CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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ORDER R5-2018-XXXX
NPDES NO. CA0081485

WASTE DISCHARGE REQUIREMENTS FOR THE CUTLER-OROSI JOINT POWERS WASTEWATER AUTHORITY WASTEWATER TREATMENT FACILITY TULARE COUNTY

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

Table 1. Discharger Information

Discharger	Cutler-Orosi Joint Powers Wastewater Authority
Name of Facility	Wastewater Treatment Facility
Facility Address	40401 Road 120
	Cutler, California 93615
	Tulare County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	undisinfected and disinfected secondary treated domestic wastewater	36 º 30 ' 00 " N	-119 º 17 ' 60 " W	First Encountered Groundwater
002	disinfected secondary treated domestic wastewater	36 º 31 ' 31 " N	-119 º 18 ' 2 " W	Sand Creek

Table 3. Administrative Information

This Order was adopted on:	**<5/6> April 2018**
This Order shall become effective on:	**1 June 2018**
This Order shall expire on:	**31 May 2023**
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:	**31 May 2022**
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, Pamela C. Creedon, 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> April 2018**.

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PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

Information describing the Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility (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 and G through I are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.C, V.B, VI.C.2.b, VI.C.4.b, VI.C.4.c, 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. California Environmental Quality Act (CEQA). This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.) in accordance with Section 13389 of the CWC. On 19 November 1996, the Discharger certified a final Environmental Impact Report (EIR) in accordance with CEQA and Section 15090 of the State CEQA Guidelines. At the time, the Central Valley Water Board considered the EIR and concurred there are no significant impacts on water quality as a result of the Facility discharge to Discharge Point 001.

E. 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."

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.

F. 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.

G. 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 R5-2013-0047 and amendment Order R5-2015-0048 are 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 past 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. The Discharger shall not allow pollutant-free wastewater to be discharged into the treatment or disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

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

F. Discharge of pollutants to Sand Creek from Discharge Point 002 is prohibited from **1 May through 31 October** of each year.

G. Monthly Average Daily Discharge Flow Rate. Monthly average daily discharge flow rate exceeding a flow of 2.0 million gallons per day (mgd) is prohibited to Sand Creek.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 002 (Sand Creek)

1. Final Effluent Limitations – Discharge Point 002 (Sand Creek)

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 002. Unless otherwise specified, compliance shall be measured at Monitoring Location EFF-002, as described in the Monitoring and Reporting Program, Attachment E:

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

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	–	–	–
Total Suspended Solids	mg/L	30	45	–	–	–
pH	standard units	–	–	–	6.5	8.3
Copper, Total Recoverable	µg/L	40	–	83	–	–
Chloride	mg/L	175	–	–	–	–
Boron	mg/L	1.0	–	–	–	–
Un-ionized Ammonia (as N)	mg/L	0.014	0.025	–	–	–
	lbs/day	0.23 [1]	0.42 [1]	–	–	–
Settleable Solids	mL/L	0.1	–	0.5	–	–

[1] Based on a design flow of 2.0 MGD.

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. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured immediately after disinfection:

i. 23 most probable number (MPN) per 100 mL, as a 7-day median. If discharge occurs for less than 7-days, median of all samples collected during the period of discharge; nor

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

e. **Electrical Conductivity (EC).** 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the EC shall be a flow-weighted average of all sources.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Discharge Point 001 (wastewater ponds and cropland)

1. 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.

   a. The recycled water discharge specifications in Table 5:

Table 5. Recycled Water Discharge Specifications

Parameter	Units	Discharge Specifications	
		Average Monthly	Maximum Daily
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	60
Total Suspended Solids	mg/L	30	60
Settleable Solids	mL/L	0.2	0.5
Chloride	mg/L	175	–
Boron	mg/L	1.0	–

   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. **Total Coliform Organisms.** Effluent shall be disinfected such that the total coliform organisms in the disinfected effluent do not exceed:

      i. 23 most probable number (MPN) per 100 mL, as a 7-day median. If discharge occurs for less than 7-days, median of all samples collected during the period of discharge; nor

      ii. 240 MPN/100 mL, at any time

      These limitations apply only when either actively discharging to the treated wastewater ponds and groundwater is less than five (5) feet below the bottom of the treated wastewater ponds or when actively discharging to cropland and groundwater is less than five (5) feet below ground surface of cropland where wastewater is applied. Sections VII.I and J of this Order specify how these limitations will be determined to be applicable to the Discharger.

   d. **Average Dry Weather Discharge Flow Rate.**

      i. Until compliance with Special Provision VI.C.6.a, the average dry weather discharge flow rate shall not exceed **1.5 mgd**.

      ii. Effective upon compliance with Special Provision VI.C.6.a, the average dry weather discharge flow rate shall not exceed **2.0 mgd**.

   e. **Electrical Conductivity (EC).** The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the EC shall be a flow-weighted average of all sources.

2. Use of recycled water as permitted by this Order shall comply with all the terms and conditions of the most current Title 22 regulations.

3. For the purposes of this Order, “Use Area” means an area with defined boundaries where recycled water is used or discharged, as identified in Attachment B and the Fact Sheet.
4. The recycled water shall be at least undisinfected secondary recycled water as defined in Title 22, section 60301.
5. Recycled water shall be used in compliance with Title 22, section 60304. Specifically, uses of recycled water shall be limited to those set forth in Title 22, section 60304(d).
6. Tailwater runoff shall be returned to the head of the fields or treatment facilities.
7. Application rates of recycled water to the use area shall be reasonable and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by plants. As a means of discerning compliance with this requirement:
    a. Crops or landscape vegetation shall be grown on the use areas, and cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure.
    b. Hydraulic loading of recycled water and supplemental irrigation water (if any) shall be managed to:
        i. Provide water only when water is needed and in amounts consistent with that need;
        ii. Maximize crop nutrient uptake;
        iii. Maximize breakdown of organic waste constituents in the root zone; and
        iv. Minimize the percolation of waste constituents below the root zone.

    The Central Valley Water Board recognizes that some leaching of salts is necessary to manage salt in the root zone of crops for production. Leaching shall be managed to minimize degradation of groundwater, maintain compliance with the groundwater limitations of this Order, and prevent pollution.
8. The Discharge shall be distributed uniformly on adequate acreage.
9. No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops that may be eaten raw by humans.
10. Irrigation of the use areas shall occur only when appropriately trained personnel are on duty.
11. The Discharger shall conduct periodic inspections of the recycled water use areas to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall temporarily stop recycled water use immediately and implement corrective actions to ensure compliance with this Order.
12. Grazing of milking animals within the use areas is prohibited.
13. The irrigation with recycled water shall be managed to minimize erosion within the use areas.

14. The use areas shall be managed to prevent breeding of mosquitoes or other vectors. The Discharger shall ensure there is no standing water in the Use Area 48 hours after recycled water is applied.

15. Use areas (e.g., cropland) and recycled water impoundments (e.g., treated wastewater ponds) shall be designed, maintained, and operated to comply with the following setback requirements:

Table 6. Minimum Setback Distances

Setback Definition	Minimum Irrigation Setback (feet)
Edge of use area to any spring or domestic water supply well	150
Edge of use area to any irrigation well	50
Edge of use area to manmade or natural surface water drainage course	50[1]
Edge of any impoundment of recycled water to any domestic or irrigation well	150

[1] A 10-foot setback may be maintained, in lieu of a 50-foot setback, between Tout Ditch (canal adjacent to Road 120) and the use area if a double berm is constructed and maintained as a containment feature to ensure recycled water does not enter Tout Ditch.

16. Spray irrigation with recycled water is prohibited when wind speed (including gusts) exceed 30 mph.

17. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

18. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

19. Public contact with recycled water shall be controlled using fences, signs, and other appropriate means.

20. Use areas that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all use areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in Attachment I and shall include the following wording:

RECYCLED WATER – DO NOT DRINK

AGUA DE DESPRERDICIO RECLAMADA – NO TOME

21. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. Quick couplers, if used, shall be different than those used in potable water systems.

22. Recycled water controllers, valves, and similar appurtenances shall be equipped with removable handles or locking mechanisms to prevent public access or tampering.

23. Hose bibs and unlocked valves, if used, shall not be accessible to the public.

24. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device.

25. Horizontal and vertical separation between pipelines transporting recycled water and those transporting potable water shall comply with Title 22, section 64572, except to the extent that State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health) has specifically approved a variance.
26. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water or auxiliary water source system.
27. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations, title 17, sections 7602(a) and 7603(a).
28. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with California Health and Safety Code section 116815.
29. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance with Title 17, section 7605.
30. The perimeter of the Use Area shall be graded to prevent ponding along public roads or other public areas.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in Sand Creek:

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses nor to be present in excess of 0.025 mg/L (as N).
2. **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.
3. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
4. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
5. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
6. **Dissolved Oxygen:**
   a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass at centroid of flow;
   b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
   c. The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.
7. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.

8. **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.

9. **pH.** The pH to be depressed below 6.5 nor raised above 8.3.

10. **Pesticides:**

    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses; nor

    b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses.

11. **Radioactivity:**

    a. Radionuclides to be present in concentrations that are deleterious 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.

12. **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.

13. **Settleable Material.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

14. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

15. **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 to domestic or municipal water supplies.

16. **Temperature.** The natural temperature to be increased by more than 5°F. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

17. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

18. **Turbidity.** The turbidity to increase as follows:

    a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs;

    b. More than 20 percent where natural turbidity is between 5 and 50 NTUs;

    c. More than 10 NTUs where natural turbidity is equal to or between 50 and 100 NTUs; nor

    d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Release of waste constituents from any treatment, reclamation, or storage component associated with the discharge shall not cause groundwater to contain waste constituents in concentrations greater than that listed below or background, whichever is greater:

    a. Total coliform organisms over any 7-day period of 2.2 MPN/100 mL.

    b. Nitrate as Nitrogen of 10 mg/L.

c. The maximum contaminant levels (MCLs) identified in Title 22 of the California Code of Regulations.

d. Toxic constituents in concentrations that produce detrimental physiological responses in human, plant, or animal life.

2. Release of waste constituents from any treatment, reclamation, or storage component associated with the discharge shall not cause groundwater to contain taste- or odor-producing constituents or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

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.

ii. *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.

iii. *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 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 USEPA 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 USEPA 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 13350, 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.

p. 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.

q. 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, average monthly effluent limitation, any instantaneous minimum or maximum effluent limitation, receiving water limitation, or groundwater 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.

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. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE) or Toxicity Evaluation Study (TES), this Order may be reopened to include a revised 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.

e. **Salt and Nitrate Management.** The Central Valley Water Board is currently developing amendments to the Basin Plan to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley. Should the Central Valley Water Board adopt amendments to the Basin Plan to effectuate such strategies, this Order may be reopened to incorporate any newly-applicable requirements. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. The Central Valley Water Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

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. Alternatively, under certain conditions as described in this provision below, the Discharger may participate in an approved Toxicity Evaluation Study (TES) in lieu of conducting a site-specific TRE.

i. **TRE Work Plan.** Within **90 days of the first discharge to Sand Creek under this Order**, the Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with U.S. EPA guidance as discussed in the Fact Sheet (Attachment F, Section VI.B.2.a) and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.

ii. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger is 1 TUc (where TUc = 100/NOEC), to be evaluated at Monitoring Location EFF-002. The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to initiate additional actions to evaluate effluent toxicity as specified in subsection iii, below.

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

(a) **Initial Toxicity Check.** If the result is less than or equal to 1.3 TUc (as $100/EC_{25}$) AND the percent effect is less than 25 percent at 100 percent effluent, check for any operation or sample collection issues and return to routine chronic toxicity monitoring.[1] Otherwise, proceed to step (b).

(b) **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 1.3 TUc (as $100/EC_{25}$) and the percent effect is greater than 25 percent at 100 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.

(c) **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.

(d) **Toxicity Evaluation Study.** If the percent effect is ≤ 50 percent at 100 percent effluent, as the median of up to three consecutive chronic toxicity tests within a 6 week period, the Discharger may participate in an approved TES in lieu of a site-specific TRE. The TES may be conducted individually or as part of a coordinated group effort with other similar dischargers. If the Discharger chooses not to participate in an approved TES, a site-specific TRE shall be initiated in accordance with subsection (e)(1), below. Nevertheless, the Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a site-specific TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

[1] The Discharger may participate in an approved Toxicity Evaluation Study if the chronic toxicity monitoring trigger is exceeded twice or more in the past 12 month period and the cause is not identified and/or addressed.

(e) **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:

(1) **Within thirty (30) days** of exceeding the 6-week median 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.

b. **Solids Management and Storage Work Plan.** By **1 March 2019**, the Discharger shall submit a Solids Management and Storage Work Plan for Executive Officer approval to address the Facility's method of compliance with Special Provision VI.C.5.a.i. The Work Plan shall include the following:

i. Proposed actions to ensure the sludge drying and storage areas comply with Special Provision VI.C.5.a.i, including a discussion on the feasibility of lining additional sludge drying beds, lining sludge storage areas, installing sludge dewatering equipment, and implementing any other appropriate means to comply with special Provision VI.C.5.a.i; and

ii. A schedule for implementing the proposed actions.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall continue to implement a Salinity Evaluation and Minimization Plan approved by the Executive Officer 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 with the Report of Waste Discharge, due **31 May 2022**.

4. Construction, Operation, and Maintenance Specifications

a. **Ultraviolet (UV) Disinfection System Operating Specifications.** The Discharger shall test the UV disinfection system between **1 June and 1 August** to verify that it is in proper working order and submit the results of the test to the Central Valley Water Board by **1 October**. The UV disinfection system must be operated in accordance with an operations and maintenance program that assures adequate disinfection while discharging when groundwater is within 5 feet of the bottom of the treated wastewater ponds, within 5 feet of ground surface of cropland where wastewater is applied, or to Sand Creek, unless otherwise approved by DDW.

i. The Discharger shall provide continuous, reliable monitoring of: flow, ultraviolet light transmittance, and ultraviolet light power.

ii. 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.

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

iv. 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.

b. **Treated Wastewater Pond Operating Requirements.**

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

ii. Objectionable odors originating from the WWTF shall not be perceivable beyond the limits of the wastewater treatment and disposal areas (or property owned by the Discharger) at an intensity that creates or threatens to create nuisance conditions.

iii. As a means of ensuring compliance with Provision VI.C.4.b.ii, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharge shall implement daily DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive days. If DO in any single pond is below 1.0 mg/L for three consecutive days, the Discharger shall report the findings to the Central Valley Water Board in writing within ten (10) days and shall include a specific plan to resolve the low DO results within thirty (30) days.

iv. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

v. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

vi. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

(a) An erosion control program shall be implemented to ensure 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.

vii. Ponds shall not have a pH less than 6.0 or greater than 9.0.

viii. All treatment and storage units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

c. **Groundwater Monitoring Network Maintenance Requirements.**

i. The Discharger shall maintain the groundwater monitoring well network. If a groundwater monitoring well is dry for more than four consecutive sampling events or is damaged, the Discharger shall submit a work plan and proposed time schedule to replace the well(s). The well(s) shall be replaced following Executive Officer approval of the work plan and time schedule.

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 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 are 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.

b. **Collection System.** The Discharger is subject to the requirements of, and must comply with, State Water Resources Control Board (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.

c. **Resource Recovery from Anaerobically Digestible Material.** If the Discharger will receive hauled-in anaerobically digestible material for injection into an anaerobic digester, the Discharger shall notify the Central Valley Water Board and develop and implement Standard Operating Procedures for this activity. The Standard Operating Procedures shall be developed prior to receiving hauled-in anaerobically digestible material. The Standard Operating Procedures shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the Standard Operating Procedures shall address avoidance of the introduction of materials that could cause interference, pass-through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall train its staff on the Standard Operating Procedures and shall maintain records for a minimum of five years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of five years for the disposition, location, and quantity of cumulative pre-digestion-segregated solid waste hauled off-site.

6. Other Special Provisions

a. **Increase in Average Dry Weather Discharge Flow Rate.** The design flow rate for treatment at the Facility is 2.0 mgd. However, based on the hydraulic and nitrogen balances in the 30 July 2009 Recycled Water Engineering Report submitted by the Discharger, at a flow rate of 2.0 mgd, the Discharger does not have a sufficient amount of cropland and would need to discharge to Sand Creek in October and May, which is outside the allowable discharge period to Sand Creek. The hydraulic and nitrogen balances indicate the Facility is able to discharge up to 1.5 mgd while abiding with Sand Creek discharge prohibitions. Through the permit term of Order R5-2013-0047-01, no new hydraulic and nitrogen balance has been submitted to support a discharge rate higher than 1.5 mgd. Upon written approval by the Executive Officer of an engineering report by the Discharger demonstrating (1) the capability to discharge up to 2.0 mgd without discharging outside of the allowable period of discharge to Sand Creek of 1 November through 30 April and/or (2) increased capacity of the treated wastewater ponds to handle the increased flow, the average dry weather discharge flow rate in Section IV.C.1.d shall not exceed 2.0 mgd.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (Sections IV.A.1.a & b and IV.C.1.a & b). Compliance with the final effluent limitations for BOD_5 and TSS required in Waste Discharge Requirements sections **IV.A.1.a and IV.C.1.a** shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements sections **IV.A.1.b and IV.C.1.b** 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. Monthly Average Daily Discharge Flow Prohibition (Section III.G). Compliance with the monthly average daily discharge flow prohibition will be determined based on the average daily flow when discharging to Sand Creek. The average daily flow rate is determined by dividing the total volume of flow discharged by the number of days discharge to Sand Creek occurred during the month.

C. Average Dry Weather Discharge Flow Rate (Section IV.C.1.d). The average dry weather discharge flow rate represents the daily average flow rate when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge rate will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

D. Electrical Conductivity (Sections IV.A.1.e and IV.C.1.e). Compliance with the electrical conductivity effluent limitations shall be determined monthly at monitoring locations EFF-001 and EFF-002 by comparing the 12-month rolling average of the effluent electrical conductivity data with 1,000 µmhos/cm and with the 12-month rolling flow-weighted electrical conductivity data submitted for the public water supply plus 500 µmhos/cm.

E. Total Coliform Organisms Effluent Limitations (Sections IV.A.1.d and IV.C.1.c). 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 23 per 100 milliliters, the Discharger will be considered out of compliance. If the discharge occurs less than 7-days, the median of all samples collected during the period of discharge shall be used for comparison to the limitation.

F. 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 <u>not</u> be deemed out of compliance.

G. Dissolved Oxygen Receiving Water Limitation (Section V.A.6.a-c). Weekly effluent and receiving water monitoring is required during times of discharge to Sand Creek in the Monitoring and Reporting Program (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this Order. For compliance with parts “a” and “b” of the dissolved oxygen receiving water limitations, the monthly median of the mean daily dissolved oxygen concentration and the 95-percentile concentration shall be determined as follows: (a) calculate the percent of saturation for each monitoring event during the month (based on the temperature for each monitoring event), (b) calculate the median of all saturation values computed during the month, and (c) calculate the 95th percentile of all the percent of saturation values computed during the month.

H. Mass-based Effluent Limitations. The mass-based effluent limitations contained in the Final Effluent Limitations IV.A.1.a are based on the permitted average dry weather flow rate and are calculated as follows:

Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

I. Use of Ultraviolet Light Disinfection for Discharge to the Treated Wastewater Ponds. Effluent discharged to a treated wastewater pond shall be disinfected with ultraviolet light to comply with Section IV.C.1.c when the groundwater potentiometric surface map generated from depth to groundwater data collected from the groundwater monitoring well network, or other groundwater monitoring wells approved by the Executive Officer, indicate groundwater is within 5 feet of the bottom of the treated wastewater pond.

J. Use of Ultraviolet Light Disinfection for Discharge Point 001 (wastewater ponds and cropland). Effluent discharged to the treated wastewater ponds and cropland shall be disinfected with ultraviolet light to comply with Section IV.C.1.c in accordance with Table 7

below. Wells must be maintained as required in Section VI.C.4.c.i to determine disinfection requirements.

Table 7. Use of Ultraviolet Light Disinfection for Discharge 001 (wastewater ponds and cropland)

When Depth to Groundwater is Less Than Five Feet Below Ground Surface in This Well	Ultraviolet Light Disinfection of Effluent Required for Discharge to This Field:
Well MW-A	Field E
Well MW-C	Field D
Well MW-E	Field C
Well MW-F	Field A and B
Well MW-G	Field A and B

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.

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 concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

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.

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

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

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.

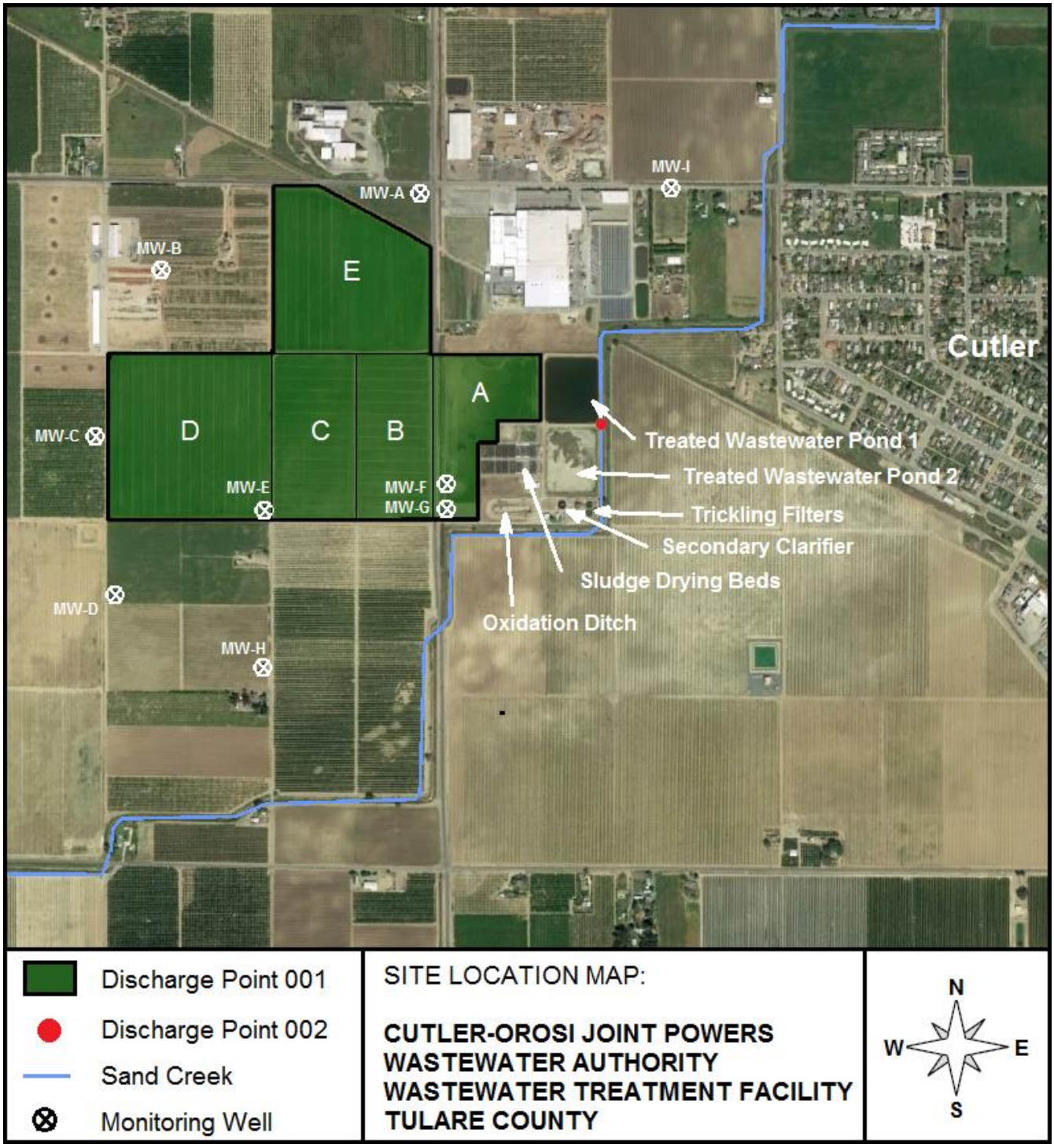
Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

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

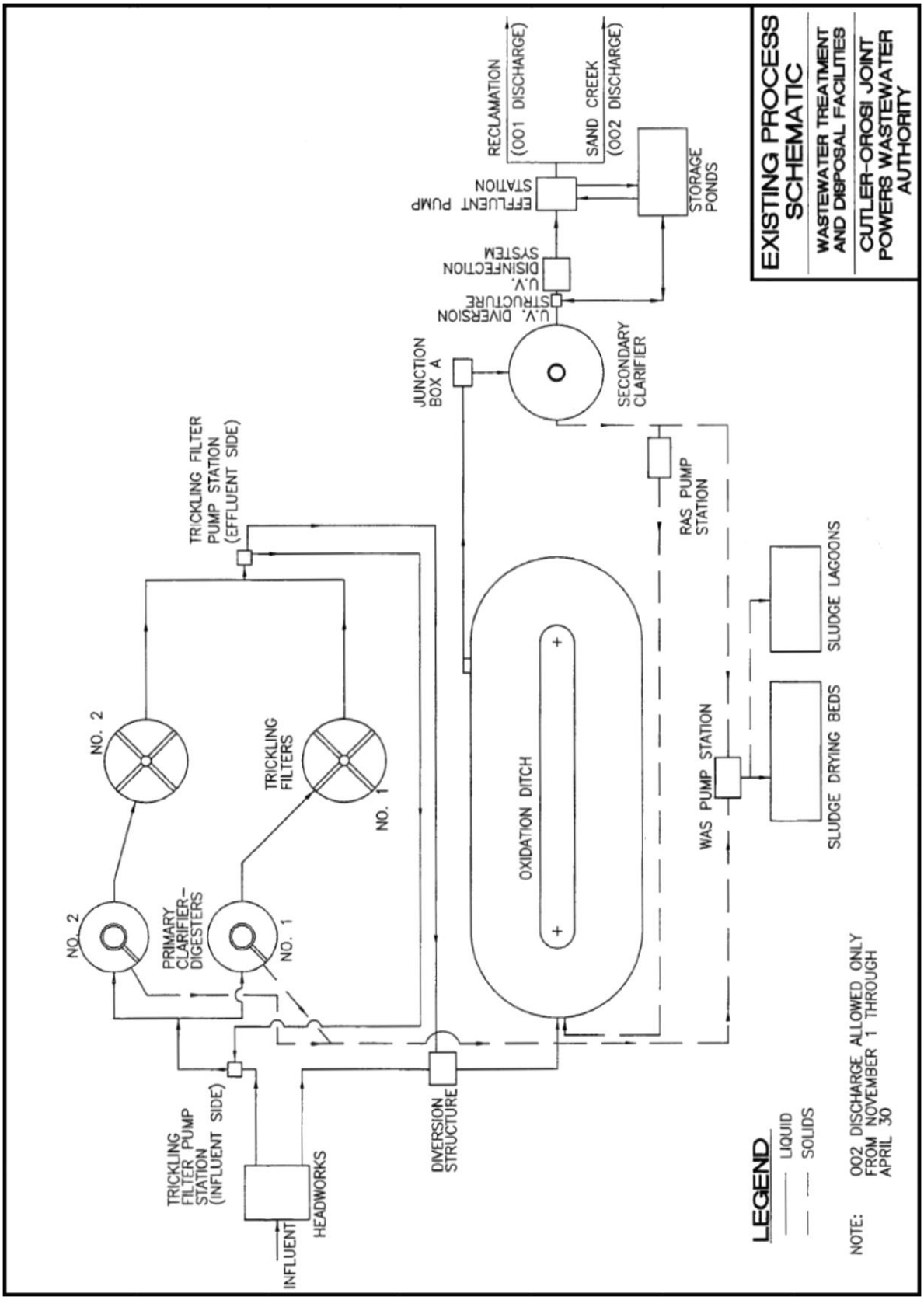
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

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



ATTACHMENT C – FLOW SCHEMATIC



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 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. The 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).)

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

G. 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).)

H. 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).)

I. 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).)

J. 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). 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 USEPA 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. Laboratories analyzing monitoring samples shall be accredited by DDW, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

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 any plant return flows or treatment processes
Discharge Point 001	EFF-001	When discharging to cropland, a location after the last treatment unit and prior to discharge to treated wastewater ponds or cropland
Discharge Point 002	EFF-002	When discharging to Sand Creek, a location after the last treatment unit and prior to discharge to Sand Creek
–	INT-001	A location where a sample of disinfected wastewater can be obtained to represent simulated discharge to Sand Creek
–	RSW-001	Sand Creek, approximately 500 feet upstream of Discharge Point 002
–	RSW-002	Sand Creek approximately 500 feet downstream of Discharge Point 002
–	UVS-001	A location where a representative sample of wastewater can be collected immediately upstream or immediately downstream of the ultraviolet light (UV) disinfection system
–	SPL-001	Location where a representative sample of the municipal supply water of the communities that the Facility serves can be obtained. If this is impractical, water quality data provided by the water supplier(s) may be used.
–	PND-001	Treated Wastewater Pond 1 (North)
–	PND-002	Treated Wastewater Pond 2 (South)
–	MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, MW-H, MW-I, and all future wells added to the approved network	Groundwater Monitoring Wells

–	CRP-001	Cropland that receives treated effluent for irrigation

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility 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	–
pH	standard units	Grab [2]	1/Day	[1]
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite [3]	2/Week	[1]
Total Suspended Solids	mg/L	24-hr Composite [3]	2/Week	[1]
Electrical Conductivity @ 25°C	µmhos/cm	24-hr Composite [3]	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] Grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.
[3] 24-hour flow-proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated effluent discharge to the treated wastewater ponds and cropland 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]	1/Week	[1]
Total Suspended Solids	mg/L	24-hr Composite [2]	1/Week	[1]
pH	standard units	Grab	1/Week [3,4]	[1]
Priority Pollutants				
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/Month [3,6]	[1]
Un-ionized Ammonia, Total (as N)	mg/L	Calculated	1/Month	–
Electrical Conductivity @ 25°C	µmhos/cm	24-hr Composite [2]	2/Week	[1]

Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month [7]	[1]
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month [7]	[1]
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1/Month	[1]
Total Nitrogen (as N)	mg/L	Calculated	1/Month	–
Settleable Solids	mL/L	Grab	1/Week	[1]
Standard Minerals [8]	mg/L	Grab	2/Year	[1]
Temperature	°C	Grab	1/Week [3,4]	[1]
Total Coliform Organisms	MPN/100 mL	Grab	1/Day [9]	[1]
Total Dissolved Solids	mg/L	Grab	2/Month	[1]
Chloride	mg/L	Grab	1/Month	[1]
Boron	mg/L	Grab	1/Month	[1]
Total Organic Carbon	mg/L	Grab	1/Quarter	[1]
Oil & Grease	mg/L	Grab	2/Year	[1]
Methylene Blue Active Substances	µg/L	Grab	2/Year	[1]

[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 USEPA-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-13) as well as the sufficiently sensitive test method requirements of 40 CFR Part 122.

[6] Concurrent with whole effluent toxicity monitoring

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

[8] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

[9] Samples for total coliform organisms shall be collected immediately following disinfection and are only required to be monitored when either (1) actively discharging to treated wastewater pond(s) and groundwater is less than five feet below bottom of the ponds, or (2) actively discharging to cropland and groundwater is less than five feet below ground surface of cropland where wastewater is applied.

2. If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

B. Monitoring Location EFF-002

1. The Discharger shall monitor treated effluent discharged to Sand Creek at EFF-002 as follows:

Table E-4. 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]
Total Suspended Solids	mg/L	24-hr Composite [2]	2/Week	[1]
pH	standard units	Grab	1/Day [3,4]	[1]
Priority Pollutants				
Copper, Total Recoverable	µg/L	Grab	1/Month	[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]
Un-ionized Ammonia, Total (as N)	mg/L	Calculated	1/Week	–
	lbs/day	Calculated		
Dissolved Oxygen	mg/L	Grab	1/Week [4]	[1]
Electrical Conductivity @ 25°C	µmhos/cm	24-hr Composite [2]	2/Week	[1]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month [7]	[1]
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month [7]	[1]
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1/Month	[1]
Total Nitrogen (as N)	mg/L	Calculated	1/Month	–
Settleable Solids	ml/L	Grab	1/Week	[1]
Standard Minerals [8]	mg/L	Grab	2/Year	[1]
Temperature	°C	Grab	1/Day [3,4]	[1]
Total Coliform Organisms	MPN/100 mL	Grab	1/Day [9]	[1]
Turbidity	NTU	Grab	1/Day [4]	[1]
Total Dissolved Solids	mg/L	Grab	2/Month	[1]
Chloride	mg/L	Grab	1/Month	[1]
Boron	mg/L	Grab	1/Month	[1]
Total Organic Carbon	mg/L	Grab	1/Quarter	[1]
Oil & Grease	mg/L	Grab	2/Year	[1]
Methylene Blue Active Substances	µg/L	Grab	2/Year	[1]
Whole Effluent Toxicity (see Section V. below)	–	–	–	–

[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 USEPA-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-13) as well as the sufficiently sensitive test method requirements of 40 CFR Part 122.

[6] Concurrent with whole effluent toxicity monitoring

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

[8] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

[9] Samples for total coliform organisms shall be collected immediately following disinfection.

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 twice per year (2/year) acute toxicity testing, concurrent with effluent ammonia sampling. If by 1 November 2020 no discharge has occurred to Sand Creek following adoption of this Order, the Discharger shall perform acute toxicity testing on disinfected wastewater to simulate water quality of a potential discharge to Sand Creek. The simulated discharge samples must be taken at Monitoring Location INT-001 once during the period of 1 November 2020 through 30 April 2021 and once during the period of 1 November 2021 through 30 April 2022.

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-002. If by 1 November 2020 no discharge has occurred to Sand Creek following adoption of this Order, samples of simulated discharge shall be taken at Monitoring Location INT-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. The test duration shall be 96 hours.

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 twice per year (2/year) chronic toxicity testing. If by 1 November 2020 no discharge has occurred to Sand Creek following adoption of this Order, the Discharger shall perform chronic toxicity testing on disinfected wastewater to simulate water quality of a potential discharge to Sand Creek. The simulated discharge samples must be taken at Monitoring Location INT-001 once during the period of 1 November 2020 through 30 April 2021 and once

during the period of 1 November 2021 through 30 April 2022. If the result of the routine chronic toxicity testing event at Monitoring Location EFF-002 exhibits toxicity, demonstrated by the result greater than 1.3 TUc (as $100/EC_{25}$) AND a percent effect greater than 25 percent at 100 percent effluent, 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.

2. *Sample Types* – Effluent 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-002. If by 1 November 2020 no discharge has occurred to Sand Creek, samples of simulated discharge shall be taken at Monitoring Location INT-001.

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 with:

   - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
   - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
   - The green alga, *Selenastrum capricornutum* (growth test)

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. Laboratory water control may be used as the diluent.

Table E-5. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Control
	100	75	50	25	12.5	
% Effluent	100	75	50	25	12.5	0
% Laboratory Water	0	25	50	75	87.5	100

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.** Routine and compliance chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the semi-annual 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);

   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 semi-annual 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.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Locations PND-001 and PND-002

1. The Discharger shall monitor the treated wastewater ponds at PND-001 and PND-002 as follows:

Table E-6. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow into each pond [1]	mgd	Estimate	1/Day
Freeboard	0.1 feet	Visual	1/Week
Dissolved Oxygen [2]	mg/L	Grab	1/Week [3]
Visual Observation [4]	–	Visual	1/Week [3]

[1] The Discharger shall report whether or not the effluent was disinfected by ultraviolet light prior to discharge due to groundwater elevation.
[2] Samples shall be collected from the upper one-foot of each pond near the outlet between 0800 and 0900 hours.
[3] Frequency shall be daily when in noncompliance with Treated Wastewater Pond Operating Requirements (section VI.C.4.b of this Order) and shall continue at least one week after return to compliance.
[4] Visual observations shall include the presence of weeds, scum, odors, solids build-up on the pond surface, berm seepage, and conditions that threaten berm integrity (e.g., animal burrows and significant erosion or cracks).

VII. RECYCLING MONITORING REQUIREMENTS

A. Monitoring Location CRP-001

1. The Discharger shall monitor irrigation operations at CRP-001 as follows:

Table E-7. Cropland Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Effluent Applied	mgd	Meter	1/Day
Location and Type of Crop Where Effluent Applied [1]	–	Observation	1/Day
Rainfall	inches	Observation	1/Day
Effluent Application Rate	gal/acre/day	Calculated	1/Day
Supplemental Irrigation Rate	gal/acre/day	Calculated	1/Day
BOD_5 Loading Rate	lbs/acre/day	Calculated	1/Day
Total Nitrogen Loading Rate from Wastewater [2]	lbs/acre/month	Calculated	1/Month
Total Nitrogen Loading Rate from Fertilizer [3]	lbs/acre/month	Calculated	1/Month
Salt Loading Rate [2]	lbs/acre/month	Calculated	1/Month
Hydraulic/Nutrient Balance [4]	varies	Calculated	1/Year

[1] The Discharger shall identify which field (A, B, C, D, and/or E) that received effluent and whether or not the effluent was disinfected by ultraviolet light prior to discharge due to groundwater elevation.
[2] Nitrogen and salt loading rates shall be calculated using the effluent application rate and the monthly average concentrations for total nitrogen and total dissolved solids.
[3] Additional nitrogen loading to the use area from other sources (i.e., organic matter and manure).

[4] The hydraulic/nutrient balance shall include the total water application to cropland, including treated effluent and other irrigation water; the total nutrient loading from wastewater, sludges, and chemical fertilizers; and amount of nutrient removed through harvest of the crop.

2. The Discharger shall keep a log of routine monitoring observations (e.g., areas of ponding, broken irrigation pipes, odors and/or flies within the Use Areas, etc.).

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor Sand Creek at RSW-001 as follows:

Table E-8. Receiving Water Monitoring Requirements RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Estimate	1/Day [1]	--
Dissolved Oxygen	mg/L	Grab	1/Week [1,2]	[3]
pH	standard units	Grab	1/Week [1,2,4]	[3]
Temperature	°C	Grab	1/Week [1,2,4]	[3]
Turbidity	NTU	Grab	1/Week [1,2]	[3]
Fecal Coliforms	MPN/100 mL	Grab	1/Week [1]	[3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month [1,2]	[3]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month [5]	[3]
Ammonia, Total (as N)	mg/L	Grab	1/Month [4,5]	[3]
Un-ionized Ammonia (as N)	mg/L	Calculated	1/Month [4,5]	[3]
Priority Pollutants and other Constituents of Concern	See Section IX.D	See Section IX.D	See Section IX.D	[3,6]

[1] Samples only need to be collected from RSW-001 when discharge is occurring at Discharge Point 002.
[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] 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 State Water Board.
[4] Temperature and pH shall be recorded at the time of ammonia sample collection.
[5] Samples only need to be collected between 1 November and 30 April and only when there is (1) flow in Sand Creek OR (2) discharge is occurring at Discharge Point 002. However, sampling from RSW-001 is not required if the entire flow at RSW-001 is a result of a discharge or discharges from Wawona Packing Co., LLC AND (2) there is no discharge occurring at Discharge Point 002.
[6] 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-13) as well as the sufficiently sensitive test method requirements of 40 CFR Part 122.

2. The Discharger shall monitor Sand Creek at RSW-002 as follows:

Table E-9. Receiving Water Monitoring Requirements RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Week [1,2]	[3]
pH	standard units	Grab	1/Week [1,2,4]	[3]
Temperature	°C	Grab	1/Week [1,2,4]	[3]
Turbidity	NTU	Grab	1/Week [1,2]	[3]
Fecal Coliforms	MPN/100 mL	Grab	1/Week [1]	[3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month [1,2]	[3]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month [1]	[3]
Ammonia, Total (as N)	mg/L	Grab	1/Month [1,4]	[3]
Un-ionized Ammonia (as N)	mg/L	Calculated	1/Month [1,4]	[3]

[1] Samples only need to be collected from RSW-002 when there is flow in Sand Creek AND discharge is occurring at Discharge Point 002. Samples shall be collected at approximately the same time as samples collected at RSW-001.

[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] 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 State Water Board.

[4] Temperature and pH shall be recorded at the time of ammonia sample collection.

3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-002. Notes on receiving water conditions shall be summarized in the monitoring report. Attention shall be given to the presence of:

   a. Floating or suspended matter,

   b. Discoloration,

   c. Aquatic life (including plants, fish, shellfish, birds),

   d. Visible films, sheens, or coatings

   e. Fungi, slime, or objectionable growths, and

   f. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in monthly monitoring reports. The Discharger shall include in each monthly monitoring report the times when discharge to Sand Creek (Discharge Point 002) occurred and a narrative description of upstream flow conditions at the time(s) of discharge (i.e., approximate depth of flow).

B. Monitoring Locations MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, MW-H, MW-I, and All Future Wells Added to the Approved Network

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 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, unless another method has been approved for the Discharger by the Executive Officer. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, MW-H, MW-I, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-10. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Month	–
Groundwater Elevation [1]	±0.01 feet	Calculated	1/Month	–
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]
Total Nitrogen	mg/L	Grab	1/Quarter	[2]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[2]
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter	[2]
Arsenic	mg/L	Grab	1/Quarter	[2]
Standard Minerals [3]	µg/L	Grab	1/Year	[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.

[3] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids Monitoring – Not Applicable

B. Municipal Water Supply

1. Monitoring Location SPL-001

a. The Discharger shall monitor the municipal water supply of the communities that the Facility serves at SPL-001 as follows. Sampling stations shall be established where representative samples of the municipal water supply can be obtained. Publically available data may be used in lieu of the monitoring established in Table E-11 below to demonstrate the average water quality of the water supply.

Table E-11. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids [1]	mg/L	Grab	1/Three years [2]	[3]
Electrical Conductivity @ 25°C [1]	µmhos/cm	Grab	1/Quarter	[3]
Standard Minerals [4]	mg/L	Grab	1/Three years [2]	[3]

[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] Coincident with monitoring required by the State Water Resources Control Board, Division of Drinking Water.
[3] 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.
[4] Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e., cation/anion balance).

C. Ultraviolet Light (UV) Disinfection System

1. Monitoring Locations UVS-001

a. The Discharger shall monitor the UV disinfection system at Monitoring Location UVS-001 as follows:

Table E-12. UV Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Annual System Test [1]	–	–	–	1/year
Flow	MGD	Meter	UVS-001	Continuous [2]
Number of UV banks in operation	Number	Observation	N/A	Continuous [2]
UV Transmittance	Percent (%)	Meter	UVS-001	Continuous [2]
UV Power Setting	Percent (%)	Meter	UVS-001	Continuous [2]
UV Dose [3]	mJ/cm	Calculated	N/A	Continuous
Turbidity	NTU	Grab	UVS-001	1/Day

[1] The annual system test shall be conducted between 1 June and 1 August to verify that ultraviolet light disinfection system is in proper working order. The results of the test shall be submitted to the Central Valley Water Board by 1 October.
[2] 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.
[3] Report daily minimum UV dose, daily average UV dose, and weekly average UV dose. For the daily minimum UV dose, also report associated number of banks, gallons per minute per lamp, and UV light transmittance used in the calculation.

D. Effluent and Receiving Water Characterization

1. **Effluent and Receiving Water Monitoring. Beginning 2020**, annual samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) and analyzed for the constituents listed in Table E-13, below. Twice during the period of **1 November 2020 through 30 April 2021** and twice during the period of **1 November 2021 through 30 April 2022**, the Discharger shall collect effluent samples (4 samples in total) from Monitoring Location EFF-002 and analyze for the constituents listed in Table E-13, below. If Discharge Point 002 is not used during the effluent sampling periods, the

effluent samples shall be disinfected wastewater collected at Monitoring Location INT-001. Results of such monitoring shall be submitted to the Central Valley Water Board with the monthly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent or upstream receiving water.

2. **Concurrent Sampling.** When possible, 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-13**, below.

Table E-13. Effluent and Receiving Water Characterization Monitoring

Parameter	Units	Effluent Sample Type [6]	Maximum Reporting Level [1]
2- Chloroethyl vinyl ether	µg/L	Grab	1
Acrolein	µg/L	Grab	2
Acrylonitrile	µg/L	Grab	2
Benzene	µg/L	Grab	0.5
Bromoform	µg/L	Grab	0.5
Carbon Tetrachloride	µg/L	Grab	0.5
Chlorobenzene	µg/L	Grab	0.5
Chloroethane	µg/L	Grab	0.5
Chloroform	µg/L	Grab	2
Chloromethane	µg/L	Grab	2
Dibromochloromethane	µg/L	Grab	0.5
Dichlorobromomethane	µg/L	Grab	0.5
Dichloromethane	µg/L	Grab	2
Ethylbenzene	µg/L	Grab	2
Hexachlorobenzene	µg/L	Grab	1
Hexachlorobutadiene	µg/L	Grab	1
Hexachloroethane	µg/L	Grab	1
Methyl bromide (Bromomethane)	µg/L	Grab	1
Naphthalene	µg/L	Grab	10
3-Methyl-4-Chlorophenol	µg/L	Grab	5
Tetrachloroethene	µg/L	Grab	0.5
Toluene	µg/L	Grab	2
trans-1,2-Dichloroethylene	µg/L	Grab	1
Trichloroethene	µg/L	Grab	2
Vinyl chloride	µg/L	Grab	0.5
Methyl-tert-butyl ether (MTBE)	µg/L	Grab	
Trichlorofluoromethane	µg/L	Grab	
1,1,1-Trichloroethane	µg/L	Grab	0.5
1,1,2- Trichloroethane	µg/L	Grab	0.5
1,1-dichloroethane	µg/L	Grab	0.5
1,1-dichloroethylene	µg/L	Grab	0.5
1,2-dichloropropane	µg/L	Grab	0.5
1,3-dichloropropylene	µg/L	Grab	0.5
1,1,2,2-tetrachloroethane	µg/L	Grab	0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	Grab	0.5
1,2,4-trichlorobenzene	µg/L	Grab	1
1,2-dichloroethane	µg/L	Grab	0.5
1,2-dichlorobenzene	µg/L	Grab	0.5
1,3-dichlorobenzene	µg/L	Grab	0.5
1,4-dichlorobenzene	µg/L	Grab	0.5

Parameter	Units	Effluent Sample Type [6]	Maximum Reporting Level [1]
1,2-Benzanthracene	µg/L	Grab	5
1,2-Diphenylhydrazine	µg/L	Grab	1
2-Chlorophenol	µg/L	Grab	5
2,4-Dichlorophenol	µg/L	Grab	5
2,4-Dimethylphenol	µg/L	Grab	2
2,4-Dinitrophenol	µg/L	Grab	5
2,4-Dinitrotoluene	µg/L	Grab	5
2,4,6-Trichlorophenol	µg/L	Grab	10
2,6-Dinitrotoluene	µg/L	Grab	5
2-Nitrophenol	µg/L	Grab	10
2-Chloronaphthalene	µg/L	Grab	10
3,3'-Dichlorobenzidine	µg/L	Grab	5
3,4-Benzofluoranthene	µg/L	Grab	10
4-Chloro-3-methylphenol	µg/L	Grab	5
4,6-Dinitro-2-methylphenol	µg/L	Grab	10
4-Nitrophenol	µg/L	Grab	10
4-Bromophenyl phenyl ether	µg/L	Grab	10
4-Chlorophenyl phenyl ether	µg/L	Grab	5
Acenaphthene	µg/L	Grab	1
Acenaphthylene	µg/L	Grab	10
Anthracene	µg/L	Grab	10
Benzidine	µg/L	Grab	5
Benzo(a)pyrene (3,4-Benzopyrene)	µg/L	Grab	2
Benzo(g,h,i)perylene	µg/L	Grab	5
Benzo(k)fluoranthene	µg/L	Grab	2
Bis(2-chloroethoxy) methane	µg/L	Grab	5
Bis(2-chloroethyl) ether	µg/L	Grab	1
Bis(2-chloroisopropyl) ether	µg/L	Grab	10
Bis(2-ethylhexyl) phthalate [2]	µg/L	Grab	5
Butyl benzyl phthalate	µg/L	Grab	10
Chrysene	µg/L	Grab	5
Di-n-butylphthalate	µg/L	Grab	10
Di-n-octylphthalate	µg/L	Grab	10
Dibenzo(a,h)-anthracene	µg/L	Grab	0.1
Diethyl phthalate	µg/L	Grab	10
Dimethyl phthalate	µg/L	Grab	10
Fluoranthene	µg/L	Grab	10
Fluorene	µg/L	Grab	10
Hexachlorocyclopentadiene	µg/L	Grab	5
Indeno(1,2,3-c,d)pyrene	µg/L	Grab	0.05
Isophorone	µg/L	Grab	1
N-Nitrosodiphenylamine	µg/L	Grab	1
N-Nitrosodimethylamine	µg/L	Grab	5
N-Nitrosodi-n-propylamine	µg/L	Grab	5
Nitrobenzene	µg/L	Grab	10
Pentachlorophenol	µg/L	Grab	1
Phenanthrene	µg/L	Grab	5
Phenol	µg/L	Grab	1
Pyrene	µg/L	Grab	10
Aluminum [3]	µg/L	24-hr Composite	50
Antimony	µg/L	24-hr Composite	5

Parameter	Units	Effluent Sample Type [6]	Maximum Reporting Level [1]
Arsenic	µg/L	24-hr Composite	10
Asbestos	MFL	24-hr Composite	
Barium	µg/L	24-hr Composite	
Beryllium	µg/L	24-hr Composite	2
Cadmium	µg/L	24-hr Composite	0.5
Chromium (Total)	µg/L	24-hr Composite	10
Chromium (VI)	µg/L	24-hr Composite	10
Copper	µg/L	24-hr Composite	0.5
Cyanide	µg/L	24-hr Composite	5
Fluoride	µg/L	24-hr Composite	
Iron	µg/L	24-hr Composite	
Lead	µg/L	24-hr Composite	0.5
Mercury [4]	ng/L	Grab	0.5
Manganese	µg/L	24-hr Composite	
Molybdenum	µg/L	24-hr Composite	
Nickel	µg/L	24-hr Composite	20
Selenium	µg/L	24-hr Composite	5
Silver	µg/L	24-hr Composite	0.25
Thallium	µg/L	24-hr Composite	1
Tributyltin	µg/L	24-hr Composite	
Zinc	µg/L	24-hr Composite	20
4,4'-DDD	µg/L	24-hr Composite	0.05
4,4'-DDE	µg/L	24-hr Composite	0.05
4,4'-DDT	µg/L	24-hr Composite	0.01
alpha-Endosulfan	µg/L	24-hr Composite	0.02
alpha-Hexachlorocyclohexane (BHC)	µg/L	24-hr Composite	0.01
Alachlor	µg/L	24-hr Composite	
Aldrin	µg/L	24-hr Composite	0.005
beta-Endosulfan	µg/L	24-hr Composite	0.01
beta-Hexachlorocyclohexane	µg/L	24-hr Composite	0.005
Chlordane	µg/L	24-hr Composite	0.1
delta-Hexachlorocyclohexane	µg/L	24-hr Composite	0.005
Dieldrin	µg/L	24-hr Composite	0.01
Endosulfan sulfate	µg/L	24-hr Composite	0.01
Endrin	µg/L	24-hr Composite	0.01
Endrin Aldehyde	µg/L	24-hr Composite	0.01
Heptachlor	µg/L	24-hr Composite	0.01
Heptachlor Epoxide	µg/L	24-hr Composite	0.02
Lindane (gamma-Hexachlorocyclohexane)	µg/L	24-hr Composite	0.5
PCB-1016	µg/L	24-hr Composite	0.5
PCB-1221	µg/L	24-hr Composite	0.5
PCB-1232	µg/L	24-hr Composite	0.5
PCB-1242	µg/L	24-hr Composite	0.5
PCB-1248	µg/L	24-hr Composite	0.5
PCB-1254	µg/L	24-hr Composite	0.5
PCB-1260	µg/L	24-hr Composite	0.5
Toxaphene	µg/L	24-hr Composite	0.5
Atrazine	µg/L	24-hr Composite	
Bentazon	µg/L	24-hr Composite	
Carbofuran	µg/L	24-hr Composite	
2,4-D	µg/L	24-hr Composite	

Parameter	Units	Effluent Sample Type [6]	Maximum Reporting Level [1]
Dalapon	µg/L	24-hr Composite	
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	24-hr Composite	
Di(2-ethylhexyl)adipate	µg/L	24-hr Composite	
Dinoseb	µg/L	24-hr Composite	
Diquat	µg/L	24-hr Composite	
Endothal	µg/L	24-hr Composite	
Ethylene Dibromide	µg/L	24-hr Composite	
Methoxychlor	µg/L	24-hr Composite	
Molinate (Ordram)	µg/L	24-hr Composite	
Oxamyl	µg/L	24-hr Composite	
Picloram	µg/L	24-hr Composite	
Simazine (Princep)	µg/L	24-hr Composite	
Thiobencarb	µg/L	24-hr Composite	
2,3,7,8-TCDD (Dioxin)	µg/L	24-hr Composite	
2,4,5-TP (Silvex)	µg/L	24-hr Composite	
Diazinon	µg/L	24-hr Composite	
Chlorpyrifos	µg/L	24-hr Composite	
Ammonia (as N) [5]	mg/L	24-hr Composite	
Un-ionized Ammonia (as N) [5]	mg/L	24-hr Composite	
Boron [5]	µg/L	24-hr Composite	
Chloride [5]	mg/L	24-hr Composite	
Hardness (as $CaCO_3$)	mg/L	Grab	
Foaming Agents (MBAS)	µg/L	24-hr Composite	
Mercury, Methyl	ng/L	Grab	
Nitrate (as N) [5]	mg/L	24-hr Composite	
Nitrite (as N) [5]	mg/L	24-hr Composite	
pH	Std Units	Grab	
Phosphorus, Total (as P)	mg/L	24-hr Composite	
Specific conductance (EC) [5]	µmhos/cm	24-hr Composite	
Sulfate	mg/L	24-hr Composite	
Sulfide (as S)	mg/L	24-hr Composite	
Sulfite (as SO_3)	mg/L	24-hr Composite	
Temperature	^oC	Grab	
Total Dissolved Solids (TDS) [5]	mg/L	24-hr Composite	

1 The reporting levels required in this table for priority pollutant constituents are established based on Section 2.4.2 and Appendix 4 of the SIP as well as the sufficiently sensitive test method requirements of 40 CFR Part 122.

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 Aluminum can either be total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

4 Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in USEPA method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by USEPA method 1630/1631 (Revision E) with a method detection limit of 0.2 ng/L.

5 The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given quarter, as required in Table E-3 or Table E-4, except for hardness, pH, and temperature, which shall be conducted concurrently with the effluent sampling.

6 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 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. 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-14. 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/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
2/Week 1/Week	First Sunday following the permit effective date or on the permit effective date	Sunday through Saturday	Submit with monthly SMR
2/Month 1/Month	First day of the calendar month following the permit effective date or on the permit effective date if that date is the first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Closest of 1 January, 1 April, 1 July, or 1 October following (or on) 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	Closest of 1 January or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
2/Year (Acute and Chronic Toxicity)	Closest of 1 January or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	Within 30 days following completion of tests
1/Year	1 January following (or on) permit effective date	1 January through 31 December	Submit with monthly SMR
1/Year (UV Test)	1 June following (or on) permit effective date	1 June through 1 August	Submit with monthly report by 1 October
1/Three years	Permit effective date	Coincident with monitoring required by Division of Drinking Water	Submit with monthly SMR

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, AWEL, 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 under the Attachments tab.

b. The Discharger shall attach or enter a cover letter with each SMR. The cover letter shall include any information the Discharger would like to convey to the Central Valley Water Board. If violations have been entered in CIWQS under the Violations tab with complete entries on corrective actions and time frames, that information does not need to be repeated in the cover letter.

c. The Discharger shall attach all laboratory analysis sheets, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.

d. Violations shall be entered into CIWQS under the Violations tab for the reporting period in which the violation occurred. Violations do not need to be duplicated in the Annual Report if they have already been entered.

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

a. **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.

b. **12-Month Rolling Average EC Limitations**. The Discharger shall calculate and report the 12-month rolling average for the effluent and the public water supply water in each monthly SMR. The 12-month rolling averages shall be calculated as specified in Section VII.D of the Waste 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 VII.E of the Waste Discharge Requirements.

d. **Mass Loading Limitations**. For ammonia the Discharger shall calculate and report mass loading (lbs/day) in the eSMRs. Mass loading shall be calculated as follows:

Mass Loading (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34

When calculating weekly average mass loading, the weekly average flow and constituent concentration shall be used. For monthly average mass loading, the monthly average flow and constituent concentration shall be used.

e. **Dissolved Oxygen Receiving Water Limitations**. The Discharger shall report monthly in the self-monitoring report: i) the dissolved oxygen concentration, ii) the percent of saturation in the main water mass, and iii) the 95th percentile dissolved oxygen concentration. The values shall be reported for EFF-002, RSW-001, and RSW-002 as specified in Section VII.G of the Waste Discharge Requirements.

f. **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.18.a-d of the Waste Discharge Requirements.

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. **Special Study Technical Reports and Progress Reports**. Special Provisions contained in section VI of the Waste Discharge Requirements include requirements to submit special study technical reports and progress reports. Table E-15 below summarizes the technical reports required by the Special Provisions and due dates for report submittal. All special study technical reports and progress reports shall be submitted electronically via CIWQS submittal. Reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment. If there are any discrepancies between the information presented in Table E-15 and the Special Provisions (Section VI of the Waste Discharge Requirements), the information in the Special Provisions shall supersede the information in Table E-15.

Table E-15. Reporting Requirements for Special Provisions Reports

Special Provision	Reporting Requirements
Toxicity Reduction Evaluation Work Plan	Within 90 days of first discharge to Sand Creek under this Order
Toxicity Reduction Evaluation Action Plan	Within 30 days of exceeding the 6-week median chronic toxicity trigger, unless a Toxicity Evaluation Study is allowed
Solids Management and Storage Work Plan	1 March 2019

2. By **3 October 2019**, the Discharger shall submit a report electronically via CIWQS submittal outlining reporting levels (RL's), method detection limits (MDL's), and analytical methods for the constituents listed in tables E-2, E-3, E-4, E-8, E-9, and E-13. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required reporting levels for priority pollutant constituents shall be based on the Minimum Levels (ML's) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP, and consistent with the sufficiently sensitive test method requirements of 40 CFR Part 122. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RL's, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. **Table E-13** provides required maximum reporting levels in accordance with the SIP.

3. **Annual Operations Report.** By 30 January of each year, the Discharger shall submit a written report to the Central Valley Water Board Electronically via CIWQS submittal containing the following:

   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.

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	5D540132001
CIWQS Facility Place ID	273166
Discharger	Cutler-Orosi Joint Powers Wastewater Authority
Name of Facility	Wastewater Treatment Facility
Facility Address	40401 Road 120
	Cutler, CA 93615
	Tulare County
Facility Contact, Title and Phone	Manuel Martinez, Chief Plant Operator; 559-528-2504
Authorized Person to Sign and Submit Reports	<Legally Responsible Official>
Mailing Address	SAME
Billing Address	SAME
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	No
Recycling Requirements	Producer and User
Facility Permitted Flow	1.5 mgd year-round at Discharge Point 001 (wastewater ponds and cropland). 2.0 mgd year-round at Discharge Point 001 (wastewater ponds and cropland) once Special Provision VI.C.6.a is satisfied. 2.0 mgd at Discharge Point 002 (Sand Creek) from 1 November through 30 April
Facility Design Flow	2.0 mgd
Watershed	Tulare-Buena Vista Lakes
Receiving Water	Sand Creek and First Encountered Groundwater
Receiving Water Type	Inland Surface Water

A. Cutler Public Utility District and Orosi Public Utility District form the Cutler-Orosi Joint Powers Wastewater Authority (hereinafter Discharger) for the purpose of operating the wastewater treatment facility (hereinafter Facility). The Facility is a Publicly-Owned Treatment Works

(POTW) that is mutually owned by Cutler Public Utility District and Orosi Public Utility District. For the purposes of this Order, references to the "discharger" or "permittee" in applicable 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 Sand Creek, a water of the United States, tributary to Cross Creek via Cottonwood Creek within the Tulare-Buena Vista Lakes Watershed. The Facility also discharges treated wastewater to cropland and two unlined wastewater ponds. The Discharger was previously regulated by Order R5-2013-0047-01 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0081485, adopted on 31 May 2013 and expiring on 1 May 2018. 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. A site visit was conducted on 15 August 2017, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge. The Discharger filed a report of waste discharge (ROWD) to apply for reissuance of its waste discharge requirements (WDR's) on 2 November 2017. The application was deemed complete on 30 November 2017.

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. However, 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 communities of Cutler, Orosi, East Orosi, Yettem, Seville, and Sultana and serves a population of approximately 15,700. The design daily average flow capacity of the Facility is 2.0 million gallons per day (MGD).

A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system at the Facility consists of mechanical screens; an influent pump station; trickling filter treatment train consisting of two primary clarigesters, two trickling filters, and a recirculation pump station; an oxidation ditch treatment train consisting of an oxidation ditch, secondary clarifier, and return and waste activated sludge pump stations; an ultraviolet light disinfection system; an effluent pump system; two unlined treated wastewater ponds; and cropland for application of treated wastewater. Raw wastewater is split between the trickling filter treatment train and the oxidation ditch treatment train. The trickling filter treatment train typically handles a fixed flow of 0.5 MGD, and the oxidation ditch treatment train receives the remainder. Effluent from the trickling filter treatment train is then sent to the head of the oxidation ditch treatment train.

Treated wastewater is discharged to any of the following: two unlined wastewater ponds, cropland, or Sand Creek. The unlined wastewater ponds allow for storage, percolation, and evaporation of treated effluent and together have a capacity of approximately 21.5 million

gallons. Treated effluent contained in the wastewater ponds can also be discharged to cropland and Discharge Point 002 (discharge to Sand Creek between 1 November and 30 April). The recycled water use area includes 118.8 acres of cropland (Fields A, B, C, D, and E) with principal crops of feed grains, green-chopped silage, and sudan grass. The Discharger currently utilizes only 106 acres of cropland (Fields B, C, D, and E) and may in the future add approximately 20 additional acres to the irrigated area.

The Facility includes 12 unlined sludge drying beds, four lined sludge drying beds (Deskins; constructed in 2010), and two unlined sludge lagoons. Dried sludge is hauled off-site for disposal to a landfill or composting facility. The Discharger intends to utilize only the lined sludge drying beds, but has in recent years utilized the unlined beds for drying and storage of excess sludge due to current capacity limitations of the lined sludge drying beds.

If the groundwater elevation is within five feet of the ground surface where wastewater is applied or within five feet of the bottom of the treated wastewater ponds, or if discharge is to Sand Creek, the effluent must also be disinfected with ultraviolet light. Section VII.J of this Order provides a table for determination of which irrigation fields must receive disinfected wastewater based on the groundwater monitoring results. The direction of groundwater flow is primarily to the southwest with depth to groundwater approximately 50 to 60 feet below ground surface.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 19, T16S, R24E, MDB&M, as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point 001 to treated wastewater ponds and cropland, and ultimately first encountered groundwater in Section 24, T16S, R24E, MDB&M and Discharge Point 002 to Sand Creek, a water of the United States and a tributary to Cross Creek at a point latitude 36° 31’ 31” N and longitude 119° 18’ 2” W.
3. The cropland at Discharge Point 001 consists of 118.8 acres total planted with fodder, fiber, and/or seed crops.
4. Groundwater underlying the Facility, treated wastewater ponds, and cropland is in the Detailed Analysis Unit 239 of the Kings Basin Hydrologic Unit. Groundwater monitoring in the vicinity indicate good quality groundwater.
5. Sand Creek is an intermittent stream that mainly carries local storm water runoff southerly to Cottonwood Creek and ultimately Cross Creek. Sand Creek is usually dry during the summertime and is not used for irrigation deliveries. Maximum flow capacity is approximately 500 cubic feet per second (cfs), though flows do not typically exceed 5 to 10 cfs. Sand Creek is categorized as a Valley Floor water in the Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised July 2016 (Basin Plan).

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

Effluent limitations and Discharge Specifications contained in Order R5-2013-0047-01 for discharges from Discharge Points 001 and 002 (Monitoring Locations EFF-001 and EFF-002) and representative monitoring data from the term of Order R5-2013-0047-01 are summarized in the following table. For the term of Order R5-2013-0047-01, discharge did not occur to Sand Creek, and groundwater was not within 5 feet of the ground surface of the cropland where wastewater was applied nor the bottom of the treated wastewater ponds.

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data [1] (Aug 2013–Sep 2017)		
		Average Monthly	Average Weekly	Maximum Daily	Lowest Daily Discharge	Highest Daily Discharge	Long-Term Average Discharge
Flow	mgd	1.5	–	–	0.93 [2]	1.16 [2]	1.04 [2]
Settleable Solids	mL/L	0.1	–	0.5	0.1	0.1	0.1
pH	standard units	–	–	6.5-8.3 [3]	6.17	9.28	7.38
Total Coliform [3]	MPN/100 mL	–	23[4]	240[5]	1600	1600	1600
Acute Toxicity [6]	%survival	–	–	[7]	–	–	–
Chronic Toxicity [6]	varies	–	–	non-toxic	[8]	[8]	[8]
BOD 5	mg/L	30	45	60	3	56	2.5
TSS	mg/	30	45	60	4	210	6.1
Chloride	mg/L	–	–	175	36	74	65
Boron	mg/L	–	–	1.0	0.1	0.25	0.15
Un-ionized Ammonia [6]	mg/L	–	–	0.025	0.01 [9]	0.086 [9]	0.01 [9]
EC	µmhos/cm	–	–	[10]	686	951	916
Copper [6]	µg/L	31	–	76	17	75	26

1 All effluent monitoring data during this period was of undisinfected wastewater discharged to the cropland.

2 Influent monthly averages

3 Limit only applicable when: (1) discharge is occurring at Discharge Point 001 and groundwater is within 5 feet of the bottom of the treated wastewater ponds or within 5 feet of ground surface of the irrigation area, or (2) discharge is occurring at Discharge Point 002.

4 7-sample median

5 Not to be exceeded more than once in a 30-day period.

6 Limit only applicable when discharging to Discharge Point 002.

7 Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than 70% minimum for any one bioassay or 90% median for any three consecutive bioassays.

8 One sample taken November 2017 on *undisinfected* secondary wastewater. For *Pimephales promelas*: NOEC = 100%. For *Ceriodaphnia dubia*: NOEC = 100%. For *Selenastrum capricornutum:* NOEC = 25%.

9 The MDL was 0.01 mg/L and the RL was 1.0 mg/L. Of the 321 samples, 311 were reported as not-detected.

10 The 12-month rolling effluent EC (at 25°C) shall not exceed the 12-month rolling source water EC (at 25°C) plus 500 µmhos/cm, or a maximum of 1,000 µmhos/cm, whichever is less.

D. Compliance Summary

The Discharger was issued Notices of Violation on 23 April 2014 and 31 May 2016 following Compliance Evaluation Inspections of the Facility. Violations were typically associated with recordkeeping, missed monitoring, and late reports. Both Compliance Evaluation Inspections also identified drying and storage of sludge on unlined surfaces, constituting violations of sludge handling specifications and threatened violations of groundwater limitations.

E. Planned Changes

The Discharger has expressed interest in modifying its sludge handling facilities, but no definitive changes are known at this time.

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 CEQA, Public Resources Code sections 21100-21177. On 19 November 1996, the Discharger certified a final Environmental Impact Report (EIR) in accordance with CEQA and Section 15090 of the State CEQA Guidelines. At the time, the Central Valley Water Board considered the EIR and concurred there are no significant impacts on water quality as a result of the Facility discharge to Discharge Point 001.

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 Tulare Lake Basin, Second Edition (Revised July 2016) (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 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. Sand Creek falls within a group of streams termed in the Basin Plan as Valley Floor Waters, which do not have a municipal or domestic supply beneficial use designation. Beneficial uses applicable to Sand Creek and underlying groundwater are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Groundwater	Existing from Table II-2 of the Basin Plan: Municipal and domestic water supply (MUN); agricultural supply, including irrigation and stock watering (AGR); industrial process supply (PRO); industrial service supply (IND); water contact recreation (REC-1); and wildlife habitat (WILD)
002	Sand Creek	Existing from Table II-1 of the Basin Plan: AGR; PRO; IND; REC-1; WILD; non-contact water recreation (REC-2); warm freshwater habitat (WARM); rare, threatened, or endangered species (RARE); groundwater recharge (GWR)

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, including protecting rare, threatened, or endangered species.

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.** USEPA 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 State Water Resources Control Board Water Quality Order 2014-0057-DWQ, General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES General Permit No. CAS000001), does not require facilities to obtain coverage if discharges of storm water are regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board (Finding I.B.20). All storm water at the Facility is captured and directed to the Facility headworks for treatment and disposal under this Order. Therefore, coverage under the General Storm Water Permit is not required**.**

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 USEPA 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." Sand Creek is not listed as a WQLS in the 303(d) list of impaired water bodies.

2. **Total Maximum Daily Loads (TMDL's).** At the time of this permit renewal, there are no approved TMDL's with wasteload allocations that apply to this Facility.

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 IV-21, contains an implementation policy, "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) USEPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water 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 III-6) 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 cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies*." (Basin Plan at III-6).

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 section 122.41(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 inclusion of pollutant free wastewater shall cause improper operation of the Facility's systems).** This prohibition is based on 40 C.F.R. section 122.41 et seq. that requires the proper design and operation of treatment facilities

5. **Prohibition III.E (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.

6. **Prohibition III.F (No discharge to Sand Creek from 1 May through 31 October of each year).** This prohibition is based on guidance from Division of Drinking Water that indicates adequately diluted discharges may be protective of REC-1 beneficial use when a total coliform limit of 23 MPN/100 mL (7-sample median) is met. Dilution flows are not typically available during the prohibited discharge period. In addition, Division of Drinking Water guidance also indicates that a total coliform limit of 23 MPN/100 mL (7-sample median) is appropriate when there is a limited degree of public exposure. Sand Creek downstream of the discharge does not flow through any population centers, and there are no known recreational areas on Sand Creek downstream of the discharge point. This prohibition also limits the discharge to the cooler times of the year when recreational use is far less likely to occur.

   The Basin Plan and Central Valley Water Board Resolution No. R5-2009-2008, *In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants*, encourage wastewater reclamation and indicate discharges to surface waters will not be considered a permanent solution when the potential exists for wastewater reclamation. This prohibition also ensures that the currently feasible reclamation opportunities are maximized.

7. **Prohibition III.G (Monthly average daily discharge flow prohibition).** This prohibition is based upon the fact that the Facility is designed to provide a secondary level of treatment for up to a design flow of 2.0 MGD.

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. 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.

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.

Summary of Technology-based Effluent Limitations
Discharge Point 002

Table F-4. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD_5	mg/L	30	45	–	–	–
	% Removal	85	–	–	–	–
TSS	mg/L	30	45	–	–	–
	% Removal	85	–	–	–	–
pH	standard units	–	–	–	6.0[1]	9.0[1]

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

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.

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.

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 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. Sand Creek falls within a group of streams termed in the Basin Plan as

Valley Floor Waters that do not have a municipal or domestic supply beneficial use designation. The Basin Plan on page II-1 states: *"Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water."* and with respect to disposal of wastewaters states that "*...use of waters for disposal of wastewaters is not included as a beneficial use…and are subject to regulation as activities that may harm protected 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 August 2013 through October 2017, which includes effluent and ambient background data submitted in SMRs and the Report of Waste Discharge (ROWD). Additional data outside of this range were also analyzed where there were inadequate data to perform an analysis. Limited hardness data for the ambient background waters were available; thus, receiving water data range was extended through 2011.

c. **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. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default USEPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

d. **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]

[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.

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

At design discharge conditions, Sand Creek is effluent dominated. Under these regularly occurring critical conditions the effluent is the receiving water that is used to define the ambient receiving water conditions to define the appropriate water quality criteria in accordance with the CTR and SIP, otherwise if ambient downstream hardness was collected on the same day as effluent hardness, the downstream ambient hardness value is used. The Sacramento Superior Court has previously upheld the Central Valley Water Board's use of effluent hardness levels in effluent-dominated streams when developing effluent limitations for hardness-dependent metals. (*California Sportsfishing Protection Alliance v. California Regional Water Quality Control Board, Central Valley Region,* Super. Ct. Sacramento County, 2012, No. 34-2009-80000309) (Order Denying Petitioners' Motion to Strike Respondent's Return of Writ of Mandate and Granting Discharge of the Writ)). The ambient hardness for Sand Creek is represented by the data in Figure F-1, below, which shows ambient hardness ranging from 89 mg/L to 220 mg/L based on all collected ambient data from January 2011 through October 2017. 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 89 mg/L (minimum) up to 220 mg/L (maximum). Staff recommends that the Board use the ambient hardness values shown in Table F-5 for the following reasons.

i. The ambient receiving water hardness values shown in Table F-5 are consistent with design discharge conditions and will result in criteria and

[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. §131.38(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)

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-5 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 observed ambient hardness will result in limits that may allow increased metals to be discharged to Sand Creek, 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 State 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-5 is consistent with the CTR and SIP's requirements for developing metals criteria.

Table F-5. Summary of CTR Criteria for Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)[2]	CTR Criteria (µg/L, total recoverable)[1]	
		acute	chronic
Copper	200	27	17
Chromium III	200	3100	370
Cadmium	190 (acute) 200 (chronic)	9.3	4.2
Lead	180	170	6.7
Nickel	200	840	94
Silver	170	10.	–
Zinc	200	220	220

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

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

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

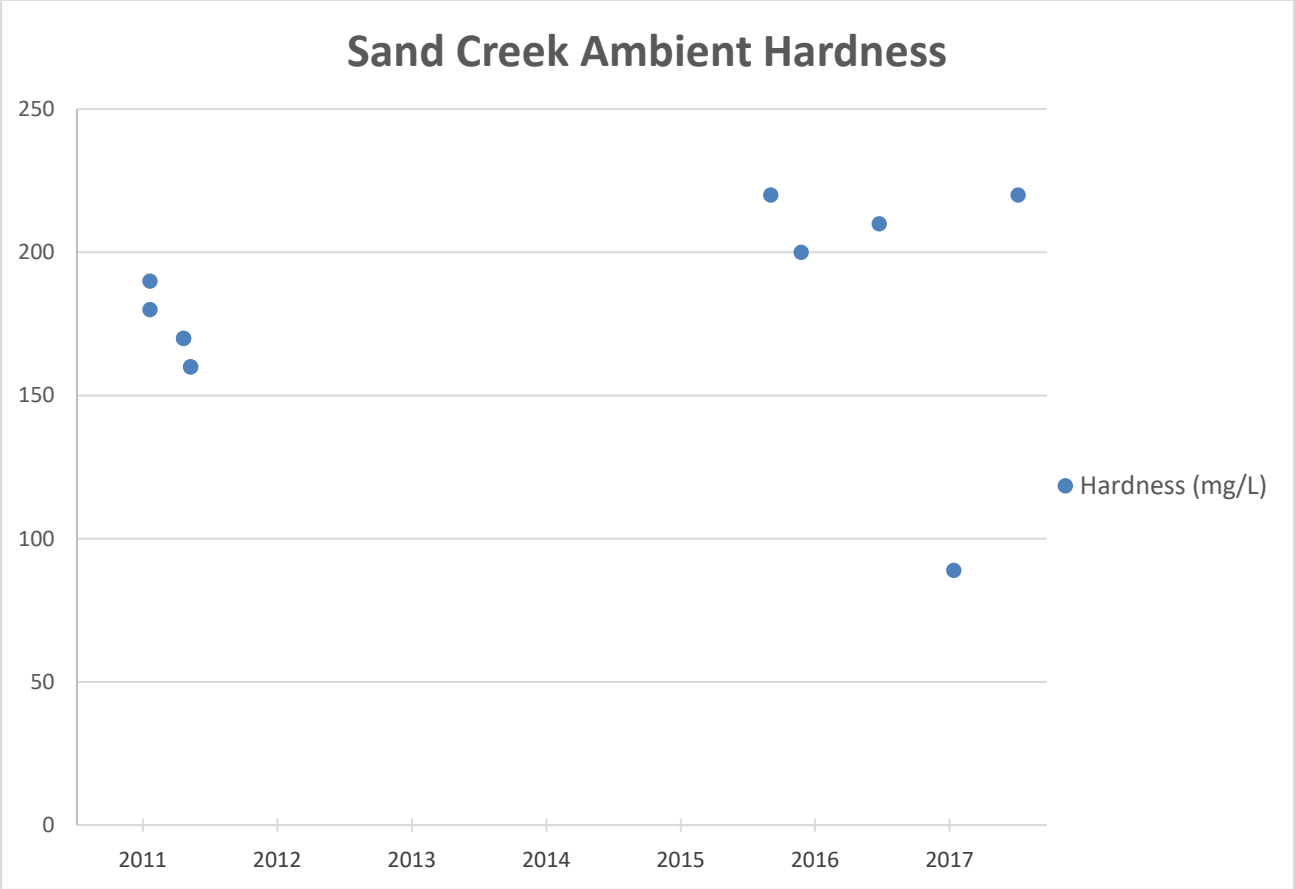
The direction in the CTR regarding hardness selection is that it must be based on ambient hardness and consistent with design discharge conditions for design flows and mixing zones. Consistent with design discharge conditions and design flows means that the selected "design" hardness must result in effluent 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). Since Sand Creek regularly contains no upstream flow, the critical design flow is zero.

Ambient conditions

The ambient receiving water hardness varied from 89 mg/L to 220 mg/L, based on 11 samples from January 2011 through October 2017 (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. Ambient Hardness (89 mg/L to 220 mg/L)



In this analysis, the entire range of ambient hardness concentrations shown in Figure F-1 was 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 is variable. 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 may not be representative considering the wide range of ambient conditions.

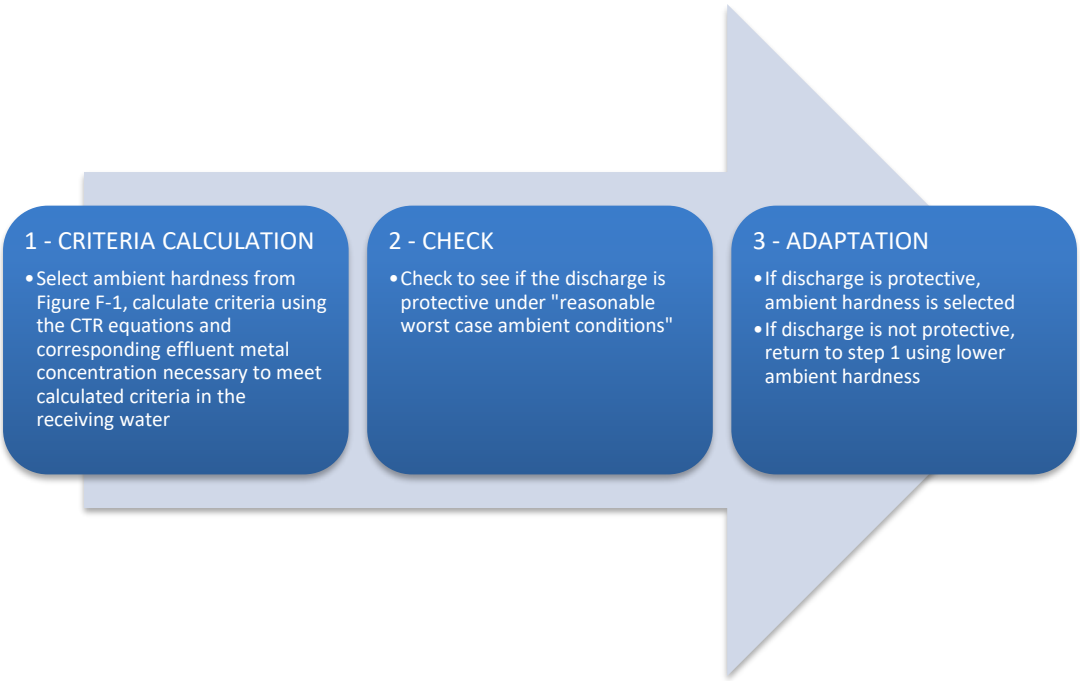
Reasonable worst-case ambient conditions. To determine whether a selected ambient hardness value results in effluent limitations that are fully protective while complying with federal regulations and state policy, staff have conducted an analysis considering varying ambient hardness and flow conditions. 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.

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 ambient receiving water hardness condition of 89 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.



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 220 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 USEPA 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. USEPA'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-5, above. Using these hardness values to calculate criteria, which are actual ambient sample results, will result in effluent limitations that are protective under all ambient flow conditions. Zinc and silver are used as examples below to illustrate the results of the analysis. Tables F-6 and F-7 below summarize the numeric results of the three step iterative approach for zinc and silver. As shown in the example tables, ambient hardness values of 200 mg/L (zinc) and 170 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 the 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. Tables F-6 and F-7 summarize the critical flow conditions. However, the analysis evaluated all flow conditions to ensure compliance with the CTR criteria at all times.

[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)

Table F-6. Verification of CTR Compliance for Zinc

Receiving water hardness used to compute effluent limitations				200 mg/L
Effluent Concentration Allowance (ECA) for Zinc[2]				220 µg/L
	Downstream Ambient Concentrations Under Worst-Case Ambient Receiving Water Conditions			Complies with CTR Criteria?
	Hardness	CTR Criteria (µg/L)	Ambient Zinc Concentration[1] (µg/L)	
1Q10	200	220	220	**Yes**
7Q10	200	220	220	**Yes**
Max receiving water flow	89	110	110	**Yes**

1 This concentration is derived using worst-case ambient conditions. These conservative assumptions will ensure that the receiving water always complies with CTR criteria.
2 The ECA defines effluent quality necessary to meet the CTR criteria in the receiving water. There is no effluent limitation for zinc as it demonstrates no reasonable potential.

Table F-7. Verification of CTR Compliance for Silver

Receiving water hardness used to compute effluent limitations				170 mg/L
Effluent Concentration Allowance (ECA) for Silver[2]				10. µg/L
	Downstream Ambient Concentrations Under Worst-Case Ambient Receiving Water Conditions			Complies with CTR Criteria?
	Hardness	CTR Criteria (µg/L)	Ambient Silver Concentration[1] (µg/L)	
1Q10	170	10.	10.	**Yes**
7Q10	170	10.	10.	**Yes**
Max receiving water flow	89	3.3	3.3	**Yes**

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

3. Determining the Need for WQBEL's

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 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." The process to determine whether a WQBEL is required 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 USEPA 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 No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 USEPA 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. **Bis (2-Ethylhexyl) Phthalate**

(a) **WQO.** The CTR includes a criterion of 5.9 µg/L for bis (2-ethylhexyl) phthalate (bis-2) for the protection of human health for waters from which only organisms are consumed.

(b) **RPA Results.** Bis-2 is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of detected bis-2 may be from plastics used for sampling or analytical equipment. "Clean techniques" are prescribed to ensure that sample containers, sampling apparatus, and analytical equipment are not sources of the detections from monitoring bis-2.

Previous Order R5-2013-0047-01 required routine monitoring monthly for bis-2 using clean sampling techniques. Over the course of the permit, the Discharger conducted five effluent sampling events, sampling for bis-2 analysis with both grab and composite. Three of the composite samples were detected but not quantified, and the remaining two composite samples were non-detect. For the grab samples, one result was quantified at 5.3 µg/L, and the rest of the samples were non-detect. The one receiving water monitoring result was detected but not quantified at an estimated concentration of 1.4 µg/L. Therefore, bis-2 in the effluent does not demonstrate reasonable potential to cause or contribute to an excursion above the CTR criterion. Requirements for routine monitoring using clean sampling techniques are retained in this Order.

ii. **Mercury**

(a) **WQO.** The CTR contains a criterion of 0.051 µg/L for mercury for the protection of human health for waters from which organisms are consumed.

(b) **RPA Results.** Section 1.2 of the SIP states, "*the RWQCB shall have discretion to consider if any data are inappropriate…for use in implementing this Policy.*" The highest reported concentrations of mercury in the effluent and receiving water were 0.077 µg/L and 0.28 µg/L, respectively. However, these samples were reported as estimated concentrations. All of the other effluent samples that had reportable concentrations were reported as estimated concentrations. Estimated concentrations do not provide an adequate level of scientific

certainty to use as evidence that the effluent mercury concentration is above criteria. Therefore, the Central Valley Water Board finds that the estimated concentrations are inappropriate and did not use the data in conducting the RPA. The remaining data indicate that mercury was not detected in the effluent but was detected and quantified in the receiving water at a concentration of 0.00502 µg/L. Based on these data, the discharge does not have reasonable potential to cause or contribute to an exceedance of water quality criteria. However, this Order requires that the Discharger monitor for mercury with the Effluent and Receiving Water Characterization Study. Additionally, the Discharger is required to sample using clean hands/dirty hands procedures, as described in USEPA method 1669, and analyze using USEPA Method 1630/1631 (Revision E) with a reporting level of 0.0005 µg/L.

b. **Constituents with No Data or Insufficient Data.** Reasonable potential cannot be determined for the following constituents because effluent data are limited or ambient background concentrations are not available. The Discharger is required to continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether to add numeric effluent limitations or to continue monitoring.

i. **Selenium**

(a) **WQO.** The CTR includes a maximum 4-day average criterion of 5.0 µg/L for total recoverable selenium.

(b) **RPA Results.** The Discharger conducted five effluent sampling events for selenium. Both grab and composite samples were collected during each sampling event and analyzed for selenium with EPA Method 200.8 (RL of 1.0 µg/L) and/or EPA Method 200.7 (RL of 20 µg/L). Results consist of non-detects and DNQ results with estimated concentrations ranging from 0.22 µg/L to 15 µg/L. One receiving water sample was analyzed for selenium during the permit term, resulting in a DNQ result with an estimated concentration of 5.5 µg/L.

Section 1.2 of the SIP states, "*the RWQCB shall have discretion to consider if any data are inappropriate…for use in implementing this Policy.*" All of the samples for the effluent and receiving water that had reportable concentrations were reported as estimated concentrations. Estimated concentrations do not provide an adequate level of scientific certainty to use as evidence that the effluent or receiving water selenium concentrations are above criteria. Therefore, the Central Valley Water Board finds that the sample results are inappropriate and did not use the data in conducting the RPA. The discharge's reasonable potential to cause or contribute to an exceedance of water quality criteria cannot be determined based on the remaining data. However, this Order requires the Discharger to monitor for selenium with the Effluent and Receiving Water Characterization Study, and requires the Discharger to meet the lowest applicable minimum level in the State Implementation Policy.

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 un-ionized ammonia, copper, total coliform organisms, pH, and settleable solids. 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.**

(1) **Total Ammonia (as N).** The 1999 USEPA 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. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC.

The USEPA recently published national recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (the "2013 Criteria")[12]. The 2013 Criteria is an update to USEPA'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. On 30 March 2015, the Discharger submitted an individual study for the presence of mussels, prepared by Pacific EcoRisk. The study concluded that no mussels of the Family Unionidae are currently present or have recently been present in Sand Creek or the waters to which it is tributary, based on the ephemeral nature of the receiving water and historic survey records. 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

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

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. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA 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. Sand Creek has no beneficial use of cold freshwater habitat or fish spawning, and the presence of early life stages has not been documented. Therefore, the recommended criteria for waters where salmonids are absent and early life stages are absent were used. Since discharge to Sand Creek is only allowed from November through April, pH and temperature data from November through April were used to determine appropriate acute and chronic criteria for the discharge.

The maximum permitted effluent pH is 8.3, as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.3. In order to protect against the worst-case short-term exposure of an organism, a pH value of 8.3 was used to derive the acute criterion. The resulting acute criterion is 4.71 mg/L.

A chronic criterion was calculated using the rolling 30-day average pH and temperature of the effluent for each day when paired temperature and pH data were measured. These criteria were examined to determine the worst case condition that has actually occurred during the monitoring period. The NAWQC allows a once in three year excursion of the criteria, which relates to the 99.9th percentile. Therefore, the CCC is 1.59 mg/L based on the 99.9th percentile of the chronic criteria calculated from the running 30-day average paired data. The 4-day average concentration is derived in accordance with USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 1.59 mg/L, the 4-day average concentration that should not be exceeded is 3.98 mg/L.

(2) **Un-ionized Ammonia (as N).** The Basin Plan includes an objective that states "[w]aters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/L (as N) in the receiving waters."

(b) **RPA Results**.

(1) **Total Ammonia (as N) and Un-ionized Ammonia (as N).** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceeds 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.

USEPA'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)." USEPA'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, USEPA 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 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 and Basin Plan's water quality objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBEL's are required.

(c) **WQBEL's.**

(1) **Total Ammonia (as N).** 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, USEPA 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. The WQBELs were calculated as 1.67 mg/L (AMEL) and 3.56 mg/L (AWEL) for November through April, based on the 1999 Criteria. However, this Order does not contain WQBELs for total ammonia (as N) because the proposed WQBELs for un-ionized ammonia (as N) are more protective of the beneficial uses, given the temperature and pH typically experienced in the receiving water.

(2) **Un-ionized Ammonia (as N).** This Order includes a final AWEL of 0.025 mg/L for un-ionized ammonia (as N) based on the Basin Plan water quality objective. This Order also includes the AMEL of 0.014 mg/L.

(d) **Plant Performance and Attainability.** Analysis of the effluent data from November 2013 through May 2017 during months of allowed discharge to Sand Creek shows that of the 218 results, un-ionized ammonia was not detected at or above the reporting level of 1.0 mg/L. Un-ionized ammonia was reported as detected but not quantified (DNQ) one time, at an estimated concentration of 0.018 mg/L. Therefore, the Discharger is expected to maintain compliance with the proposed limitations.

ii. **Copper**

(a) **WQO.** The Discharger submitted a Water Effect Ratio (WER) Study for copper prepared by Pacific EcoRisk on 2 July 2014. The WER Study was conducted per USEPA's streamlined Water-Effect Ratio Procedure for Dischargers of Copper (EPA-822-R-01-005). Based on the results of the study, the Central Valley Water Board concludes that a dissolved and total recoverable WER of 3.1 is applicable to the Facility's discharge to Sand Creek.

CTR includes hardness dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default USEPA translators were used in this Order. Using the default conversion factors, a WER of 3.1, and a reasonable worst-case measured hardness as described in section IV.C.2.d of this Fact Sheet, the applicable acute

(short-term average) and chronic (4-day average) criteria for the effluent (which is the receiving water at times) are 83 µg/L and 52 µg/L, respectively, as total recoverable

(b) **RPA Results.** The MEC for copper was 75 µg/L. Therefore, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion

(c) **WQBEL's.** Due to no assimilative capacity, dilution credits are not allowed for development of the WQBEL's for copper. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL)] for copper of 40 µg/L and 83 µg/L, respectively, based on the CTR criteria for protection of freshwater aquatic life.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 75 µg/L is greater than the applicable AMEL but less than the applicable MDEL. On 26 April 2016, the Discharger submitted a Copper Testing Program Report in order to summarize copper results and to subsequently recommend activities for fulfillment of its Pollution Prevention Plan. The Discharger compared its copper results to the previous AMEL of 31 µg/L and MDEL of 76 µg/L in amended Order R5-2013-0047-01. Data from the study indicate that at times single results exceed the previous AMEL but never the previous MDEL, and that when sampled more than once a month, the monthly average did not exceed the AMEL. The Copper Testing Program Report concludes that the results do not provide any indication that effluent will exceed final effluent limitations contained in Order R5-2013-0047-01. TSO R5-2013-0048-01 requires submittal of the Alternative Method of Compliance Work Plan if the discharge cannot comply with the final effluent limitations for copper based on the results of the WER Study. Because no Alternative Method of Compliance Work Plan was submitted and based on the results from the Copper Testing Program Report, the Central Valley Water Board rescinded TSO R5-2013-0048-01, determining that the Discharger could comply with limitations. Recent data continue to conform to the results of the Copper Testing Program Report. In addition, the updated copper effluent limitations in this Order are slightly relaxed from revised final effluent limitations in Order R5-2013-0047-01. Therefore, the Discharger is immediately capable of meeting the copper effluent limitations contained in this Order.

iii. **Pathogens**

(a) **WQO.** In a 1992 memorandum, DDW provided an update on general recommendations for appropriate levels of disinfection for the protection of beneficial uses of waters downstream of sewage treatment plant discharges. The recommendations indicate that a 7-day median coliform limitation of 23 MPN/100 mL may be protective of beneficial uses in scenarios where: discharges are to ephemeral streams that have little or no natural flow all or part of the year; there is no nearby habitation; there is limited use of the discharge area; and contact with the effluent is not encouraged. Furthermore, in a letter to the Central Valley Water Board dated 8 April 1999, DDW indicated it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more

than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period.

Habitation downstream of the discharge is sparse and there is limited opportunity for contact with Sand Creek in the vicinity of the discharge. The Facility is prohibited from discharging to Sand Creek during the summer months when upstream flow in the creek is most likely to be low or non-existent. Discharges are only permitted from November 1 through April 30 when dilution flows are more likely and when cooler temperatures will discourage REC-1 and REC-2 uses. The conditions of the discharge are similar to scenarios identified in the scenarios discussed in the 1992 memorandum and the 8 April 1999 letter. Therefore, the DDW recommended effluent limitations of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL more than once in any 30 day period are applicable to the discharge.

(b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under Water Code 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 or 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.

USEPA'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).*" USEPA'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 Sand Creek include 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.** Consistent with guidance from DDW, this Order includes effluent limitations for total coliform organisms of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL, not to be exceeded more than once in a 30-day period. The Discharger has not discharged to Sand Creek in several years, and any discharge to Sand Creek would likely be brief. Thus, consistent with Order R5-2013-0047-01, this Order specifies a 7-day median limitation except when discharge occurs for less than 7 days, at which time the Order specifies a median of all samples collected during the period of discharge. These coliform limitations are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation.

(d) **Plant Performance and Attainability.** The Facility has the ability to disinfect the effluent with an ultraviolet light disinfection system prior to discharging to either Discharge Point 001 or Discharge Point 002. The ultraviolet light disinfection system undergoes routine maintenance in case a disinfected discharge is necessary. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **pH**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters that the *"…pH of water shall not be depressed below 6.5, raised above 8.3.*"

(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.

USEPA'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)." USEPA'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. 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.

Further support for including WQBEL's is based on the effluent data as explained below. The Facility has not discharged to Discharge Point 002 (Sand Creek) since 2001 and is only allowed to discharge to surface water from November through April. Based on 586 samples taken at Monitoring Location EFF-001 (wastewater ponds and cropland) from November 2013 through April 2017 (only during allowable Discharge Point 002 months), the maximum pH reported was 8.44 and the minimum was 6.18. During this time frame, the effluent exceeded the surface water instantaneous maximum effluent limitation three times and exceeded the surface water instantaneous minimum effluent limitation five times.

(c) **WQBEL's.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.3 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** The Facility has not discharged to surface water since the early 2000s. Therefore, the Central Valley Water Board finds that immediate compliance with these limitations is feasible.

v. **Settleable Solids**

(a) **WQO.** For inland surface waters, the Basin Plan states that "[w]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses."

(b) **RPA Results.** The discharge of treated municipal wastewater has a reasonable potential to cause or contribute to an excursion above the Basin Plan's narrative objective for settleable solids.

(c) **WQBEL's.** This Order contains average monthly and average daily effluent limitations for settleable solids. Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities.

(d) **Plant Performance and Attainability.** Review of the Discharger's EFF-001 monitoring data indicates settleable solids have not been detected above the method detection limit of 0.1 mL/L for samples collected July 2013 through November 2017. The Central Valley Water Board, therefore, concludes that immediate compliance with these effluent limitations is feasible.

d. **Basin Plan Salinity Effluent Limitations**

i. **Limitations.** The Basin Plan at page IV-10 includes effluent limitations for discharges to navigable waters. The Basin Plan requires at a minimum, discharges to surface waters, including stream channels, to comply with the following effluent limitations:

(a) The maximum electrical conductivity of a discharge shall not exceed the quality of the source water plus 500 µmhos/cm or 1,000 µmhos/cm, whichever is more stringent;

(b) A chloride content of 175 mg/L; and

(c) A boron content of 1.0 mg/L.

ii. **Data Analysis Results.**

(a) **Electrical Conductivity (EC).** A review of the Discharger's monitoring reports from July 2013 through October 2017 shows an average effluent EC of 802 µmhos/cm, with a range from 686 µmhos/cm to 951 µmhos/cm. The flow-weighted source water EC averaged 513 µmhos/cm, with a range from 467 µmhos/cm to 551 µmhos/cm. These levels do not exceed the Basin Plan effluent limits for EC of source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm.

(b) **Chloride.** Chloride concentrations in the effluent from July 2013 through September 2017 ranged from 36 mg/L to 74 mg/L, with an average of 65 mg/L. These levels do not exceed the Basin Plan effluent limitation for chloride of 175 mg/L.

(c) **Boron.** Boron concentrations in the effluent ranged from 0.096 mg/L to 0.25 mg/L, with an average of 0.14 mg/L. These levels do not exceed the Basin Plan effluent limitation for boron of 1.0 mg/L.

Table F-8. Basin Plan Salinity Effluent Limitations

Parameter	Basin Plan Effluent Limitations	Effluent Results	
		Average	Maximum
Electrical Conductivity (µmhos/cm)	1,000[1]	802	951
Chloride (mg/L)	175	65	74
Boron (mg/L)	1.0	0.14	0.25

[1] The maximum electrical conductivity of a discharge shall not exceed the water quality of the source water plus 500 µmhos/cm or 1,000 µmhos/cm, whichever is more stringent

iii. **WQBEL's.** Order R5-2013-0047-01 contained an EC effluent limitation for the 12-month rolling average effluent EC to not exceed the 12-month rolling average source EC plus 500 µmhos/cm or 1,000 µmhos/cm, whichever is more stringent. This EC limitation is being retained in this Order. For chloride and boron, Order R5-2013-0047-01 contained maximum daily effluent limitations of 175 mg/L and 1.0 mg/L, respectively. The chloride and boron basin plan effluent limitations are retained in this Order but applied as average monthly effluent limitations.

iv. **Plant Performance and Attainability.** Review of the Discharger's monitoring data indicates a maximum effluent EC, chloride, and boron of 951 µmhos/cm, 74 mg/L, and 0.24 mg/L, respectively, and none of these exceeded the applicable effluent limitations. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBEL's for un-ionized ammonia (as N), total recoverable copper, total coliform organisms, pH, chloride, electrical conductivity, boron, and settleable solids. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.4.b through f, 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. **Basin Plan Objectives.** For non-priority pollutant WQBELs based on site-specific numeric Basin Plan objectives (e.g., un-ionized ammonia), the effluent limitations are applied directly as the ECA as an AWEL, and an AMEL is calculated using statistical multipliers based on a 95th percentile.

d. **Basin Plan Limits.** The Basin Plan includes effluent limitations for discharges to surface water for electrical conductivity, chloride, and boron. These limitations are included as either a 12-month rolling average limitation or average monthly limitation in this Order. The statistical procedures included in the SIP and TSD are for calculating WQBELs from water quality objectives/criteria. Therefore, since the Basin Plan specifies limitations, not objectives, for these constituents, it is impracticable to statistically develop other limitations.

e. **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. LTA_{acute} and $LTA_{chronic}$) 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.

f. **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 $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point 002

Table F-9. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	40	–	83	–	–
pH	std units	–	–	–	6.5	8.3
Chloride	mg/L	175	–	–	–	–
Electrical Conductivity @ 25°C	µmhos/cm	–	–	–	–	[1]
Boron	mg/L	1.0	–	–	–	–
Settleable Solids	mL/L	0.1	–	0.5	–	–
Un-ionized Ammonia (as N)	mg/L	0.014	0.025	–	–	–
	lbs/day	0.23	0.42	–	–	–

[1] The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the EC shall be a flow-weighted average of all sources.

a. **Total Coliform.** Effluent total coliform organisms shall not exceed:

i. 23 most probable number (MPN) per 100 mL, as a 7-day median. If discharge occurs less than 7-days, median of all samples collected during the period of discharge; nor

ii. 240 MPN/100 mL, instantaneous maximum

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 page III-6). 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. USEPA'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).*" The Discharger has not conducted acute toxicity testing under Order R5-2013-0047-01, partially due to a lack of discharge to Sand Creek. Although the discharge has been consistently in compliance with the acute effluent limitations from previous permit iterations, 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.

USEPA 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:

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 III-6.) The Discharger conducted one chronic WET test during the term of Order R5-2013-0047-01 on 13 November 2017. The chronic WET test indicated 1 TUc for survival and growth of *Pimephales promelas*, 1 TUc for survival and reproduction of *Ceriodaphnia dubia*, and 4 TUc for growth of *Selenastrum capricornutum.* During the permit term, discharge to Sand Creek did not occur, and the groundwater conditions did not warrant use of the UV disinfection system. Thus, the chronic WET testing was conducted on undisinfected wastewater, which is not representative of wastewater that may be discharged to Sand Creek. Therefore, representative chronic WET data are not available to determine if the discharge has reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET testing at Monitoring Location EFF-002 twice a year for demonstration of compliance with the narrative toxicity objective. If by 1 November 2020 no discharge has occurred to Sand Creek, the Monitoring and Reporting Program requires the Discharger to conduct two chronic WET testing events on disinfected wastewater in order to simulate the water quality of a potential discharge to Sand Creek. This will provide the Regional Water Board with adequate chronic WET data to determine if disinfected discharge from the Facility has reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative objective.

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 have been established in this Order for un-ionized ammonia because ammonia is an oxygen-demanding substance. Except for un-ionized ammonia, mass-based effluent limitations are not included in this Order for pollutant parameters for which effluent limitations are based on water quality objectives or criteria that are concentration-based.

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 total recoverable copper, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with Section 1.4 of the SIP. For settleable solids, average weekly effluent limitations have been replaced with maximum daily effluent limitations as explained in section IV.C.3.c.v of this Fact Sheet. For chloride and boron, only average monthly effluent limitations are included. This is because most limitations are derived from water quality objectives/criteria using statistical procedures (e.g., SIP and TSD). The effluent limitations for chloride and boron are Basin Plan limitations, not water quality objectives/criteria. Thus, it is impracticable to statistically develop other limitations. Furthermore for pH and total coliform organisms, 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 CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

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 boron, chloride, copper, biochemical oxygen demand (BOD), and total suspended solids (TSS). The effluent limitations for these pollutants are less stringent than those in Order R5-2013-0047-01. The removal and/or relaxation of effluent limitations are 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 304(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.

   Sand Creek is considered an attainment water for boron, chloride, copper, BOD, and TSS because the receiving water is not listed as impaired on the 303(d) list for these constituents.[13] As discussed in section IV.D.4, below, removal and/or relaxation of the effluent limits complies with federal and state antidegradation requirements. Thus, relaxation of the concentration-based effluent limitations for boron, chloride, and copper, removal of the maximum daily concentration-based

[13] "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.

effluent limitations for BOD and TSS, and the removal of the mass-based effluent limitations for BOD and TSS from Order R5-2013-0047-01 meet the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

As described further in section IV.C.3.c of this Fact Sheet, updated information that was not available at the time Order R5-2013-0047-01 was issued indicates that less stringent effluent limitations for copper satisfy requirements in CWA section 402(o)(2). The updated information that supports the relaxation of effluent limitations for copper includes the following:

i. **Copper.** As described in section IV.C.2.d or this Fact Sheet, copper is a hardness-dependent metal. Based on updated effluent and receiving water hardness data from May 2014 through July 2017, this Order includes less stringent effluent limitations for copper.

4. Antidegradation Policies

a. **Surface Water.** Order R5-2013-0047-01 established mass-based effluent limitations for BOD and TSS. 40 CFR 122.45(f)(1)(ii) states that mass-based effluent limitations are not required when applicable standards and limitations are expressed in terms of other units of measurement. The numerical effluent limitations for these pollutants established in this Order are based on technology-based standards in 40 CFR section 133.102, which are expressed in terms of concentration and percent removal. Pursuant to 40 CFR 122.45(f)(1)(ii), expressing the effluent limitations in terms of concentration is in accordance with Federal Regulations. This Order does not authorize an increase in flow or concentrations of effluent BOD and TSS limitations; therefore, the pollutant load authorized by this Order will be no greater than that of Order R5-2013-0047-01. Consequently, discontinuing the maximum daily concentration-based effluent limitations and the mass-based effluent limitations for BOD and TSS is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16.

For chloride and boron, replacing the maximum daily effluent limitations in Order R5-2013-0047-01 with average monthly limitations is not expected to result in a decrease in the level of treatment or control; thus, the impact on existing water quality will be insignificant. The same goes for the slightly relaxed copper effluent limitations.

Because the water quality impacts authorized by this Order compared to the previous Order are not expected to be significant, if any, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with the WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted surface water 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 1) will result in the use of

best practicable treatment or control of the discharge, 2) is consistent with the maximum benefit to the people of the State, 3) will not unreasonably affect present and anticipated beneficial use of Sand Creek, and 4) will not result in water quality less than prescribed in Water Board plans and policies.

b. **Groundwater**. The State Anti-degradation Policy prohibits degradation of groundwater unless it has been shown that:

i. The degradation is consistent with the maximum benefit to the people of the state;

ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;

iii. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives; and

iv. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

Degradation of groundwater by some of the typical waste constituents associated with discharges from a municipal wastewater utility, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. This technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.

This Order establishes effluent and groundwater limitations for the Facility that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater pollutant concentrations that exceed water quality objectives set forth in the Basin Plan.

However, the solids management practices at the Facility are at times inconsistent with the Antidegradation Policy because utilizing unlined surfaces for drying and storage of sludge may threaten beneficial uses of the underlying groundwater and because the Central Valley Water Board does not consider current sludge practices to be BPTC. Therefore, this Order requires the Discharge to submit a Solids Management and Storage Work Plan that must propose a time schedule for how the Discharger will maintain compliance with Special Provision VI.C.5.a.i of this Order to preclude infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations.

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, TSS, and pH. Restrictions on BOD, TSS, and pH 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. For pH, both technology-based effluent limitations and water quality-based effluent limitations are

applicable. The more stringent of these effluent limitations are implemented by this Order 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 WQBEL's for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to 30 May, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to 30 May, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations
Discharge Point 002

Table F-10. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
BOD_5	mg/L	30	45	–	–	–	CFR
TSS	mg/L	30	45	–	–	–	CFR
pH	standard units	–	–	–	6.5	8.3	BPO
Copper, Total Recoverable	µg/L	40	–	83	–	–	CTR
Total Coliform Organisms	MPN/100 mL	–	23[2]	240[3]	–	–	DDW
Chloride	mg/L	175	–	–	–	–	BPL
EC	µmhos/cm	[4]	–	–	–	–	BPL
Boron	mg/L	1.0	–	–	–	–	BPL
Un-ionized Ammonia (as N)	mg/L	0.014	0.025	–	–	–	BPO
	lbs/day	0.23	0.42	–	–	–	
Settleable Solids	mL/L	0.1	–	0.5	–	–	BPO
Acute Toxicity	% survival	–	–	[5]	–	–	BPO

[1] CFR – Based on secondary treatment standards contained in 40 CFR part 133.
BPO – Based on water quality objectives contained in the Basin Plan.
BPL – Effluent limitations contained in the Basin Plan
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
DDW – Based on recommendations from State Water Resources Control Board, Division of Drinking Water.

[2] Applied as a 7-day median effluent limitation. If discharge occurs for less than 7 days, median of all samples collected during the period of discharge.

[3] Not to be exceeded more than once in any 30-day period.

[4] The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the EC shall be a flow-weighted average of all sources.

[5] 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%

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications

1. Treated wastewater discharged for reclamation is regulated under this Order to protect the beneficial uses of groundwater and to meet the requirements of CCR, Title 22.

2. **Salinity.** The Basin Plan identifies that the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including the following limits:

   a. The maximum EC in the discharge shall not exceed the EC of the source water plus 500 µmhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.

   b. Discharges to areas that may recharge to good quality groundwater, shall not exceed an EC of 1,000 µmhos/cm, a chloride of 175 mg/L, or a boron content of 1.0 mg/L.

3. **TSS and BOD_5.** The Basin Plan establishes that secondary treatment should remove 85 percent or reduce to 30 mg/L, whichever is more restrictive, of both BOD_5 and TSS.

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 un-ionized ammonia, bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable material, 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, agricultural supply, water contact recreation, and wildlife habitat.

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.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. **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) or, under certain circumstances, may be allowed to participate in an approved Toxicity Evaluation Study (TES) in lieu of conducting a site-specific 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 TRE and/or TES

c. **Salt and Nitrate Management.** This provision allows the Central Valley Water Board to reopen this Order to incorporate salt and nitrate requirements in the event the Basin Plan is amended through the CV-SALTS initiative for inclusion of salt and nitrate management strategies.

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 page III-6.) Adequate WET data is not available 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.

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 at Monitoring Location EFF-002, 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 is less than 50%. 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.

If the chronic toxicity is > 1 TUc (as 100/NOEC) **AND** the percent effect is ≤ 50 percent at 100 percent effluent, as the median of three consecutive bioassays within a 6 week period, the Discharger may participate in an approved TES in lieu of a TRE.

See the WET Monitoring Flow Chart (Figure F-2), below, for further clarification of the decision points for determining the need for TES/TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

i. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.

ii. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.

iii. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.

iv. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.

v. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.

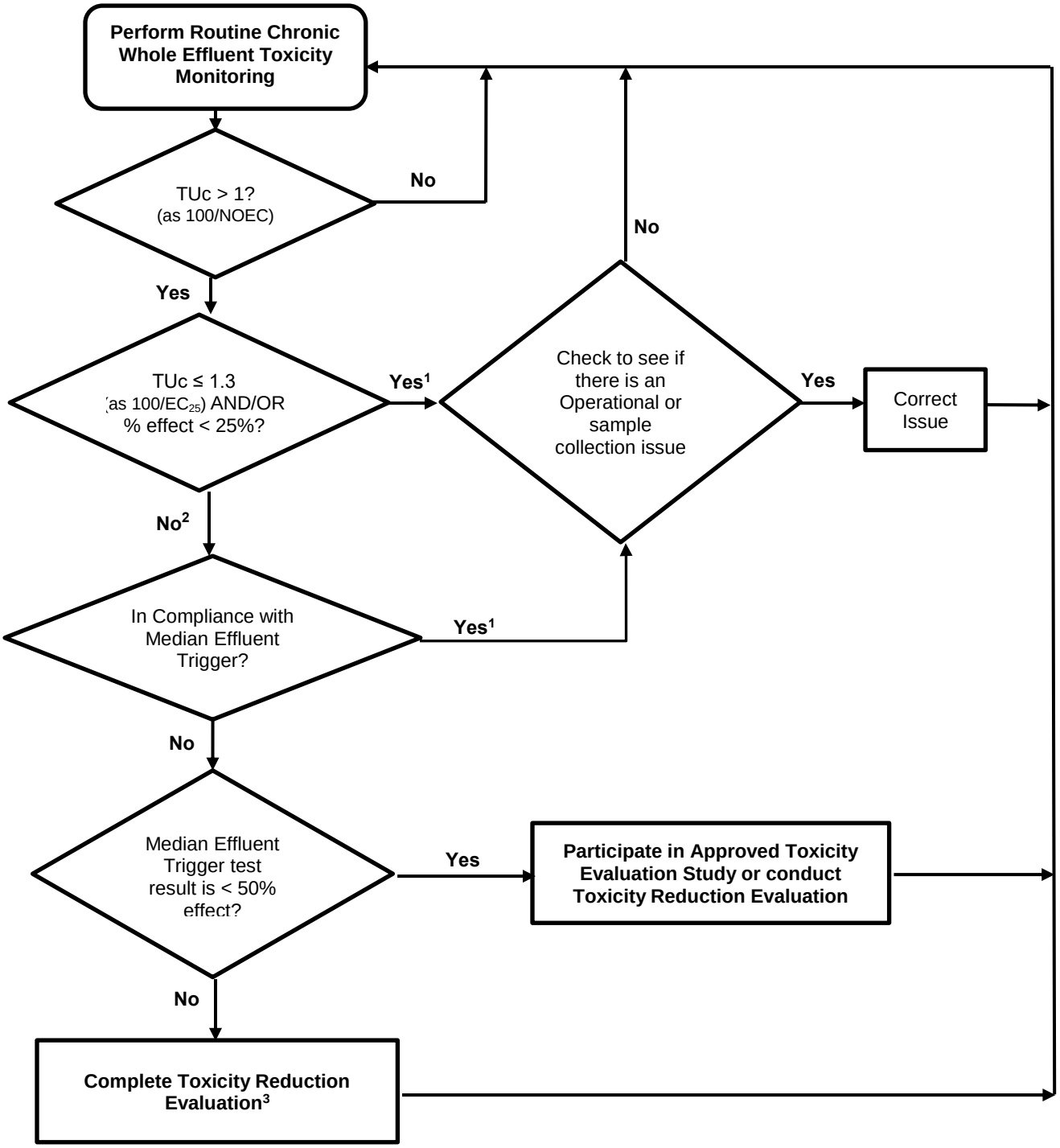
vi. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.

vii. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.

viii. 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.

ix. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

Figure F-2
WET Accelerated Monitoring Flow Chart



[1] The Discharger may participate in an approved TES if the discharge has exceeded the chronic toxicity monitoring trigger twice or more in the past 12 month period and the cause is not identified and/or addressed.
[2] 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.
[3] The Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

b. **Solids Management and Storage Work Plan.** This Order requires the Discharger to prepare and submit a work plan to describe how the Discharger will alter its solids handling procedures in order to preclude infiltration of waste constituents in a mass or concentration that will violate groundwater limitations. The work plan shall consider options, such as lining sludge drying beds or providing dewatering equipment. Ultimately, the work plan must propose a plan, including a time schedule with tasks to implement the proposal.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** An approved Salinity Evaluation and Minimization Plan 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 Sand Creek.

4. Construction, Operation, and Maintenance Specifications

a. **Ultraviolet (UV) Disinfection System Operating Specifications.** To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms 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 UV disinfection operating specifications demonstrates compliance with the limitations recommended by DDW.

b. **Treated Wastewater Pond Operating Requirements.** The operation and maintenance requirements for the disposal/storage ponds are necessary to prevent nuisance conditions. The specifications included in this Order are generally retained from Order R5-2013-0047-01.

c. **Groundwater Monitoring Network Maintenance Requirements.** The groundwater network maintenance requirements are necessary to ensure monitoring and reporting requirements of this Order can consistently be fulfilled.

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.

b. **Collection System.** 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 Monitoring and Reporting Program for the General Order through Order WQ 2013-0058-EXEC

on 6 August 2013. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one 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 (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

The General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive, and therefore, more stringent than the requirements under federal standard provisions. The Discharger and public agencies that are discharging wastewater into the facility's collection system were required to obtain enrollment for regulation under the General Order by 1 December 2006.

c. **Resource Recovery from Anaerobically Digestible Material.** Some POTWs choose to accept organic material such as food waste, fats, oils, and grease into their anaerobic digesters for co-digestion to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the collection system, which could cause sanitary sewer overflows. The California Department of Resources Recycling and Recovery has proposed an exemption from requiring Process Facility/Transfer Station permits where this activity is regulated under waste discharge requirements or NPDES permits. The proposed exemption is restricted to anaerobically digestible material that has been prescreened, slurried, and processed/conveyed in a closed system to be co-digested with regular POTW sludge. The proposed exemption requires that a POTW develop Standard Operating Procedures for the proper handling, processing, tracking, and management of the anaerobically digestible material before it is received by the POTW.

Standard Operating Procedures are required for POTWs that accept hauled food waste, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt this activity from separate and redundant permitting programs. If the POTW does not accept food waste, fats, oil, or grease for resource recovery purposes, it is not required to develop and implement Standard Operating Procedures.

The Discharger currently does not accept hauled-in ADM for direct injection into an anaerobic digester for co-digestion. However, if the Discharger proposes to receive hauled-in ADM for injection into an anaerobic digester for co-digestion, this provision requires the Discharger to notify the Central Valley Water Board and develop and implement SOP's for this activity prior to initiation of the hauling. The requirements of the SOP's are discussed in Section VI.C.5.c.

6. Other Special Provisions

a. **Increase in Average Dry Weather Discharge Flow Rate.** The design flow rate for treatment at the Facility is 2.0 mgd. However, a hydraulic and nitrogen balance included in a 30 July 2009, Recycled Water Engineering Report submitted by the Discharger indicated that at a flow rate of 2.0 mgd, the Discharger would not have adequate disposal capacity without discharging to Sand Creek outside the authorized discharge period. The hydraulic and nitrogen balance indicated that the Discharger is capable of discharging up to 1.5 mgd within the permitted discharge period. Upon approval by the Executive Officer of an engineering report by the Discharger demonstrating (1) the capability to discharge up to 2.0 mgd without

discharging outside of the allowable Sand Creek discharge period and/or (2) increased capacity of the treated wastewater ponds or cropland to handle the increased flow, then the average dry weather discharge flow rate shall not exceed 2.0 mgd.

7. Compliance Schedules – Not Applicable

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 (continuously), pH (daily), BOD_5 (twice weekly), TSS (twice weekly), and electrical conductivity (monthly) have been retained from Order R5-2013-0047-01. Influent monitoring for settleable solids has been removed.

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), pH (daily), BOD_5 (twice weekly), TSS (twice weekly), copper (monthly), un-ionized ammonia (weekly), temperature (daily), total coliform organisms (daily), chloride (monthly), and boron (monthly) have been retained from Order R5-2013-0047-01 to determine compliance with effluent limitations for these parameters. Monitoring for dissolved oxygen has been added at weekly frequency. The EC monitoring frequency and sample type have changed from a daily grab sample to 2/week composite. Settleable solids monitoring frequency has been relaxed from daily to weekly. Monitoring frequencies for nitrate, nitrite, total Kjeldahl nitrogen, and total nitrogen have been relaxed from weekly to monthly.
3. 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. Effluent monitoring frequencies for priority pollutants and other constituents of concern have changed from yearly to twice seasonally for the allowed discharge periods of the 2020-2021 and 2021-2022 seasons.
4. 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 dissolved oxygen and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II)

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Semi-annual 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Semi-annual 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. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

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 factors considered in determining best practicable treatment or control. 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.

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 indicate the presence of constituents that may degrade groundwater and surface water.

E. Other Monitoring Requirements

1. Biosolids Monitoring

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. Monitoring frequencies for total dissolved solids and standard minerals have changed from an annual frequency to a frequency of once every three years to coincide with monitoring required by DDW.

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.

4. Pond Monitoring

Treated wastewater pond monitoring is required to ensure proper operation of the storage pond. Weekly monitoring for dissolved oxygen and qualitative observations, and daily monitoring for flow have been retained from Order R5-2013-0047-01. Freeboard observations have been relaxed to weekly.

5. Recycled Water Monitoring

Monitoring of the effluent discharged to the cropland is required to ensure that the discharge to the use area complies with the Recycled Water Specifications in section IV.C.1 of this Order. Monitoring frequencies for pH, temperature, and settleable solids have been reduced from daily to weekly. Monitoring frequencies for BOD_5 and TSS have been reduced from twice weekly to weekly. Monitoring frequencies for total ammonia, un-ionized ammonia, nitrate, nitrite, total Kjeldahl nitrogen, and total nitrogen have been reduced from weekly to monthly. Monitoring frequencies for and sample types for flow (continuous), EC (daily), total coliform organisms (daily), total dissolved solids (twice monthly), chloride (monthly), boron (monthly), total organic carbon (quarterly), oil and grease (semi-annually), and MBAS (semi-annually) have been retained from Order R5-2013-0047-01.

6. 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 Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment 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 posting a Notice of Public Hearing at the Facility, at the nearest city hall or county courthouse, and on the Central Valley Water Board's website as well as publication in *Dinuba Sentinel*.

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 **19 March 2018**.

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> April 2018
Time:	8:30 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region 1685 "E" Street Fresno, CA 93706

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.

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 (559) 445-5116.

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 Nicolette Dentoni at (559) 444-2505.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org[1]	Org. Only	Basin Plan	MCL[1]	Reasonable Potential
Ammonia, Total (as N)	mg/L	0.74 DNQ[2]	0.18 DNQ	1.59	4.71[3]	1.59[3]	–	–	–	–	Yes[4]
Ammonia, unionized (as N)	mg/L	0.018 DNQ[2]	NA	0.025	–	–	–	–	0.025	–	Yes[4]
Bis(2-ethylhexyl)phthalate	µg/L	5.3	1.4 DNQ	5.9	–	–	1.8	5.9	–	4	No
Boron	mg/L	0.25	NA	1.0	–	–	–	–	1.0	–	No[5]
Chloride	mg/L	74	12	175	–	–	–	–	175	250	No[5]
Copper, Total Recoverable	µg/L	75	9.3	52	83	52	1,300	–	–	1,000	Yes
Electrical Conductivity @ 25°C	µmhos/cm	951	240	source + 500 or 1,000	–	–	–	–	source + 500 or 1,000	900	No[5]
Mercury	µg/L	0.077 DNQ	0.00502	0.051	–	–	–	0.051	–	2	No
Nitrate (as N)	mg/L	37	3.3	–	–	–	–	–	–	10	No
pH	standard units	6.2-9.3	6.9	6.5-8.3	–	–	–	–	6.5-8.3	–	Yes
Selenium	µg/L	15 DNQ	5.5 DNQ	5.0	–	5.0	–	–	–	50	No

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
DNQ = Detected, not Quantified

Footnotes:
(1) Municipal and Domestic Supply is not a Beneficial Use of Sand creek; therefore, Water & Org and MCL's do not apply.
(2) Summarized from only data collected during the allowed winter discharge period.
(3) USEPA National Recommended Ambient Water Quality Criteria
(4) Reasonable potential was established based on the nature of the wastewater (See Section IV.C.3.c of the Fact Sheet (Attachment F) for detailed discussion). Thus, effluent limitations are included.
(5) Effluent limitations were included despite the finding of no reasonable potential. See Section IV.C.3.c of the Fact Sheet (Attachment F) for detailed discussion.

ATTACHMENT H – CALCULATION OF WQBEL'S

Aquatic Life WQBEL's Calculations															
Parameter	Units	Criteria		B	CV Eff [2]	Dilution Factors		Aquatic Life Calculations						Final Effluent Limitations	
		CMC	CCC			CMC	CCC	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	MDEL Multiplier$_{99}$	AMEL[3]	MDEL[4]
Copper, Total Recoverable	µg/L	83[1]	52[1]	9.3	0.63	0	0	0.31	26	0.51	27	1.58	3.25	40	83

1 Adjusted by the site-specific Water Effects Ratio of 3.1
2 Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.
3 Average Monthly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 95th percentile occurrence probability.
4 Maximum Daily Effluent Limitations are calculated according to Section 1.4 of the SIP using a 99th percentile occurrence probability.

ATTACHMENT I – RECYCLED WATER SIGNAGE

RECYCLED WATER SIGNAGE

WASTE DISCHARGE REQUIREMENTS ORDER R5-2018-XXXX
FOR
CUTLER-OROSI JOINT POWERS WASTEWATER AUTHORITY
WASTEWATER TREATMENT FACILITY
TULARE COUNTY