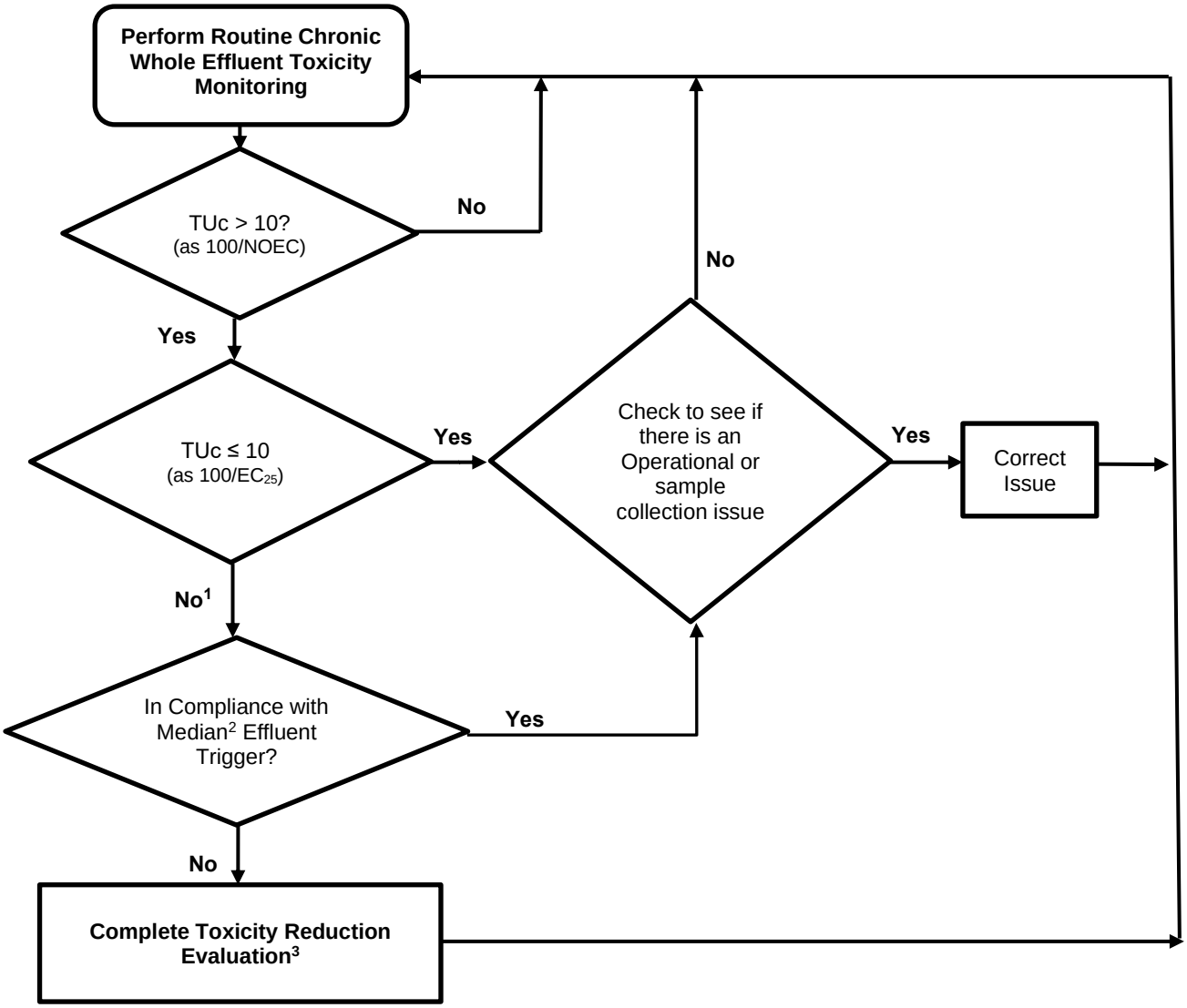
whole effluent chronic toxicity testing performed by the Discharger from 1 October 2015 through 31 October 2018, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring to demonstrate compliance with the Basin Plan's narrative toxicity objective. If the discharge exceeds the chronic toxicity monitoring trigger this provision requires the Discharger either participate in an approved Toxicity Evaluation Study (TES) or conduct a site-specific Toxicity Reduction Evaluation (TRE).

A TES may be conducted in lieu of a TRE if the percent effect at 100 percent effluent is less than or equal to 0 percent. Determining the cause of toxicity can be challenging when the toxicity signal is low. Several Central Valley facilities with similar treatment systems have been experiencing intermittent low level toxicity. The dischargers have not been successful identifying the cause of the toxicity because of the low toxicity signal and the intermittent nature of the toxicity. Due to these challenges, the Central Valley Clean Water Association (CVCWA), in collaboration with staff from the Central Valley Water Board, has initiated a Special Study to Investigate Low Level Toxicity Indications (Group Toxicity Study). This Order allows the Discharger to participate in an approved TES, which may be conducted individually or as part of a coordinated group effort with other similar dischargers that are exhibiting toxicity. Although the current CVCWA Group Toxicity Study is related to low-level toxicity, participation in an approved TES is not limited to only low-level toxicity issues.

See the WET Monitoring Flow Chart (Figure F-1), below, for further clarification of the decision points for determining the need for TES/TRE initiation.

Figure F-1
WET Accelerated Monitoring Flow Chart



1. The Discharger may elect to take additional samples to determine the 3 sample median. The samples shall be collected at least one week apart and the final sample shall be within 6 weeks of the initial sample exhibiting toxicity.
2. See Compliance Determination Section VII.L for procedures for calculating 6-week median.

3. Best Management Practices and Pollution Prevention

a. **Water Code Section 13263.3(d)(3) Pollution Prevention Plan.** A pollution prevention plan for mercury is required in this Order per Water Code section 13263.3(d)(1)(C). The pollution prevention plan required in section VI.C.3.a and in section VI.C.7.a of this Order shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(3). The minimum requirements for the pollution prevention plan include the following:

i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.

ii. An analysis of the methods that could be used to prevent the discharge of the pollutant into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis shall also identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.

iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.

iv. A plan for monitoring the results of the pollution prevention program.

v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.

vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.

vii. A description of the Discharger's existing pollution prevention programs.

viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.

An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

b. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required to be maintained in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to Old River.

4. Construction, Operation, and Maintenance Specifications

a. **Filtration System Operating Specifications.** Turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The tertiary treatment process utilized at this Facility is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.

b. **Ultraviolet (UV) Disinfection System Operating Specifications.** This Order requires that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms, filtration system operating specifications, and UV

disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement.

The NWRI guidelines include UV operating specifications for compliance with Title 22. For water recycling in accordance with Title 22, the UV system shall be an approved system included in the *Treatment Technology Report for Recycled Water*, December 2009 (or a later version, as applicable) published by the DDW. The UV system shall also conform to all requirements and operating specifications of the NWRI guidelines. A memorandum dated 1 November 2004 issued by DDW to Regional Water Board executive offices recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of lamp sleeves, as well as, include provisions that specify minimum delivered UV dose that must be maintained (per the NWRI Guidelines).

For granular media filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 100 mJ/cm^2. Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 100 mJ/cm^2 and a minimum hourly average UV transmittance of 55%, per the NWRI Guidelines. If the Discharger conducts a site-specific UV engineering study that demonstrates a lower UV dose meets a Title 22 equivalent virus removal, this Order may be reopened to revise the UV operating specifications accordingly.

c. **Treatment Pond Operating Requirements.** Consistent with Order R5-2008-0179-01, this Order requires the operation and maintenance of the sludge ponds to be conducted in a manner that prevents flooding and reduces nuisances.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this Order means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503. This Order does not regulate offsite use or disposal of biosolids, which are regulated instead under 40 C.F.R. part 503; administered by U.S. EPA. The Sludge/Biosolids Treatment or Discharge Specifications in this Order implement the California Water Code to ensure sludge/biosolids are properly handled onsite to prevent nuisance, protect public health, and protect groundwater quality.

6. Compliance Schedules

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or

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criteria, or in accordance with a Total Maximum Daily Load (TMDL). All compliance schedules must be as short as possible, and may not exceed ten years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

In accordance with the Compliance Schedule Policy and 40 CFR 122.47, a Discharger who seeks a compliance schedule must demonstrate additional time is necessary to implement actions to comply with a more stringent permit limitation. The Discharger must provide the following documentation as part of the application requirements:

- Diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;
- Source control efforts are currently underway or completed, including compliance with any pollution prevention programs that have established;
- A proposed schedule for additional source control measures or waste treatment;
- Data demonstrating current treatment facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim, permit effluent limit to apply if a schedule of compliance is granted;
- The highest discharge quality that can reasonably be achieved until final compliance is attained;
- The proposed compliance schedule is as short as possible, given the type of facilities being constructed or programs being implemented, and industry experience with the time typically required to construct similar facilities or implement similar programs; and
- Additional information and analyses to be determined by the Regional Water Board on a case-by-case basis.

Based on information submitted with the infeasibility analyses, the Report of Waste Discharge, self-monitoring reports, pollution prevention plans, and other miscellaneous submittals, it has been demonstrated to the satisfaction of the Central Valley Water Board that the Discharger needs time to implement actions to comply with the new effluent limitations for methylmercury, nitrate plus nitrite, ammonia, and total coliform organisms. Time is also needed for compliance with the operational specifications for turbidity and UV disinfection.

a. **Ammonia.** The permit limitations for ammonia are more stringent than the limitations previously implemented. These new limitations are on updated 2013 USEPA National Ambient Water Quality Criteria for ammonia. The Discharger has complied with the application requirements in paragraph 4 of the Compliance Schedule Policy, and the Discharger's infeasibility analysis demonstrates the need for additional time to implement actions to comply with the new limitations. Therefore, a compliance schedule for compliance with final effluent limitations for ammonia is established in this Order.

A compliance schedule is necessary because the Discharger must implement actions, including design and construction of nitrification facilities, to comply with the more stringent effluent limitations.

The Discharger has made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and has documented the results of those efforts. The Discharger has collected routine monitoring for ammonia (weekly). The source of ammonia is from domestic sewage and the biological treatment system.

The compliance schedule is as short as possible. The Discharger needs time design, fund, and construct the necessary facilities to achieve compliance with the effluent limitations for ammonia, and the compliance schedules and interim milestones in this Order are as short as possible given the type of facilities being constructed and industry experience with the time typically required to construct similar facilities.

b. **Nitrate Plus Nitrite.** The permit limitations for nitrate plus nitrite are more stringent than the limitations previously implemented. These new limitations are based on a new interpretation of a narrative objective. The Discharger has complied with the application requirements in paragraph 4 of the Compliance Schedule Policy, and the Discharger's infeasibility analysis demonstrates the need for additional time to implement actions to comply with the new limitations. Therefore, a compliance schedule for compliance with final effluent limitations for nitrate plus nitrite is established in this Order.

A compliance schedule is necessary because the Discharger must implement actions, including design and construction of facilities to provide denitrification, to comply with the more stringent effluent limitations.

The Discharger has made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and has documented the results of those efforts. The Discharger has collected routine monitoring for nitrate (twice per month). The source of nitrate plus nitrite is from domestic sewage and the biological treatment system.

The compliance schedule is as short as possible. The Discharger needs time design, fund, and construct the necessary facilities to achieve compliance with the effluent limitations for nitrate plus nitrite, and the compliance schedules and interim milestones in this Order are as short as possible given the type of facilities being constructed and industry experience with the time typically required to construct similar facilities.

c. **Methylmercury.** The Delta Mercury Control Program is composed of two phases. Phase 1 is currently underway and continues through the Phase 1 Delta Mercury Control Program Review. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. Phase 1 includes provisions for: implementing pollution minimization programs and interim mass limits for inorganic (total) mercury point sources in the Delta and Yolo Bypass; controlling sediment-bound mercury in the Delta and Yolo Bypass that may become methylated in agricultural lands, wetlands, and open-water habitats; and reducing total mercury loading to the San Francisco Bay, as required by the *Water Quality Control Plan for the San Francisco Bay*. As part of Phase 1, the CVCWA Coordinated Methylmercury Control Study Work Plan was approved by the Executive Officer on 7 November 2013. The final CVCWA Methylmercury Control Study was submitted to the Central Valley Water Board on 19 October 2018 and revised on 26 October 2018.

As part of Phase 1, the Delta Mercury Control Program also required dischargers to participate in a Mercury Exposure Reduction Program (MERP). The objective of the MERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury. The Discharger elected to provide financial support in a collective MERP with other Delta dischargers, rather than be individually responsible for any MERP activities. An exposure reduction work plan for Executive Officer approval was submitted on 20 October 2013, which addressed the MERP objective, elements, and the Discharger's coordination with other stakeholders.

At the end of Phase 1, the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations and/or the Final Compliance Date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load and WLA's after implementing all reasonable load reduction strategies. The review will also consider other potential public and environmental benefits and negative impacts (e.g., habitat restoration, flood protection, water supply, and fish consumption) of attaining the allocations. The fish tissue objectives, linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules shall be adjusted at the end of Phase 1, or subsequent program reviews, if appropriate.

Phase 2 begins after the Phase 1 Delta Mercury Control Program Review. During Phase 2, dischargers shall implement methylmercury control programs and continue inorganic (total) mercury reduction programs. Compliance monitoring and implementation of upstream control programs also shall occur in Phase 2. Any compliance schedule contained in an NPDES permit must be "…*an enforceable sequence of actions or operations leading to compliance with an effluent limitation*…" per the definition of a compliance schedule in CWA section 502(17). See also 40 C.F.R. section 122.2 (definition of schedule of compliance). The compliance schedule for methylmercury below meets these requirements:

Task	**Date Due**
Phase 1	
i. Submit CVCWA Coordinated Methylmercury Control Study Work Plan	**Complete (7 November 2013)**
ii. Submit Pollution Prevention Plan (PPP)[1] for Mercury (per Section VI.C.3.a)	**Complete (1 August 2014)**
iii. Implement CVCWA Coordinated Methylmercury Control Study Work Plan	**Complete**
iv. Annual Progress Reports[2]	**See Technical Reports Table**
v. Submit CVCWA Coordinated Methylmercury Control Study Progress Report	**Complete (20 October 2015)**
vi. Submit Final CVCWA Coordinated Methylmercury Control Study	**Complete (19 October 2018 and 26 October 2018)**
Phase 2	
vii. Implement methylmercury control programs	**TBD[3]**
viii. Full Compliance	**See Technical Reports Table**

[1] The PPP for Mercury shall be implemented in accordance with Section VI.C.3.a.

[2] Beginning **1 February 2020** and annually thereafter until the Facility achieves compliance with the final effluent limitations for methylmercury, the Discharger shall submit annual progress reports on the previously-submitted pollution prevention plan for mercury. This annual report may be combined with the Annual Operations Report and submitted as one report. The progress reports shall discuss the effectiveness of the pollution prevention plan in the reduction of mercury in the discharge, include a summary of mercury and methylmercury monitoring results, and discuss updates to the pollution prevention plan.

[3] To be determined. Following Phase 1 the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations, final compliance date, etc. Consequently, the start of Phase 2 and the final compliance date is uncertain at the time this Order was adopted.

Federal regulations at 40 C.F.R. section 122.47(a)(1) require that, "*Any schedules of compliance under this section shall require compliance as soon as possible*…" The Compliance Schedule Policy also requires that compliance schedules are as short as possible and may not exceed 10 years, except when "*…a permit limitation that implements or is consistent with the waste load allocations specified in a TMDL that is established through a Basin Plan amendment, provided that the TMDL implementation plan contains a compliance schedule or implementation schedule.*" As discussed above, the Basin Plan's Delta Mercury Control Program includes compliance schedule provisions and allows compliance with the WLA's for methylmercury by 2030. Until the Phase 1 Control Studies are complete and the Central Valley Water Board conducts the Phase 1 Delta Mercury Control Program Review, it is not possible to determine the appropriate compliance date for the Discharger that is as soon as possible. Therefore, this Order establishes a compliance schedule for the final WQBEL's for methylmercury with full compliance required by 31 December 2030, which is consistent with the Final Compliance Date of the TMDL. At completion of the Phase 1 Delta Mercury Control Program Review, the final compliance date for this compliance schedule will be re-evaluated to ensure compliance is required as soon as possible. Considering the available information, the compliance schedule is as short as possible in accordance with federal regulations and the Compliance Schedule Policy.

d. **Title 22 (or equivalent) Disinfection Requirements.** This Order requires more stringent disinfection requirements that result in more stringent permit limitations for total coliform organisms, and more stringent operational specifications for turbidity and UV disinfection than previously implemented. These new requirements are based on a new interpretation of a narrative objective. The Discharger has complied with the application requirements in paragraph 4 of the Compliance Schedule Policy, and the Discharger's infeasibility analysis demonstrates the need for additional time to implement actions to comply with the new limitations. Therefore, a compliance schedule for compliance with these new requirements is established in this Order.

A compliance schedule is necessary because the Discharger must implement actions, including design and construction of new coagulation, flocculation, and filtration facilities and upgrades to the existing UV disinfection system, to comply with the more stringent effluent requirements.

The compliance schedules for ammonia, nitrate plus nitrite, mercury, and Title 22 disinfection requirements are included in Special Provisions section VI.C.7.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry,

reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements). The monitoring frequencies for flow (continuous), BOD_5 (weekly), pH (weekly), TSS (weekly), electrical conductivity (monthly), temperature (weekly), and total dissolved solids (monthly) have been retained from Order No. R5-2014-0073-01.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
2. Effluent monitoring frequencies and sample types for flow (continuous), BOD_5 (twice per week), pH (weekly), TSS (twice per week), copper (twice per month), mercury (quarterly), ammonia (weekly), nitrate (twice per month), and temperature (weekly) have been retained from Order R5-2014-0073-01 to determine compliance with effluent limitations for these parameters.
3. Monitoring data collected over the previous permit term for settleable solids did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order No. R5-2014-0073-01.
4. R5-2014-0073-01 required quarterly monitoring for mercury and methylmercury. As discussed in section IV.C.3.a of this Fact Sheet, the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the water quality objectives for mercury or methylmercury. Therefore, this Order reduces the effluent monitoring frequency for these parameters to annually.
5. Order R5-2014-0073-01 required monthly monitoring for settleable solids. Settleable solids were not detected during the term of Order R5-2008-0179-01 based on 37 samples. Therefore, specific monitoring requirements for settleable solids have not been retained from Order No. R5-2014-0073-01.
6. Water Code section 13176, subdivision (a), states: "*The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code.*" The DDW accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

   Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II) The

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Discharger's on-site laboratory is not ELAP certified. Due to the location of the Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

a. **Delta Regional Monitoring Program.** The Central Valley Water Board requires individual dischargers and discharger groups to conduct monitoring of Delta waters and Delta tributary waters in the vicinity of their discharge, known as ambient (or receiving) water quality monitoring. This monitoring provides information on the impacts of waste discharges on Delta waters, and on the extant condition of the Delta waters. However, the equivalent funds spent on current monitoring efforts could be used more efficiently and productively and provide a better understanding of geographic and temporal distributions of contaminants and physical conditions in the Delta, and of other Delta water quality issues, if those funds were used for a coordinated ambient monitoring effort, rather than continue to be used in individual, uncoordinated ambient water quality monitoring programs. The Delta Regional Monitoring Program will provide data to better inform management and policy decisions regarding the Delta.

The Discharger is required to participate in the Delta Regional Monitoring Program. Delta Regional Monitoring Program data is not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Order. Delta Regional Monitoring Program monitoring stations are established generally as "integrator sites" to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta Regional Monitoring Program monitoring stations would not normally be able to identify the source of any specific constituent but would be used to identify water quality issues needing further evaluation. Delta Regional Monitoring Program monitoring data may be used to help establish background receiving water quality for an RPA in an NPDES permit after evaluation of the applicability of the data for that purpose. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place and time that can be used in conjunction with other information, such as other receiving water monitoring data, spatial and temporal distribution and trends of receiving water data, effluent data from the Discharger's discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in exceedance of a receiving water quality objective.

Participation in the Delta Regional Monitoring Program by a Discharger shall consist of providing funds and/or in-kind services to the Delta Regional Monitoring Program. The Discharger has elected to participate in the Delta Regional Monitoring Program

through financial contributions while maintaining their individual receiving water monitoring schedule.

Since the Discharger is participating financially in the Delta Regional Monitoring Program, this Order retains receiving water characterization monitoring for purposes of conducting the RPA.

b. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

c. Receiving water monitoring frequencies and sample types for fecal coliform organisms (quarterly), pH (monthly), total recoverable copper (quarterly), total ammonia nitrogen (as N) (monthly), chloride (monthly) dissolved oxygen (monthly), electrical conductivity (monthly), hardness (monthly), total nitrate nitrogen (as N) (quarterly), temperature (monthly), total dissolves solids (monthly), and turbidity (monthly) at Monitoring Locations RSW-001and RSW-002 have been retained from Order R5-2014-0073-01 to determine compliance with the applicable receiving water limitations and characterize the receiving water for these parameters.

d. In accordance with section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires receiving water monitoring for priority pollutants and other constituents of concern quarterly, for one year, beginning with the fourth quarter of the year 2020 at Monitoring Location RSW-001, in order to collect data to conduct an RPA for the next permit renewal.

2. Groundwater

a. Water Code section 13267 states, in part, "(a) A *Regional Water Board, in establishing…waste discharge requirements… may investigate the quality of any waters of the state within its region" and "(b) (1) In conducting an investigation…, the Regional Water Board may require that any person who… discharges… waste…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.*" The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with the State Anti-Degradation Policy. Economic analysis is only one of many

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factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with the State Anti-Degradation Policy and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the pretreatment requirements contained in 40 C.F.R. part 403 and implemented in section VI.C.5.a. of this Order. Biosolids monitoring is required per U.S. EPA guidance to evaluate the effectiveness of the pretreatment program. Biosolids monitoring for compliance with 40 C.F.R. part 503 regulations is not included in this Order since it is a program administered by U.S. EPA's part 503 biosolids program:

https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws

2. Water Supply Monitoring

Water supply monitoring is required to evaluate the source of constituents in the wastewater.

3. UV Disinfection System Monitoring

UV system monitoring and reporting are required to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by the DDW), and the NWRI, Guidelines

4. Pond Monitoring

Treatment pond monitoring is required to ensure proper operation of the storage pond. Weekly monitoring for freeboard, pH, electrical conductivity, and dissolved oxygen and daily monitoring for odors has been retained from Order No. R5-2002-0101.

5. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires all dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits.

There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S.EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from their own laboratories or their contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall submit annually the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Persons

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following <**Describe Notification Process (e.g., newspaper name and date)**>

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/board_info/meetings/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on <**Date**>.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	5/6 December 2019
Time:	8:30 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region 11020 Sun Center Dr., Suite #200 Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

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D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Or by email at waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Mr. Tyson Pelkofer at (916) 464-4853.

TENTATIVE

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Ammonia Nitrogen, Total (as N)	mg/L	4.0	0.12	1.17	1.17	1.50	--	--	--	--	Yes
Chloride	mg/L	419	178	230	860	230	--	--	250	250	No[1]
Copper, Total Recoverable	µg/L	41.0	4.1	9.2	13.9	9.2	1,300	--	10.4	1,000	Yes
Electrical Conductivity @ 25	µmhos/cm	2270	798	1,000	--	--	--	--	1,000	900	No[1]
Mercury, Total Recoverable	ng/L	2.55	--	50	--	--	50	51	--	2,000	No[3]
Methylmercury	ng/L	0.87	--	50	--	--	50	51	--	--	No[3]
Nitrate Nitrogen, Total (as N)	mg/L	34.7	0.6	10	--	--	--	--	--	10	Yes[2]
Total Dissolved Solids	mg/L	1360	420	500	--	--	--	--	--	500	No[1]

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

Footnotes:
(1) See Section IV.C.3.ii of Attachment F for discussion of reasonable potential analysis for salinity.
(2) See Section IV.C.3.ii of Attachment F for discussion of reasonable potential analysis for mercury.
(3) Constituents with Total Maximum Daily Load (TMDL).

TENTATIVE

ATTACHMENT H – CALCULATION OF WQBEL'S

Aquatic Life WQBEL's Calculations																	
Parameter	Units	Criteria		B	CV Eff	Dilution Factors		Aquatic Life Calculations							Final Effluent Limitations		
		CMC	CCC			CMC	CCC	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL[1]	AWEL[2]	MDEL[3]
Ammonia Nitrogen, Total (as N)	mg/L	2.12	0.63	0.4	3.0[4]	--	--	0.10	0.2	0.34	0.22	3.32	7.16	10.83	0.70	1.40	
Copper, Total Recoverable	µg/L	7.4	4.8	2.9	0.25[4]	13	23	00.58	38.9	0.76	36.4	1.22	1.61	1.72	44	64	

1 Average Monthly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 95th percentile occurrence probability.
2 Average Weekly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 98th percentile occurrence probability.
3 Maximum Daily Effluent Limitations are calculated according to Section 1.4 of the SIP using a 99th percentile occurrence probability.
4 Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.

TENTATIVE

HERWIT ENGINEERING

October 10, 2019

Mr. Tyson Pelkofer
Water Resources Control Engineer
San Joaquin Delta Permitting
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

Re: ORDER No. R5-2014-0073, NPDES No. CA0078590

Subject: **Town of Discovery Bay Community Services District - Discovery Bay WWCF - Renewal of NPDES Permit No. CA0078590 - Public Draft**

Dear Mr. Pelkopfer:

The Town of Discovery Bay (Town) has reviewed the public draft NPDES permit Number CA0078590 and offers the following comments.

1. Page 5, Table 4 - Ammonia Nitrogen Effluent Limitations. The draft permit sets ammonia nitrogen limits at 0.7 mg/L (Average monthly, AMEL), and 1.4 mg/L (Average weekly, AWEL). As will be discussed later relative to the Fact Sheet, we do not understand how these limits were developed. We need to have a clear understanding because we are in the process of asking our constituency for a significant amount of money in order to comply with this specific limitation.

2. Page 14, Section VI.C.1 - We would like to insert the reopener provision section VI.C.1.j "2013 Ammonia Criteria", from Order R5-2014-0073, into Section VI.C.1.m because we believe sufficient information on freshwater mussels can be gathered to modify the ammonia criteria. Please add the following text to the reopener provisions

   > "2013 Ammonia Criteria. Ammonia criteria for waters where mussels are present were used because freshwater mussels have been surveyed in other parts of the Delta. However, if the Discharger can submit sufficient information indicating mussels are not present in the receiving water through a "mussel study to evaluate presence/absence of mussels", and it is determined that it is not necessary to protect mussels in the receiving water this Order may be reopened to allow for the recalculation procedures to determine the appropriate ammonia criteria."

3. Page E-24, Table-E12 - Items 41 through 45, Annual Pretreatment Reports should be deleted because the pretreatment requirements are no longer included in the permit.

HERWIT ENGINEERING
6200 Center St., Ste. 310, Clayton, CA 94517
PHN (925) 672-6599
FAX (925) 672-6051
www.HERWIT.com

4. Page F-21 to F-22, Section viii - This section states "The Central Valley Water Board has determined that these dilution factors are not needed or necessary for the Discharger to achieve compliance with this Order, except for copper, as described above." We disagree. The District believes that new information, as summarized in the draft WDRs and elsewhere shows that dilution credits are available for ammonia (see Attachment H, ammonia B (maximum receiving water concentration) = 0.04 mg/L, which is far less than CMC = 2.12 and CCC = 0.63). These available dilution credits are needed to avoid the public expense in building and operating more advanced nitrification-denitrification facilities capable of reliably complying with proposed effluent limitations on both ammonia (0.7 mg/L) and nitrate + nitrite (10 mg/L) under design flows and reasonable worst-case conditions. We have spent considerable money developing a design to achieve compliance with both, but we have not yet spent public money to build and operate those facilities to achieve compliance with both. We support the overall plan to reduce nitrate emissions to the Delta, we do not support an expensive low limit on ammonia that is not conservative in the environment and that the environment is able to assimilate safely based on available data. This issue of freshwater mussel sensitivity is still under study. Our diffuser design directs our effluent up, not along the river bottom. Our effluent is warmer than the river; thus, it naturally tends to buoy up, not hug the river bottom where mussels may exist. We believe dilution credits for ammonia are needed to avoid a waste of public money considering situation-specific factors of dilution, available assimilative capacity, diffuser design, and effluent buoyancy. The issue of ammonia can be re-visited any time warranted by new information; however, once we spend the public's money, they will never get it back.

5. Page F-40, Part IV.C.2.c.i.(c), - WQBEL's. This section states the calculated ammonia AMEL and AWEL is 0.4 mg/L and 0.8 mg/L, respectively, but these are "overly stringent" and cannot be achieved. As such, the Order leaves the ammonia limit of 0.7 mg/L AMEL in place from Order R5-2014-0073 (which was based on the, now, deferred 2013 Ammonia Criteria) and set the AWEL for ammonia at 1.4 mg/L based on some unspecified adjustment of MDEL of 2.1 mg/L contained in R5-2014-0073.

    a. Without having access to the computerized mathematical model for the Board's effluent limitations, we are unaware of how this conversion was made. Therefore, we request the calculation formula to convert the MDEL to AWEL.

    b. Further, the Order states the calculated ammonia AMEL and AWEL is 0.4 mg/L and 0.8 mg/L, respectively, and that the discharger is getting relaxed limits with the 0.7 mg/L and 1.4 mg/L values. We request the data used in generating the calculated 0.4 and 0.8 values.

        i. The Order states the 0.7 mg/L value is based on the more restrictive 2013 Criteria, but the more appropriate value under the less restrictive 1999 Criteria is, now, 0.4 mg/L. There appears to be a calculation error and we need to see the database, arithmetic, and logic in order to understand where the error lays.

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c. With the severe 2016 drought, conditions in Old River may have caused these calculated low values; however, the State Implementation Plan (SIP) for protection of aquatic life is 1-in-10 years from a dilution perspective, not extreme drought conditions (see page 16 of the SIP, Table 3- Effluent and Receiving Water Flows for Calculating Dilution Ratios). Obviously, when an effluent limit is based on a specified dilution and there is actually less dilution (i.e., less flow from 1A10, 7Q10), the effluent limit has potential to cause an exceedance of a water quality objective. Based on this logic, severe drought river conditions should don't be the basis for regulation. However, SIP gives the Regional Boards discretion in these dilution/rare events matters. The Tentative Order does not discuss this logic. We request consideration of dilution credits available for ammonia during normal water years (not severe drought river conditions).

6. Page F-50, Table F-13 – Summary of Water Quality-Based Effluent Limitations. The table states the ammonia nitrogen limits are 0.8 mg/L (Average monthly), and 1.8 mg/L (Average weekly), which is less stringent and conflicting with the effluent limits shown in Table 4.

By way of references, AMEL's for ammonia nitrogen in the core Delta inflow/intra-flow areas (and "fringe dischargers") are as follows.

Core Dischargers	Order	AMEL	AWEL	MDEL
Sac Regional	R5-2016-0020-01	1.5	1.7	---
Lodi	R5-2013-0125-01	1.3	---	4.3
Stockton	R5-2014-0070-03	1.2	---	4.0
Manteca	R5-2015-0026	2.1	4.4	---
Fringe Dischargers				
Tracy	R5-2017-0013	1.5	2.0	---
Mountain House	R5-2017-0119	0.8	1.7	---
Iron House	R5-2018-0090	0.89	1.7	---

Please feel free to give me a call or email to discuss any of these items further.

Sincerely,

Gregory Harris, PE
Partner HERWIT Engineering

cc: Michael R. Davies, General Manager, Discovery Bay CSD

HERWIT ENGINEERING
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TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Gold-Level of Governance

President – Bill Mayer • Vice-President – Bill Pease • Director – Kevin Graves • Director – Robert Leete • Director – Bryon Gutow

September 27, 2019

Adam Laputz, Assistant Executive Officer
California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

RE: Proof of Posting – National Pollutant Discharge Elimination System Permit

Dear Mr. Laputz:

Sincerely,

Please find the attached Proof of Posting to be filed with your office by October 3, 2019, for the above mentioned tentative order.

If you have any questions, please fee free to contact me at your convenience.

Michael R. Davies, General Manager
Town of Discovery Bay CSD

1800 Willow Lake Road • Discovery Bay • CA • 94505-9376
Telephone • 925.634.1131 • Fax • 925.513.2705
www.todb.ca.gov

PROOF OF POSTING

I, Carol McCool (print name), posted the ***NOTICE OF PUBLIC HEARING***

concerning Waste Discharge Requirements for Town of Discovery (name of Discharger)

Bay, Community Services District,

at

(1) the District Office/Front Entrance, 1800 Willow Lake Road (name of city hall or county courthouse)

on 09/23/2019 (date posted),

(2) the Discovery Bay Post Office 3345 Bixler Road (name of post office)

on 09/24/2019 (date posted).

(3) the Wastewater Treatment Plant, 17501 Highway 4 (facility public entrance)

on 09/23/2019 (date posted).

and arranged for publishing in East County Times (name of local newspaper)

on 09/26/2019 (date published). (Affidavit Attached)

Carol McCool
(signature)

09/24/2019
(date)

East County Times
3260 Lone Tree Way, Suite 100
Antioch, CA 94509
925-779-7115

9/26/2019

DISCOVERY BAY, TOWN OF
COMMUNITY SERVICES DISTRICT
1800 WILLOW LAKE RD.
DISCOVERY BAY, CA 94514-9376

Account Number: 2005834

Ad Order Number: 0006402718

Customer's Reference / PO Number: East County Times / NPDES

Publication: East County Times

Publication Dates: 09/26/2019

Amount: $321.30

Payment Amount: $0.00

East County Times
3260 Lone Tree Way, Suite 100
Antioch, CA 94509
925-779-7115

2005834

DISCOVERY BAY, TOWN OF
COMMUNITY SERVICES DISTRICT
1800 WILLOW LAKE RD.
DISCOVERY BAY, CA 94514-9376

PROOF OF PUBLICATION

FILE NO. NPDES

In the matter of

East County Times

I am a citizen of the United States. I am over the age of eighteen years and I am not a party to or interested in the above entitled matter. I am the Legal Advertising Clerk of the printer and publisher of the East County Times, a newspaper published in the English language in the City of Antioch, County of Contra Costa, State of California.

I declare that the East County Times is a newspaper of general circulation as defined by the laws of the State of California as determined by court decree dated January 6, 1919, Case Number 8268 and modified January 19, 2006, Case Number N05-1494. Said decree states that the East County Times is adjudged to be a newspaper of general circulation for the City of Antioch, County of Contra Costa and State of California. Said order has not been revoked.

I declare that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

09/26/2019

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Executed at Walnut Creek, California.
On this 26th day of September, 2019.

Signature

Legal No. **0006402718**

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
11020 Sun Center Drive #200, Rancho Cordova, CA 95670
NOTICE OF PUBLIC HEARING
concerning
RENEWAL OF WASTE DISCHARGE REQUIREMENTS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT CA0078590
FOR
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

The Town of Discovery Bay Community Services District (Discharger) owns the Discovery Bay Wastewater Treatment Plant (Facility), which is operated by Veolia West Operating Services, Inc. The Facility provides sewerage service for the Town of Discovery Bay and serves a population of approximately 16,000. The Facility is currently authorized to discharge up to 2.35 million gallons per day (MGD) of tertiary-treated municipal wastewater to Old River, within the Sacramento-San Joaquin Delta.

Discharges from the Facility are currently regulated by Waste Discharge Requirements Order R5-2014-0073-01, issued by the Central Valley Water Board on 6 June 2014 and amended by Order R5-2014-00122 on 9 October 2014. An Order is proposed to renew the NPDES permit. The proposed permit includes new or updated effluent limitations for ammonia, biochemical oxygen demand, electrical conductivity, and total suspended solids. The proposed permit will not remove any existing effluent limitations.

A public hearing concerning this matter will be held during the Central Valley Water Board meeting scheduled for:

DATE: 5/6 December 2019
TIME: 8:30 a.m.
PLACE: Central Valley Regional Water Quality Control Board Room
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

The designated parties for this hearing are as follows:

• Town of Discovery Bay Representatives

Only designated parties will have these rights: to call and examine witnesses; to introduce exhibits; to cross-examine opposing witnesses; to impeach any witness; and to rebut the evidence against him or her. All other persons wishing to testify or provide comments are interested persons and not designated parties. Such interested persons may request status as a designated party for purposes of this hearing by submitting such request in writing to the Central Valley Water Board no later than **5:00 p.m. on 21 October 2019.** The request must explain the basis for status as a designated party and in particular how the person is directly affected by the discharge.

Persons wishing to comment on this noticed hearing item shall submit testimony, evidence, if any, and/or comments in writing to the Central Valley Water Board email RBSS-NPDES-Comments@waterboards.ca.gov no later than **5:00 p.m. on 21 October 2019.** Written evidence or comments submitted after **5:00 p.m. on 21 October 2019** will not be accepted and will not be incorporated into the administrative record absent a ruling by the Board Chair. Any person requesting to submit late materials must demonstrate good cause for the late submission, and the Chair must find that accepting the late submission will not prejudice the Central Valley Water Board or any Designated Party.

All designated parties and interested persons may speak at the Central Valley Water Board meeting and are expected to orally summarize their written submittals. Oral testimony and cross examination will be limited in time by the Board Chair.

Anyone having questions regarding the hearing item should contact Mr. Tyson Pelkofer at (916) 464-4853 or tyson.pelkofer@waterboards.ca.gov. Interested persons may contact Mr. Tyson Pelkofer to obtain a copy of the tentative Order and related documents. Copies of these documents can also be obtained by contacting or visiting the Central Valley Water Board's office at 11020 Sun Center Drive, #200, Rancho Cordova, California 95670-6114 weekdays between 8:00 a.m. and 5:00 p.m. **The final meeting agenda (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/) will be available at least 10 days before the meeting. The agenda will provide the specific date the Board Meeting will be held for this item, indicate the anticipated order of all agenda items, and may include staff revisions to the proposed order.**

The Procedures Governing Central Valley Water Board Meetings (http://www.waterboards.ca.gov/laws_regulations/) may be found at Title 23, California Code of Regulations, Section 647 et seq. and are available upon request. Hearings before the Central Valley Water Board are not conducted pursuant to Government Code section 11500 et seq. Information on Meeting and Hearing Procedures (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/mtgprocd.shtml) is available on the Central Valley Water Board's website or by contacting any one of the Central Valley Water Board's offices. Questions regarding such procedures should be directed to Ms. Kiran Lanfranchi-Rizzardi at (916) 464-4839.

The hearing facilities will be accessible to persons with disabilities. Individuals requiring special accommodations are requested to contact Ms. Kiran Lanfranchi-Rizzardi at (916) 464-4839 at least 5 working days prior to the meeting. TTY users may contact the California Relay Service at 1-800-735-2929 or voice line at 1-800-735-2922.

Please bring the above information to the attention of anyone you know who would be interested in this matter.
ORIGINAL SIGNED BY
ADAM LAPUTZ, Assistant Executive Officer 19 September 2019
ECT# 6402718 Sept. 26, 2019

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
11020 Sun Center Drive #200, Rancho Cordova, CA 95670

NOTICE OF PUBLIC HEARING
concerning

RENEWAL OF WASTE DISCHARGE REQUIREMENTS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT CA0078590
FOR
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

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RB5S-NPDES-Comments@waterboards.ca.gov no later than **5:00 p.m.** on **21 October 2019**. Written evidence or comments submitted after **5:00 p.m.** on **21 October 2019** will not be accepted and will not be incorporated into the administrative record absent a ruling by the Board Chair. Any person requesting to submit late materials must demonstrate good cause for the late submission, and the Chair must find that accepting the late submission will not prejudice the Central Valley Water Board or any Designated Party.

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Please bring the above information to the attention of anyone you know who would be interested in this matter.

ORIGINAL SIGNED BY

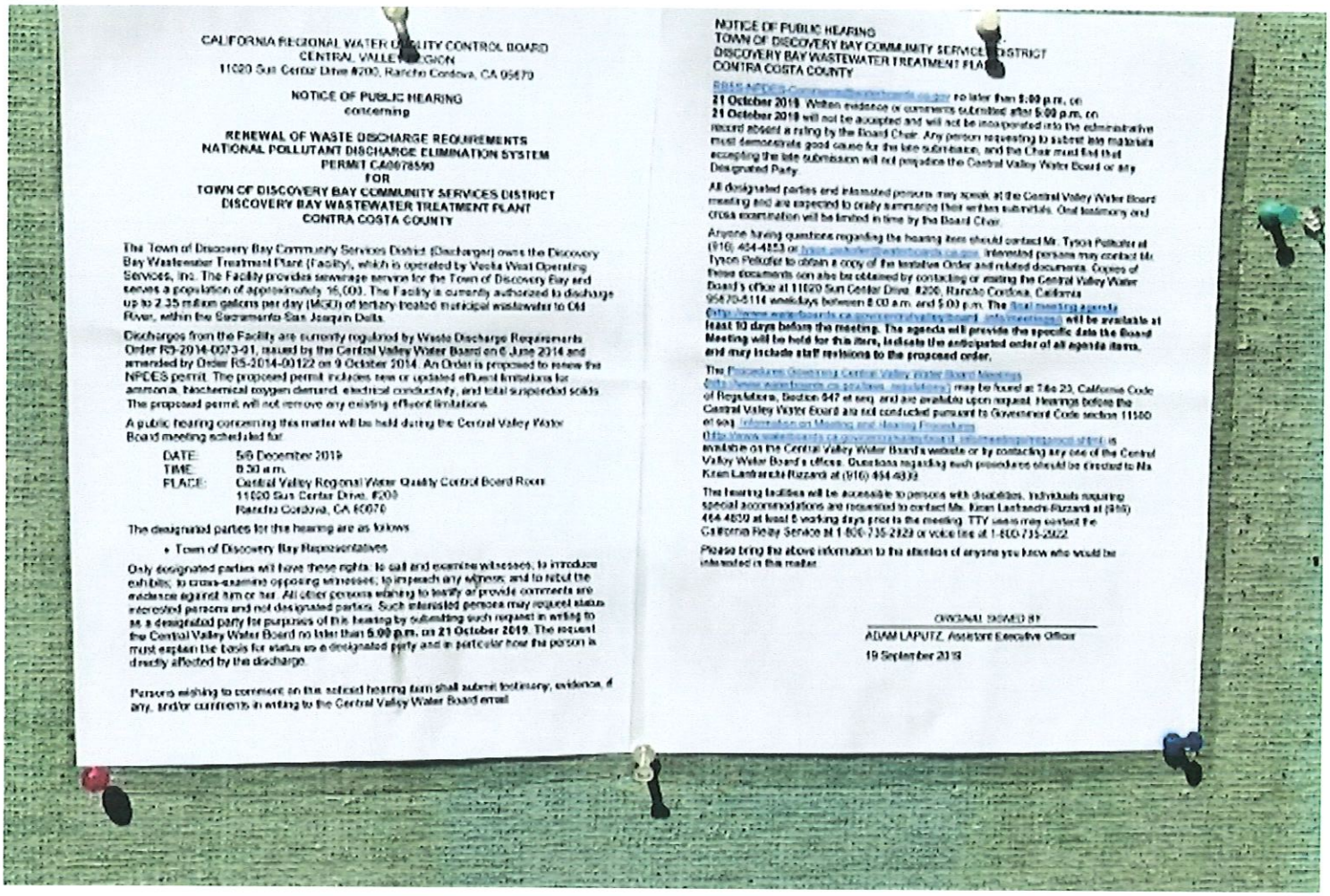
ADAM LAPUTZ, Assistant Executive Officer

19 September 2019

District Office Posting of the NPDES Permit

Located at 1800 Willow Lake Road

On September 23, 2019



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
11020 Sun Center Drive #200, Rancho Cordova, CA 95670

NOTICE OF PUBLIC HEARING
concerning

RENEWAL OF WASTE DISCHARGE REQUIREMENTS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT CA0078590
FOR
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
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PLACE: Central Valley Regional Water Quality Control Board Room
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

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- Town of Discovery Bay Representatives

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Persons wishing to comment on the noticed hearing item shall submit testimony, evidence, if any, and/or comments in writing to the Central Valley Water Board email

NOTICE OF PUBLIC HEARING
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

[illegible] no later than **5:00 p.m. on 21 October 2019**. Written evidence or comments submitted after **5:00 p.m. on 21 October 2019** will not be accepted and will not be incorporated into the administrative record absent a ruling by the Board Chair. Any person requesting to submit late materials must demonstrate good cause for the late submittal, and the Chair must find that accepting the late submission will not prejudice the Central Valley Water Board or any Designated Party.

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Anyone having questions regarding the hearing item should contact Mr. Tyson Pelkofer at (916) 464-4853 or [illegible]. Interested persons may contact Mr. Tyson Pelkofer to obtain a copy of the tentative Order and related documents. Copies of these documents can also be obtained by contacting or visiting the Central Valley Water Board's office at 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114 weekdays between 8:00 a.m. and 5:00 p.m. The [illegible] **will be available at least 10 days before the meeting. The agenda will provide the specific date the Board Meeting will be held for this item, indicate the anticipated order of all agenda items, and may include staff revisions to the proposed order.**

The [illegible] may be found at Title 23, California Code of Regulations, Section 647 et seq. and are available upon request. Hearings before the Central Valley Water Board are not conducted pursuant to Government Code section 11500 et seq. [illegible] is available on the Central Valley Water Board's website or by contacting any one of the Central Valley Water Board's offices. Questions regarding such procedures should be directed to Ms. Kiran Lanbrechs-Ruzzard at (916) 464-4833.

The hearing facilities will be accessible to persons with disabilities. Individuals requiring special accommodations are requested to contact Ms. Kiran Lanbrechs-Ruzzard at (916) 464-4833 at least 5 working days prior to the meeting. TTY users may contact the California Relay Service at 1-800-735-2929 or voice line at 1-800-735-2922.

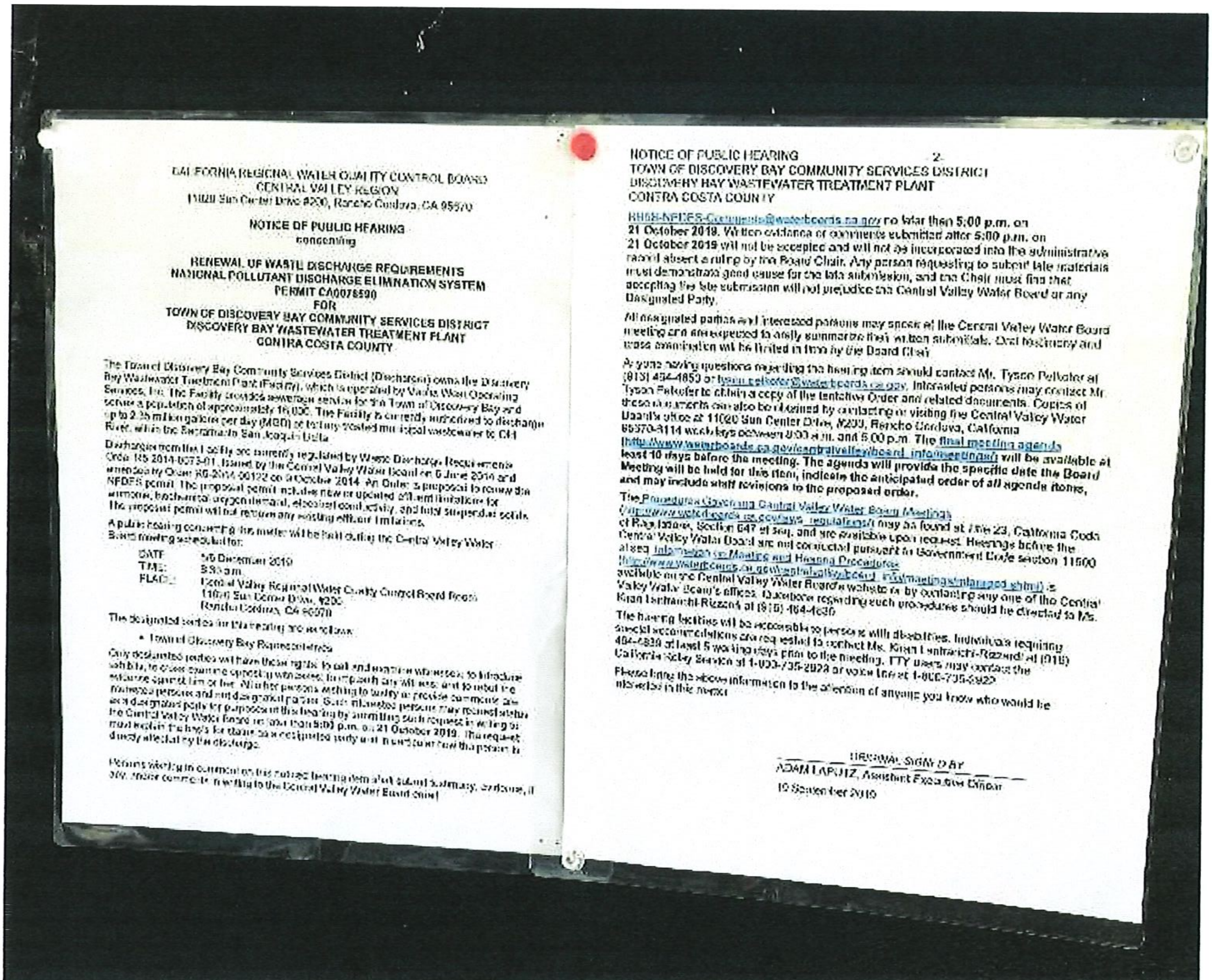
Please bring the above information to the attention of anyone you know who would be interested in this matter.

ORIGINAL SIGNED BY
ADAM LAPUTZ, Assistant Executive Officer
19 September 2019

Community Center Posting of the NPDES Permit

Located at 1601 Discovery Bay Boulevard

On September 23, 2019



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
11020 Sun Center Drive #200, Rancho Cordova, CA 95670

NOTICE OF PUBLIC HEARING
concerning

RENEWAL OF WASTE DISCHARGE REQUIREMENTS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT CA0078590
FOR
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

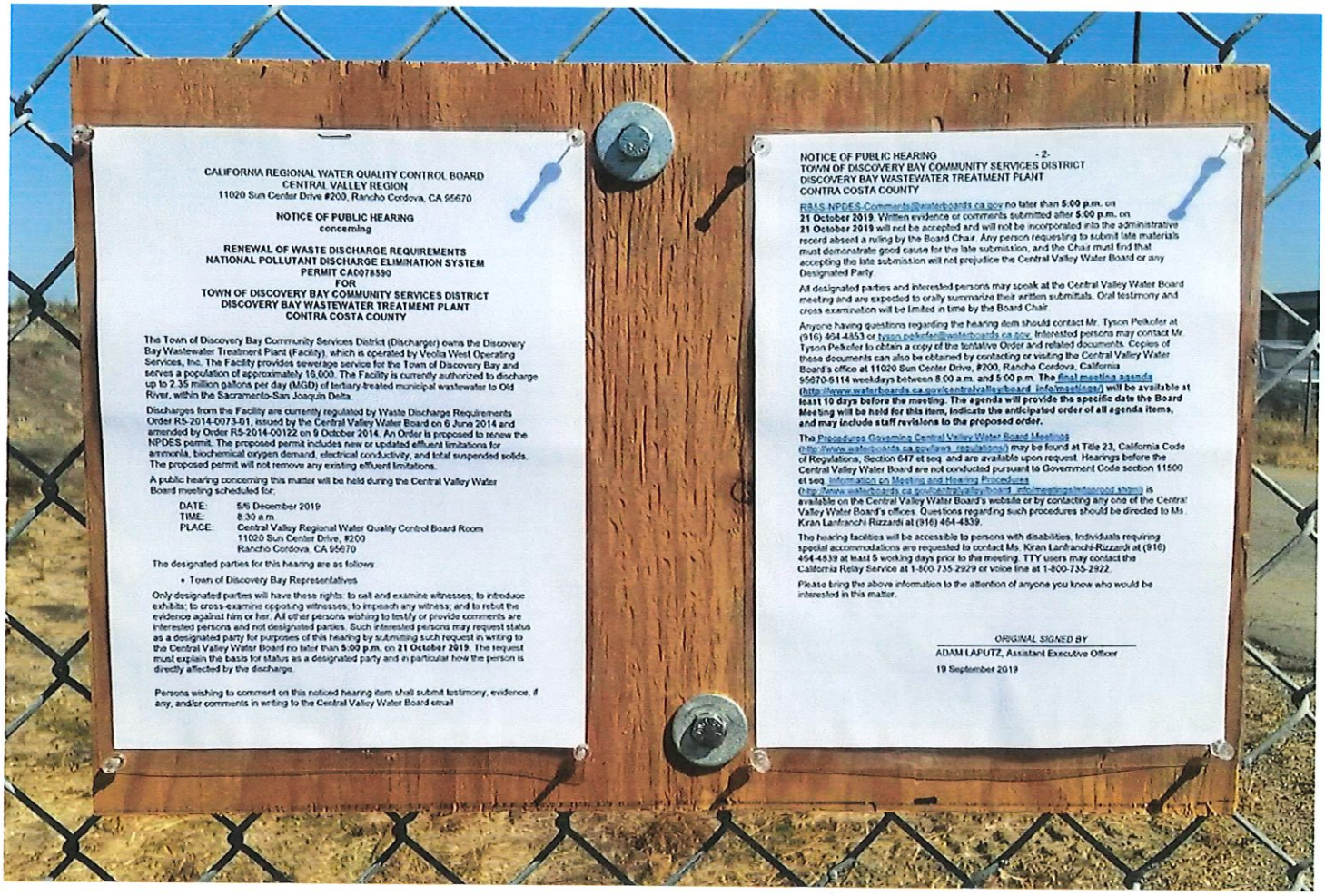
NOTICE OF PUBLIC HEARING -2-
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

... no later than 5:00 p.m. on 21 October 2019. ... submitted after 5:00 p.m. on 21 October 2019 will not be accepted and will not be incorporated into the administrative record ...

... least 10 days before the meeting. The agenda will provide the specific date the Board Meeting will be held for this item, indicate the anticipated order of all agenda items, and may include staff revisions to the proposed order.

Wastewater Treatment Plant Posting of the NPDES Permit Located at 17501 Highway 4

On September 23, 2019



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
11020 Sun Center Drive #200, Rancho Cordova, CA 95670

NOTICE OF PUBLIC HEARING
concerning

RENEWAL OF WASTE DISCHARGE REQUIREMENTS
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FOR
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

The Town of Discovery Bay Community Services District (Discharger) owns the Discovery Bay Wastewater Treatment Plant (Facility), which is operated by Veolia West Operating Services, Inc. The Facility provides sewerage service for the Town of Discovery Bay and serves a population of approximately 16,000. The Facility is currently authorized to discharge up to 2.35 million gallons per day (MGD) of tertiary-treated municipal wastewater to Old River, within the Sacramento-San Joaquin Delta.

Discharges from the Facility are currently regulated by Waste Discharge Requirements Order R5-2014-0073-01, issued by the Central Valley Water Board on 6 June 2014 and amended by Order R5-2014-00122 on 9 October 2014. An Order is proposed to renew the NPDES permit. The proposed permit includes new or updated effluent limitations for ammonia, biochemical oxygen demand, electrical conductivity, and total suspended solids. The proposed permit will not remove any existing effluent limitations.

A public hearing concerning this matter will be held during the Central Valley Water Board meeting scheduled for:

DATE: 5/6 December 2019
TIME: 8:30 a.m.
PLACE: Central Valley Regional Water Quality Control Board Room
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

The designated parties for this hearing are as follows

- Town of Discovery Bay Representatives

Only designated parties will have these rights: to call and examine witnesses; to introduce exhibits; to cross-examine opposing witnesses; to impeach any witness; and to rebut the evidence against him or her. All other persons wishing to testify or provide comments are interested persons and not designated parties. Such interested persons may request status as a designated party for purposes of this hearing by submitting such request in writing to the Central Valley Water Board no later than **5:00 p.m. on 21 October 2019.** The request must explain the basis for status as a designated party and in particular how the person is directly affected by the discharge.

Persons wishing to comment on this noticed hearing item shall submit testimony, evidence, if any, and/or comments in writing to the Central Valley Water Board email

NOTICE OF PUBLIC HEARING - 2-
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

RB5-NPDES-Comments@waterboards.ca.gov no later than **5:00 p.m. on 21 October 2019.** Written evidence or comments submitted after **5:00 p.m. on 21 October 2019** will not be accepted and will not be incorporated into the administrative record absent a ruling by the Board Chair. Any person requesting to submit late materials must demonstrate good cause for the late submission, and the Chair must find that accepting the late submission will not prejudice the Central Valley Water Board or any Designated Party.

All designated parties and interested persons may speak at the Central Valley Water Board meeting and are expected to orally summarize their written submittals. Oral testimony and cross examination will be limited in time by the Board Chair.

Anyone having questions regarding the hearing item should contact Mr. Tyson Pelkofer at (916) 464-4853 or tyson.pelkofer@waterboards.ca.gov. Interested persons may contact Mr. Tyson Pelkofer to obtain a copy of the tentative Order and related documents. Copies of these documents can also be obtained by contacting or visiting the Central Valley Water Board's office at 11020 Sun Center Drive, #200, Rancho Cordova, California 95670-6114 weekdays between 8:00 a.m. and 5:00 p.m. **The final meeting agenda (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/) will be available at least 10 days before the meeting. The agenda will provide the specific date the Board Meeting will be held for this item, indicate the anticipated order of all agenda items, and may include staff revisions to the proposed order.**

The Procedures Governing Central Valley Water Board Meetings (http://www.waterboards.ca.gov/laws_regulations/) may be found at Title 23, California Code of Regulations, Section 647 et seq. and are available upon request. Hearings before the Central Valley Water Board are not conducted pursuant to Government Code section 11500 et seq. Information on Meeting and Hearing Procedures (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/hearingprocedures.shtml) is available on the Central Valley Water Board's website or by contacting any one of the Central Valley Water Board's offices. Questions regarding such procedures should be directed to Ms. Kiran Lanfranchi Rizzardi at (916) 464-4839.

The hearing facilities will be accessible to persons with disabilities. Individuals requiring special accommodations are requested to contact Ms. Kiran Lanfranchi-Rizzardi at (916) 464-4839 at least 5 working days prior to the meeting. TTY users may contact the California Relay Service at 1-800-735-2929 or voice line at 1-800-735-2922.

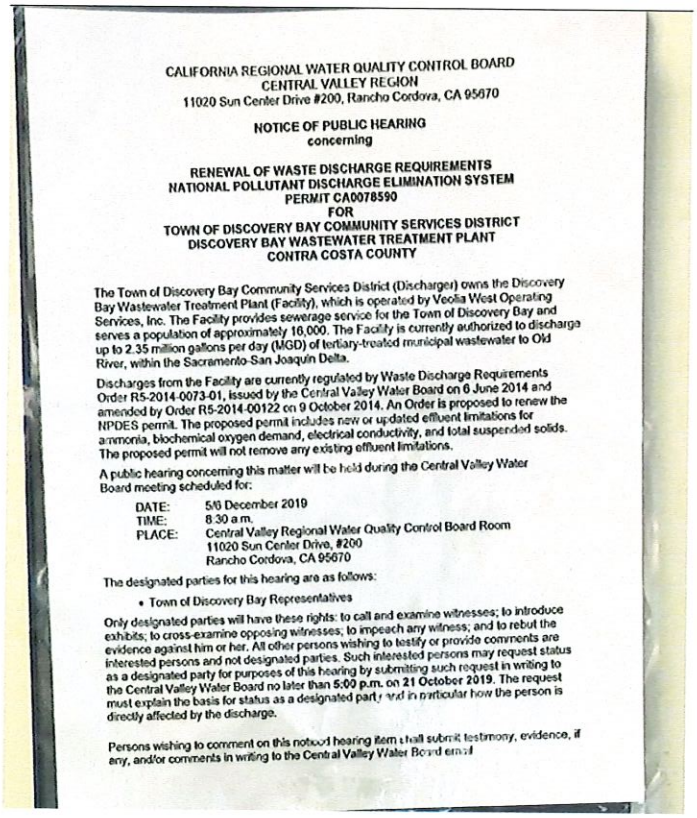
Please bring the above information to the attention of anyone you know who would be interested in this matter.

ORIGINAL SIGNED BY
ADAM LAPUTZ, Assistant Executive Officer
19 September 2019

Post Office Posting of the NPDES Permit

Located at 3345 Bixler Road

On September 24, 2019



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
11020 Sun Center Drive #200, Rancho Cordova, CA 95670

NOTICE OF PUBLIC HEARING
concerning

RENEWAL OF WASTE DISCHARGE REQUIREMENTS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT CA0078590
FOR
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

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DATE: 5/6 December 2019
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PLACE: Central Valley Regional Water Quality Control Board Room
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

The designated parties for this hearing are as follows:

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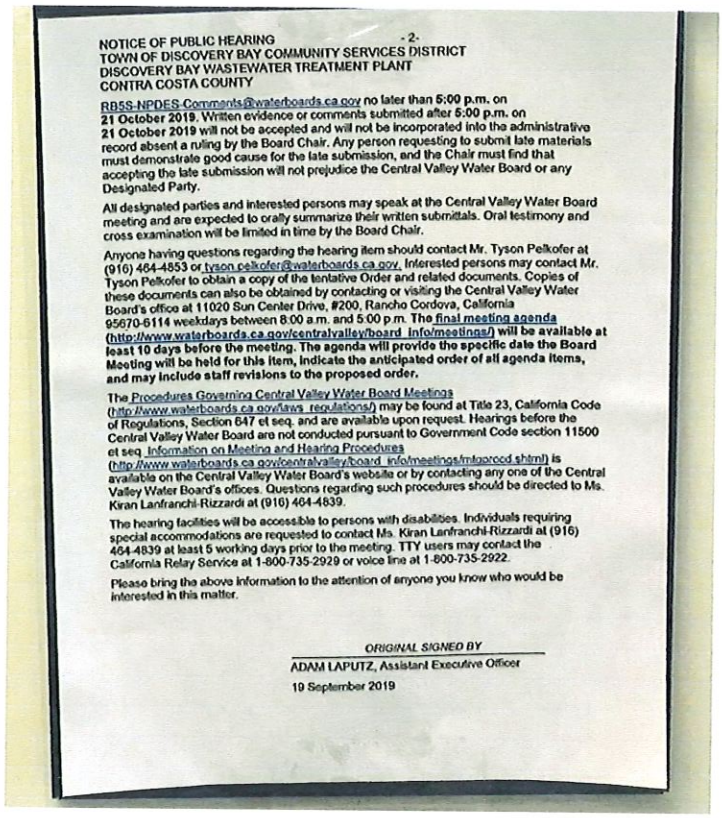

NOTICE OF PUBLIC HEARING - 2-
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT
DISCOVERY BAY WASTEWATER TREATMENT PLANT
CONTRA COSTA COUNTY

RB5S-NPDES-Comments@waterboards.ca.gov no later than **5:00 p.m. on 21 October 2019**. Written evidence or comments submitted after **5:00 p.m. on 21 October 2019** will not be accepted and will not be incorporated into the administrative record absent a ruling by the Board Chair. Any person requesting to submit late materials must demonstrate good cause for the late submission, and the Chair must find that accepting the late submission will not prejudice the Central Valley Water Board or any Designated Party.

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Please bring the above information to the attention of anyone you know who would be interested in this matter.

ORIGINAL SIGNED BY
ADAM LAPUTZ, Assistant Executive Officer
19 September 2019

SDRMA
SPECIAL DISTRICT RISK MANAGEMENT AUTHORITY

1112 I Street, Suite 300
Sacramento, California 95814-2865
T 916.231.4141 or 800.537.7790 • F 916.231.4111

Maximizing Protection. Minimizing Risk. • www.sdrma.org

September 20, 2019

Mr. Bill Mayer
Board President
Town of Discovery Bay Community Services District
1800 Willow Lake Road
Discovery Bay, California 94505-9376

Re: No Paid Workers' Compensation Claims in 2018-19

Dear Mr. Mayer:

This letter is to formally acknowledge the dedicated efforts of the Town of Discovery Bay Community Services District's Governing Body, management and staff towards proactive loss prevention and workplace safety. Your agency's efforts have resulted in no "paid" workers' compensation claims for program year 2018-19. A "paid" claim for the purposes of this recognition represents the first payment on an open claim during the prior program year. This is a great accomplishment!

It is through the efforts of members such as Town of Discovery Bay Community Services District that SDRMA has been able to continue providing affordable workers' compensation coverage to over 440 public agencies throughout California. In fact, 280 members, or 64%, in the workers' compensation program had no "paid" claims in program year 2018-19.

In addition to this annual recognition, members with no "paid" claims during 2018-19 earned two credit incentive points (CIPs) thereby reducing their annual contribution amount. Also, members without claims receive a lower "experience modification factor" (EMOD), which also reduces their annual contribution amount.

As SDRMA is dedicated to serving its members and preventing claims, we would appreciate your agency taking a moment and sharing with us what made your District successful in preventing work-related injuries. Our goal is to incorporate your successful ideas and suggestions into our loss prevention programs to benefit all members of SDRMA. Please forward any ideas or suggestions to Dennis Timoney, SDRMA Chief Risk Officer, at dtimoney@sdrma.org.

On behalf of the SDRMA Board of Directors and staff, it is my privilege to congratulate the Governing Body, management, and staff for their commitment to proactive loss prevention and safety in the workplace.

Sincerely,
Special District Risk Management Authority

Mike Scheafer, President
Board of Directors

SDRMA
SPECIAL DISTRICT RISK MANAGEMENT AUTHORITY

1112 I Street, Suite 300
Sacramento, California 95814-2865
T 916.231.4141 or 800.537.7790 • F 916.231.4111

Maximizing Protection. Minimizing Risk. • www.sdrma.org

September 20, 2019

Mr. Bill Mayer
Board President
Town of Discovery Bay Community Services District
1800 Willow Lake Road
Discovery Bay, California 94505-9376

Re: No Paid Property/Liability Claims in 2018-19

Dear Mr. Mayer:

This letter is to formally acknowledge the dedicated efforts of the Town of Discovery Bay Community Services District's Governing Body, management, and staff towards proactive risk management and loss prevention training. Your agency's efforts have resulted in no "paid" property/liability claims for program year 2018-19. A "paid" claim for the purposes of this recognition represents the first payment on an open claim during the prior program year and excludes property claims. This is a great accomplishment!

It is through the efforts of members such as Town of Discovery Bay Community Services District that SDRMA has been able to continue providing affordable property/liability coverage to over 500 public agencies throughout California. In fact, 424 members, or 84%, in the property/liability program had no "paid" claims in program year 2018-19.

In addition to this annual recognition, members with no "paid" claims during 2018-19 earned two credit incentive points (CIPs), thereby reducing their annual contribution amount.

As SDRMA is dedicated to serving its members and preventing claims, we would appreciate your agency taking a moment and sharing with us what made your District successful in preventing property/liability losses. Our goal is to incorporate your successful ideas and suggestions into our loss prevention programs to benefit all members of SDRMA. Please forward any comments or suggestions to Dennis Timoney, SDRMA Chief Risk Officer, at dtimoney@sdrma.org.

On behalf of the SDRMA Board of Directors and staff, it is my honor to congratulate the Governing Body, management, and staff for their commitment to proactive risk management and loss prevention training.

Sincerely,
Special District Risk Management Authority

Mike Scheafer, President
Board of Directors

Discovery Bay P-6 Citizen Advisory Committee

Joseph Selby, Chair

Office of Supervisor Diane Burgis
Contact: Lea Castleberry
3361 Walnut Blvd., Suite 140
Brentwood, CA 94513

Respectfully submitted by:
Deputy Chief of Staff, Lea Castleberry

The Discovery Bay P-6 Citizen Advisory Committee serves as an advisory body to the Contra Costa County Board of Supervisors and the Office of the Sheriff.

Draft Record of Actions

6:00 p.m.
April 10, 2019

MEMBERS PRESENT: Chair Selby, Vice Chair Belcher and Committee Member Mankin

MEMBERS ABSENT: Councilmember Kane

PRESENTATION OF COLORS: Led by Chair Selby

APPROVAL OF AGENDA: Motion to approve agenda as presented made by Vice Chair Belcher. Second made by Committee Member Mankin. Motion Carried 3-0. AYES: Belcher, Mankin and Selby

PUBLIC COMMENTS: Terry Mahoney – Status of the Hwy 4 right hand turn lane configuration.

OFFICE OF THE SHERIFF – Monthly Calls for Service: Lt. Foley, provided the monthly activity report for the months of January, February and March.

CONSENT ITEMS:

a. **Approval of Record of Actions for January 9, 2019:** Motion to accept the Record of Actions as presented made by Committee Member Mankin. Second made by Vice Chair Belcher. Motion carried 3-0. Belcher, Mankin and Selby.

ITEMS FOR DISCUSSION AND/OR ACTION:

a. **Update on Discovery Bay License Plate Readers:** Lt. Foley reported the Board of Supervisors approved the allocation for funding the LRP's on April 9, 2019. Sheriff's Office is working on the MOU Maintenance Agreement between Caltrans and the County. Agencies will hold an installation kick-off meeting in the near future.

CORRESPONDENCE/ANNOUNCEMENTS:

a. None

FUTURE AGENDA ITEMS

a. Discuss future community projects

ADJOURMENT

There being no further business before the Discovery Bay P-6 Citizen Advisory Committee, Chair Belcher adjourned the meeting at 6:31pm. The next regularly scheduled Discovery Bay P-6 Citizen Advisory Committee meeting on July 10, 2019 at 6:00p.m. to be held at the Discovery Bay Community Center, 1800 Willow Lake Road, Discovery Bay, CA 94505.

FINAL

CONTRA COSTA COUNTY
AVIATION ADVISORY COMMITTEE
MEETING MINUTES
AUGUST 8, 2019

MEETING CALLED: Chair Maurice Gunderson called the meeting to order at 10:00 AM at Buchanan Field Airport.

PRESENT:
Emily Barnett, Secretary, Member At-Large
Tom Weber, Vice Chair, District IV
Steven Starratt, Airport Neighbor – Byron Airport
Donna Dietrich, Airport Neighbor – Pacheco
Keith McMahon, City of Concord
Roger Bass, District II
Eric Meinbress, Member At-Large
Dale Roberts, District I
Derek Mims, City of Pleasant Hill
Maurice Gunderson, Chair, Member At-Large
Cody Moore, Airport Business Association

ABSENT:
Russell Roe, District V
Ronald Reagan, District III

STAFF:
Beth Lee, Assistant Director of Airports – Administration
Russell Milburn, Assistant Director of Airports – Operations

COMMENTS BY CHAIR: Chair Maurice Gunderson welcomed the attendees.

PUBLIC COMMENT PERIOD:

Beginning August 15, 2019, Nut Tree Airport (KVCB) will no longer be on the same common traffic advisory frequency (CTAF 123.05) as Byron Airport. Once published, KVCB CTAF will change to 122.85.

APPROVAL OF 7/11/19 MINUTES: **Moved by Emily Barnett; seconded by Cody Moore. Yes: Tom Weber, Eric Meinbress, Dale Roberts, Keith McMahon, Roger Bass, Steven Starratt, Maurice Gunderson, Derek Mims and Donna Dietrich. No: None. Abstained: None. Absent: Russell Roe and Ronald Reagan.**

APPROVAL OF CONSENT ITEMS: **Moved by Derek Mims; seconded by Roger Bass. Yes: Tom Weber, Eric Meinbress, Dale Roberts, Keith McMahon, Steven Starratt, Maurice Gunderson, Cody Moore, Emily Barnett and Donna Dietrich. No: None. Abstained: None. Absent: Russell Roe and Ronald Reagan.**

DISCUSSION/ACTION ITEMS:

a. Discuss items pulled from consent

There were no items pulled from consent.

b. Discuss and take action as deemed necessary relative to the Byron Airport General Plan Amendment

There are still many issues with the current administrative draft environmental impact report (ADEIR). The Department of Conservation and Development convened a meeting with Airport staff and Dudek (project manager and senior staff) to discuss the various problems and concerns with the documents to date. The senior staff agreed to be more involved in the project going forward. The ADEIR will be revised to correct internal errors and inconsistencies. Two components, transportation and biology, continue to be the most problematic. Follow-up meetings will be scheduled with the consultants and relevant County staff to address outstanding issues.

c. Discuss and provide input regarding initial general aviation, aircraft rescue and firefighting facility, and administration office, Buchanan Field Airport

Airport staff are looking for input from the AAC on the site plan for the new general aviation, aircraft rescue and firefighting (ARFF) facility, and administration office at Buchanan Field Airport. Staff will schedule discussions with the airports' stakeholders for input. The site plan must be identified before proceeding with the environmental review process.

d. Discuss the status of the Skyview Aviation lease at 505 Eagle Court, Byron Airport

The lease with Skyview Aviation, LLC. was approved by the Board of Supervisors (Board) on August 6th. Skyview Aviation is a flight school and maintenance facility based out of Tracy, CA. They will be operating out of a hangar at 505 Eagle Court at Byron Airport. They will be opening for business soon and hope to expand (once in full operation) to eventually become a Fixed-Base Operator at Byron Airport.

e. Discuss the new office construction at the 700 Sally Ride Drive aviation hangar, Buchanan Field Airport

Tenants of the large aviation hangar, located at 700 Sally Ride Drive on the west side at Buchanan Field Airport, are in the beginning stages of building an approximate 2,000 square foot office building. The building permit process is nearing completion. Airport staff will continue to provide updates.

f. Discuss the reversion of the 280-288 Buchanan Field Road property back to the County, Buchanan Field Airport

The property located on the west side of Buchanan Field Airport reverted to the County on July 7, 2019. The building, which consists of warehouses and office space, is occupied by eight existing tenants. Seven tenants have chosen to enter into a month-to-month license agreement with the County. Airport staff have initiated the unlawful detainer process to have the remaining tenant removed. There is available space that could be used for the aviation technology and innovation attraction program. The Federal Aviation Administration (FAA) requires that non-aeronautical use must pay fair market value for property designated for aviation use. As such, staff has hired an appraiser to come out on Monday, August 19th, to do a fair market analysis of property.

g. Discuss the 17-acre development, Buchanan Field Airport

Airport staff have received the preliminary site plans and are negotiating lease terms with Montecito Development Company for the 17-acre parcel located on the west side of Buchanan Field Airport. The AAC expressed concern about the traffic impact on Marsh Drive once development begins. Traffic will be analyzed and addressed during the environmental review process.

h. General discussion of touring other regional airports with new GA terminals, Buchanan Field Airport

Several AAC members will be visiting other general aviation (GA) terminals at various airports to take pictures and note the pros and cons of each for discussion at the November 14th AAC meeting. The AAC asked if the architect, The KPA Group, could attend the meeting to discuss Buchanan Field's proposed GA building and share their experience as it relates to other GA terminal designs.

i. Discuss the new proposed locations of the public viewing plaza, control tower and other impacts with the new GA terminal, ARFF facility and administration office, Buchanan Field Airport

The AAC discussed how the proposed location of the new GA terminal location would impact adjacent areas such as the location of the control tower and public viewing plaza. The designated long-term location of a control tower (per the Airport Master Plan) is on the west side of Buchanan Field Airport near the large aviation hangar at 700 Sally Ride Drive. There is a desire to connect the public viewing plaza to the new terminal to make it more welcoming for the public.

j. Discuss FAA grant funding and project timing for the Runway 14L/32R pavement rehabilitation project, Buchanan Field Airport

$5.3 million dollars in grant funding for the runway rehabilitation project has been tentatively approved by the FAA. The reason the approval is tentative is because the project bids came back higher than what was estimated and as such, the grant amount had to be adjusted and formally reapproved by the FAA.

k. Discuss the work plan to be submitted to the San Francisco Bay Regional Water Control Board (Water Board) regarding per and polyfluoroalkyl substances (PFAS), Buchanan Field Airport

Airport staff submitted the work plan for PFAS testing ahead of schedule. Staff are now waiting for written approval from the Water Board so they may proceed with testing. To give background, 31 commercial airports in California, were advised by the Water Board that the FAA required firefighting foam, contains PFAS substances which may be harmful to our health and water system.

l. Discuss the status of the airport innovation and technology business attraction program Buchanan Field and Byron Airport

Airport staff continue to develop a business attraction strategy to proactively position Buchanan Field and Byron Airport as designated test sites for aviation technology businesses (both established and emerging). Buchanan Field Airport currently has two tech startups and three companies have expressed interest in the Byron Airport. Staff reported the level of interest is incredible. The AAC thanked Chairman, Maurice Gunderson, and County staff for their efforts.

m. Discuss Byron Airport AAC meeting

The next AAC meeting will be held at Byron Airport at 500 Eagle Court, Byron, CA 94514 on Thursday, September 12, 2019, at 10:00 a.m..

FUTURE AGENDA ITEMS/COMMENTS

- Discuss and provide input for the proposed general aviation terminal, aircraft rescue and firefighting facility and administration office, Buchanan Field Airport (November agenda)
- Discuss the Byron Airport General Plan Amendment (Will Nelson, Department of Conservation and Development)
- Discuss the biology component of the ADEIR for the Byron Airport General Plan Amendment (October agenda)
- Discuss airport innovation opportunities with Contra Costa Transportation Authority (CCTA), Byron Airport (Randy Iwasaki, CCTA)
- Discuss new tenant and flight school, Skyview Aviation, LLC., Byron Airport
- General discussion of the Low Altitude Authorization and Notification Capability program for recreational drone use in controlled airspaces (October agenda)
- Discuss new proposed locations of the public viewing plaza, control tower and other impacts with the new general aviation terminal, aircraft rescue and firefighting facility and administration office, Buchanan Field Airport

ADJOURNMENT: The Chair adjourned the meeting at 10:58 a.m..

DRAFT

CONTRA COSTA COUNTY
AVIATION ADVISORY COMMITTEE
MEETING MINUTES
SEPTEMBER 12, 2019

MEETING CALLED: Chair Maurice Gunderson called the meeting to order at 10:04 AM at Byron Airport.

PRESENT:
Maurice Gunderson, Chair, Member At-Large
Steven Starratt, Airport Neighbor – Byron Airport
Roger Bass, District II
Eric Meinbress, Member At-Large
Dale Roberts, District I
Derek Mims, City of Pleasant Hill
Russell Roe, District V
Ronald Reagan, District III

ABSENT:
Emily Barnett, Secretary, Member At-Large
Cody Moore, Airport Business Association
Keith McMahon, City of Concord
Tom Weber, Vice Chair, District IV
Donna Dietrich, Airport Neighbor – Pacheco

STAFF PRESENT:
Keith Freitas, Director of Airports
Beth Lee, Assistant Director of Airports – Administration

COMMENTS BY CHAIR: Chair Maurice Gunderson welcomed the attendees.

PUBLIC COMMENT PERIOD:

There were a few items brought up during public comment that included Discovery Bay and Byron featured on national news, Contra Costa County Airports' Bay Area Aviation Technology Test Site program (BA^2T^2S), Unmanned Aircraft Systems/drone technology, Byron Airports' environmental program, and 3DR Drone testing at Byron Airport.

APPROVAL OF 8/8/19 MINUTES: **Moved by Steven Starratt; seconded by Derek Mims. Yes: Ronald Reagan, Russell Roe, Eric Meinbress, Dale Roberts, Roger Bass and Maurice Gunderson. No: None. Abstained: None. Absent: Emily Barnett, Keith McMahon, Tom Weber, Cody Moore and Donna Dietrich.**

APPROVAL OF CONSENT ITEMS: **Moved by Eric Meinbress; seconded by Roger Bass. Yes: Derek Mims, Dale Roberts, Steven Starratt, Maurice Gunderson, Russell Roe and Ronald Reagan. No: None. Abstained: None. Absent: Emily Barnett, Keith McMahon, Tom Weber, Cody Moore and Donna Dietrich.**

PRESENTATIONS:

a. Discuss aviation innovation opportunities and status of the Vasco-Byron Highway connector project, Byron Airport (Randy Iwasaki, Contra Costa Transportation Authority)

Randy Iwasaki with the Contra Costa Transportation Authority (CCTA), began the presentation by thanking Airport and FAA air traffic control tower staff for their quick action in response to the Highway 4 crane issue. The presentation included a brief overview of CCTA and how they function as an agency, aviation innovation opportunities with the launch of the new GoMentum Station and improving local access to Highway 4 and Byron Airport through a connector road between Vasco Road and Byron Highway.

GoMentum Station
CCTA has a permit with the City of Concord for research and testing on 2,100 acres at the former Concord Naval Weapons Station. CCTA is actively seeking partnerships with organizations in both the public and private sectors. CCTA would like to start discussions with airport staff to see how to incorporate aviation technology opportunities.

Vasco Road-Byron Highway Connector
Randy Iwaski gave an update on the Vasco Road-Byron Highway Connector project. In the event Regional Measure 3 qualifies for the November 2020 ballot, it will need a majority vote to pass (66.67%). The AAC expressed the importance of getting the word out to the local communities.

DISCUSSION/ACTION ITEMS:

a. Discuss items pulled from consent

There were no items pulled from consent

b. Discuss and take action as deemed necessary relative to the Byron Airport general plan amendment. Schedule, milestones and status of deliverables (Will Nelson, Department of Conservation and Development)

Will Nelson with the Department of Conservation and Development gave an update on the Byron Airport general plan amendment. Consultants, Dudek, provided a second administrative draft environmental impact report (ADEIR). It is marginally better than the first one; however, there are still grammatical issues and other various technical problems. County staff have agreed to provide Dudek with universal comments to the various issues observed in the ADEIR. One of the biggest components of concern is the transportation element as certain areas of the study are not feasible with local policies. County staff discussed the deficiencies with Dudek, and they have reluctantly agreed to edit and clean the document prior to having County staff review again. Dudek has agreed to take over the transportation study in house instead of through a sub-contractor; however, they may have to redo the entire study.

Will Nelson gave a similar report to the Airports Committee and reported the Supervisors were very close to cancelling the contract. The AAC inquired if County staff would benefit from cancelling the contract and starting anew. Yes, but the process to get a new firm would take many months and delay the project 18-24 months. In addition, the overall cost to cancel the contract and follow legal processes will likely cost more in legal fees. County staff believe they may stand to gain more by salvaging the studies and getting someone new within Dudek to perform the work. Dudek has agreed to provide an updated schedule with deliverables in approximately four to six weeks. AAC members once again expressed concerns regarding the delays in completing this project.

c. Discuss new tenant and flight school, Skyview Aviation, LLC., Byron Airport

Richard Ortenheim, owner of Skyview Aviation LLC, gave an overview of his business and new location at Byron Airport. The facility located at 505 Eagle Court, Byron, CA will provide aircraft maintenance and flight training services. Skyview Aviation staff are in discussions about building a new facility and eventually operating as a fixed-base operator if all goes well. Skyview Aviation will begin full time operations in October. The AAC expressed the importance of hiring local, qualified individuals. The owner clarified they will always look locally first, then outside of the area if they are unable to find local individuals with required certification.

d. Discuss new proposed locations of the public viewing plaza, control tower and other impacts with the new general aviation terminal, aircraft rescue and firefighting facility and administration office, Buchanan Field Airport

This item was deferred to be discussed at the next AAC meeting in October.

e. Discuss the current gate access control policy for affiliates, Buchanan Field and Byron Airport

This item was deferred to be discussed at the next AAC meeting in October.

f. Discuss the update regarding the Byron Airport public viewing plaza

The individual who was scheduled to speak on this item did not show up to the meeting. This item will be moved to a future meeting when there is something to report on.

FUTURE AGENDA ITEMS/COMMENTS

- **Discuss new proposed locations of the public viewing plaza, control tower and other impacts with the new general aviation terminal, aircraft rescue and firefighting facility and administration office, Buchanan Field Airport**
- **Discuss the current gate access control policy for affiliates, Buchanan Field Airport**

ADJOURNMENT: The Chair adjourned the meeting at 11:36 AM.

EAST CONTRA COSTA FIRE PROTECTION DISTRICT

BOARD OF DIRECTORS				
Adam Langro	Carrie Nash	Brian Oftedal President	Stephen Smith Vice President	Joe Young

Meeting Minutes

Wednesday, September 11, 2019

1. Call to Order: (6:30 pm)

2. Moment of Silence to honor the victims of 9-11 and Pledge of Allegiance: (6:30 pm)

   Jessica & Michael Derksen of Knightsen 4-H led the pledge of Allegiance

3. Roll Call: (6:38 pm)

   Directors Present: Langro, Nash, Oftedal, Smith, Young
   Directors Absent:

4. Presentations: (6:39 pm)

   31 Year Service Award was presented to Battalion Chief Jeff Burris.

5. Public Comment: (6:43 pm)

   There was one (1) Public Speaker – Jessica LaChance-Mellan

6. Consent Calendar: (6:51 pm)

6.a. Approve Regular Board Meeting Minutes from August 14, 2019

6.b. Approve Special Board Meeting Minutes from August 19, 2019

6.c. Approve Fiscal Year 2019-20 Appropriations Limit

6.d. Authorize Amendment of Contract with Robert Half/Accountemps to Provide Staff Support Services

6.e. Receive and File Report on Reimbursements Over $100 for Fiscal Year 2018-19

6.f. Authorize Amendment of Contract with Clifford Moss for Public Engagement Materials

Motion by: Director Young to approve Consent Calendar Items: 6a – 6f.
Second by: Director Nash
Vote Carried:5:0:0
Ayes: Langro, Nash, Oftedal, Smith, Young
Noes:
Abstained:
Absent:

7. New Business – Item 7.c was postponed for discussion at a future meeting. Items 7.d and 7.e were moved up to be heard together, before items 7.a and 7.b

7.d. Authorization to Execute a Memorandum of Understanding with GBN Partners, LLC Regarding Fire Protection Services for Vineyards at Deer Creek Project: (6:52 pm)

7.e. Adoption of Resolution Making Findings Relating to the Impacts of City of Brentwood Measure L and of the Memorandum of Understanding Between the District and GBN Partners, LLC on Fire Protection and Emergency Response Services: (6:52 pm)

There were eight (8) Public Speakers, David Salmon, Jovita Mendoza, Kathy Griffin, Virginia Davi, Jonathan Simpson, Jim Angelo, Valentyna, Hannah Pollmeyer

Motion by: Director Young to (7d.) Authorize Execution of a Memorandum of Understanding with GBN Partners, LLC Regarding Fire Protection Services for Vineyards at Deer Creek Project and (7e.) Adopt a Resolution Making Findings Relating to the Impacts of City of Brentwood Measure L and of the Memorandum of Understanding Between the District and GBN Partners, LLC on Fire Protection and Emergency Response Services
Second by: Director Smith
Vote Carried:5:0:0
Ayes: Langro, Nash, Oftedal, Smith, Young
Noes:
Abstained:

Absent:

****Director Young left the meeting at 7:50 pm**

7.a. Accept Annual Fire Inspections Report for 2018: (7:51 pm)

Motion by: Director Smith to accept Annual Fire Inspections Report for 2018
Second by: Director Nash
Vote Carried 4:0:1
Ayes: Langro, Nash, Oftedal, Smith
Noes:
Abstained:
Absent: Young

7.b. Adopt Resolution of Findings of Need for Modifications of the 2019 California Fire Code due to Local Conditions: (7:55 pm)

Motion by: Director Langro to Adopt Resolution of Findings of Need for Modifications of the 2019 California Fire Code due to Local Conditions
Second by: Director Smith
Vote Carried 4:0:1
Ayes: Langro, Nash, Oftedal, Smith
Noes:
Abstained:
Absent: Young

7.f. Hold a Public Hearing and Adopt Fiscal Year 2019-20 Final Operating, Prevention, Development Fee and Other Fund Budgets: (7:58 pm)

A public hearing was held. No public comments were made.

Motion by: Director Smith to Adopt Fiscal Year 2019-20 Final Operating, Prevention, Development Fee and Other Fund Budgets.
Second by: Director Langro
Vote Carried 4:0:1
Ayes: Langro, Nash, Oftedal, Smith
Noes:
Abstained:
Absent: Young

8. Report of the Fire Chief / Informational Staff Reports: (8:00 pm)

8.a. Grants Update

8.b. Legislative Update

8.c. Strategic Plan Update

8.d. Station 55 Update

8.e. Type 1 Apparatus Update

8.f. Prevention Update

8.g. Operational Update

8.h. Public Outreach and Educational Activities Update

9. Board Reports and Requests: (8:26 pm)

Vice President Smith reported on attending several meeting including: Joint Open House by Representatives McNerney and DeSaulnier, Bethel Island MAC Meeting, Finance Meeting, Brentwood City Council Meeting.

10. Date and Place of Next Meeting: (8:28 pm)

Wednesday, October 9, 2019

11. Adjourn: (8:30)