CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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Regional Board Website (https://www.waterboards.ca.gov/centralvalley)

WASTE DISCHARGE REQUIREMENTS
R5-2025-0059

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	Adopted
Program:	Non-15 Discharge to Land
Region 5 Office:	Sacramento (Rancho Cordova)
Discharger:	City of Modesto
Facility:	City of Modesto Regional Water Recycling Facility – Sutter Campus City of Modesto Regional Water Recycling Facility – Jennings Campus
Addresses:	1221 Sutter Avenue, Modesto, CA 95351 7007 Jennings Road, Modesto, CA 95353
County:	Stanislaus
Parcel Nos.:	Presented on Table 1
CIWQS Place ID:	273037
GeoTracker ID:	WDR100033406
Prior Order(s):	WDRs Order 94-030 WDRs Order 99-112 MRP Order 99-112-01

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 12 December 2025.

Date: 2025.12.30 09:34:00 -08'00'

Water Boards

PATRICK PULUPA, Executive Officer

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GLOSSARY

µg/L	microgram per liter
µmhos/cm	micromho per centimeter
AGR	agricultural supply (Basin Plan beneficial use designation)
AMSL	above mean sea level
Antidegradation Policy	Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16
AOC	Area of Contribution
APN	assessor's parcel number
Basin Plan	Plan for the Sacramento River and San Joaquin River Basins
bgs	below ground surface
BNR	biological nutrient removal
BOD_5	five-day biochemical oxygen demand
Can Seg	food processing industries that contribute wastewater to the treatment system. Industrial wastewater from these processes are referred to as Can Seg Process Water.
Can Seg Line	cannery segregation pipeline
Central Valley Water Board	Central Valley Regional Water Quality Control Board
CEQA	California Environmental Quality Act, Public Resources Code section 21000 et seq.
C.F.R.	Code of Federal Regulations
CIWQS	California Integrated Water Quality System
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
DDW	State Water Resources Control Board, Division of Drinking Water

DEIR	Draft Environmental Impact Report
Discharger	City of Modesto
DO	dissolved oxygen
EC	electrical conductivity at 25 C°
EIR	Environmental Impact Report
Facility	City of Modesto Regional Recycling Water Facility
FDS	fixed dissolved solids
FEMA	Federal Emergency Management Agency
FFR	Fixed Film Reactor
ft	feet
in/mo	inches per month
IS/MND	Initial Study/Mitigated Negative Declaration
Jennings Campus	Jennings Road Treatment Plant
LAA	land application area
lb/ac/day	pound per acre per day
MCL	maximum contaminant level
MDB&M	Mount Diablo Base and Meridian
mg/kg	milligram per kilogram
mg/L	milligram per liter
MG	million gallons
MGD	millions of gallons per day
MPN/100 ml	most probable number per 100 milliliters (wet sample)
MRP	Monitoring and Reporting Program
MUN	municipal and domestic supply (Basin Plan beneficial use designation)

MW	monitoring well
MZIP	Management Zone Implementation Plan
NA	not available or not applicable
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
P&O Study	Prioritization and Optimization Study
PAN	Plant available nitrogen
Part 503	40 C.F.R/, title 40, part 503, Standards for the Use or Disposal of Sewage Sludge
Recycled Water Policy	Policy for Water Quality Control for Recycled Water, State Water Board Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057
RWD	Report of Waste Discharge
SERC	State Emergency Response Commission
SOP	standard operating procedures
SSO General Order	Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board Order No. 2006-0003-DWQ
State Water Board	California State Water Resources Control Board
s.u.	standard units
Sutter Campus	Sutter Avenue Treatment Plant
TDS	total dissolved solids
Title 22	Title 22 of the California Code of Regulations
Title 22 Report	Title 22 Engineering Report
TKN	total Kjeldahl nitrogen
USC	United States Code
U.S. EPA	United States Environmental Protection Agency

UV	ultraviolet
WAS	waste activated sludge
WDRs	Waste Discharge Requirements
WQO	water quality objective

FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) finds that:

Introduction

1. The City of Modesto Water Recycling Facility – Sutter Campus/City of Modesto Water Recycling Facility – Jennings Campus (Facility), owned and operated by the City of Modesto (Discharger), is an existing wastewater treatment plant located in Stanislaus County (Attachment A). On 2 November 2015, the Discharger submitted a Report of Waste Discharge (RWD) that describes the Facility's current operations, wastewater treatment processes, reuse of treated wastewater (recycled water), and biosolids management. The Discharger submitted revisions, additions, and updates to the RWD on 12 January 2018, 3 December 2019, and 2 March 2023.

2. The City of Modesto is responsible for compliance with these WDRs.

3. The Facility consists of three separate physical locations. The headworks, primary treatment, and solids treatment are located at the Sutter Campus; secondary and tertiary treatment with disinfection occurs at the Jennings Campus; and land application of treated effluent, cannery process industrial wastewater (Can Seg process water) and biosolids application occur at the Modesto Ranch, as shown on Attachments B, C, and D, respectively.

4. The Facility's Assessor's Parcel Numbers (APNs) are shown below.

Table 1. Facility APNs

Facility Name	Address	Mount Diablo Base & Meridian (MDB&M)	APNs
Sutter Campus	1221 Sutter Avenue	Sections: 5, 6, 7, 8 Township: 4 South Range: 9 East	370-370-001
Jennings Campus	7007 Jennings Road	Sections: 32, 33, 34 Township: 4 South Range: 8 East	017-061-018 017-061-022 017-061-010 017-062-020
		Sections: 3, 4, 5 Township: 5 South Range: 8 East	022-001-008 022-001-002 022-001-004 022-001-007 022-001-009 022-001-010

Facility Name	Address	Mount Diablo Base & Meridian (MDB&M)	APNs
Modesto Ranch	7007 Jennings Road	Sections: 9, 10, 11, 13, 14, 15, 16, 22, 23, 24 Township: 5 South Range: 8 East	022-001-002 022-001-004 022-001-005 022-003-002 022-004-001 022-004-002 022-004-003 058-010-001

5. This Order regulates the Facility's discharges of waste to land, which includes wastewater to the pond system and land application areas, and the land application of biosolids. The Facility discharges tertiary treated effluent to surface waters under separate waste discharge requirements (WDRs) orders. The Facility's discharge to the Delta-Mendota Canal is regulated under WDRs Order R5-2022-0034 / National Pollutant Discharge Elimination System (NPDES) No. CA0085316. The Facility's pretreatment program and discharge to the San Joaquin River is regulated under General WDRs Order R5-2017-0085 / NPDES Permit No. CAG585001, *WDRs for Municipal Wastewater Dischargers that Meet Objectives/Criteria at the Point of Discharge to Surface Water*, pursuant to Notice of Applicability (NOA) R5-2017-0085-020. The pretreatment programs for individual industrial discharges are permitted by the Discharger, with reporting to the Central Valley Water Board per 40 Code of Federal Regulations (C.F.R.) part 403.12. This Order does not authorize or otherwise regulate wastewater discharges to surface water.

6. The Facility's discharges to land were previously regulated under WDRs Order 99-112, adopted 28 July 1999, MRP Order 99-112 (Rev.1), revised in 2018, and WDRs Order 94-030, adopted 28 January 1994, for biosolids. This Order rescinds and replaces Orders 99-112 and 94-030, combining the regulation of land-applied wastewater and biosolids and updating various aspects of the prior orders.

7. The following materials are attached and incorporated as part of this Order:

   Attachment A – Site Location Map

   Attachment B – Sutter Campus Site Features Map

   Attachment C – Jennings Campus Site Features Map

   Attachment D – Modesto Ranch Site Features Map

   Attachment E – Wastewater Flow Schematic

   Attachment F – Groundwater Monitoring Well Location Map

   Attachment G - Recycled Water Symbol

Attachment H - Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

Information Sheet

Standard Provisions and Reporting Requirements (SPRRs) dated 1 March 1991.

8. **Monitoring and Reporting Program Order (MRP) R5-2025-0059** is also attached. This MRP Order constitutes a separate, enforceable order, which requires monitoring and reporting for discharges regulated under these WDRs. The Discharger shall comply with the MRP and any subsequent revisions thereto.

Existing Facility and Discharge

9. The Facility serves residences, commercial businesses, and industries within Modesto city limits, the North Ceres Service Area, the Empire Sanitary District, and isolated unincorporated Stanislaus County lands that are surrounded by incorporated City parcels, as described in the RWD.

10. The Facility receives municipal wastewater from three separate service areas, served by separate municipal collection systems. Each of the collection systems are regulated under State Water Resources Control Board (State Water Board) Order WQ 2022-0103-DWQ, *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems* (SSO General Order).

11. The Facility consists of three major components: the Sutter Campus, the Jennings Campus, and the Modesto Ranch. An overview of the treatment system is provided below. Additional details are provided in each site-specific section.

    a. **Sutter Campus.** Influent to the Facility enters the Sutter Campus (Attachment B) for screening and solids removal. The screened wastewater is then directed to the Jennings Campus for further treatment. Solids removed from the wastewater are treated with anaerobic digestion and then dried in on-site drying beds and land applied at the Modesto Ranch.

    b. **Jennings Campus.** Wastewater at the Jennings Campus is treated by two treatment trains: (1) the Secondary Effluent Treatment System, which treats the wastewater to secondary undisinfected standards for land application, and (2) the Biological Nutrient Removal (BNR)/Tertiary Effluent Treatment System, which treats the wastewater to disinfected tertiary standards for discharges to surface waters under an NPDES permit. Treated wastewater from the Secondary Effluent Treatment System is sent to a pond system for storage prior to use as irrigation water for the Modesto Ranch. The Jennings Campus also mechanically dries solids from pond dredging on-site prior to land application on the Modesto Ranch (Attachment C).

c. **Modesto Ranch.** Treated wastewater from the Secondary Effluent Treatment System at the Jennings Campus is used for irrigation at the Modesto Ranch, which consists of 2,331 acres of cropped land application areas (LAAs). Modesto Ranch also receives biosolids from the Sutter and Jennings Campuses, which are land applied for use as a soil amendment (Attachment D).

12. The Facility also accepts industrial wastewater from food processing industries, referred to as Cannery Segregation process wastewater (Can Seg process water). The Can Seg process water enters the Sutter Campus through the Can Seg line and is either commingled with the domestic wastewater and directed through Sutter Campus and then to the Jennings Campus, or during periods of high Can Seg process water flows, Can Seg process water is sent directly to the Modesto Ranch, where it is blended with treated wastewater from the Jennings Campus Secondary Effluent Treatment System, and land applied at the Modesto Ranch (Attachment E).

13. The City of Modesto's water supply is from Modesto Irrigation District (MID) surface water and groundwater wells.

14. Water supply quality to users within the City's water service area is monitored through sampling of the groundwater supply wells and MID supply. Table 2 provides a summary of source water quality, averaged for 2013 through 2019. TDS and EC are based on 27 and 26 data points respectively, pH is based on 5 data points, and the other parameters are based on 6 data points. MDL is "method detection limit". Acronyms used in the table and throughout the Order include:

EC = electrical conductivity
mg/L = milligrams per liter
s.u. = standard units
TDS = total dissolved solids
µg/L = micrograms per liter
µmhos/cm = microohms per centimeter

Table 2. Source Water Quality

Parameter	Units	Average
TDS	mg/L	140
EC	µmhos/cm	232
Chloride	mg/L	21
Sodium	mg/L	20
Calcium	mg/L	26
Iron	µg/L	22

Parameter	Units	Average
Magnesium	mg/L	5.0
Potassium	mg/L	1.6
Manganese	µg/L	< MDL of 0.35
pH	s.u.	7.6

Sutter Campus

15. The Sutter Campus has four separate influent trunks (the West trunk, Sutter trunk, River trunk, and Can Seg Line) that convey domestic and industrial wastewater to the plant. Treatment at the Sutter Campus includes influent screening, grit removal, primary clarification, and anaerobic biosolids digestion and drying. Solids from the bar screens and grit tanks at the Sutter Campus are hauled offsite for disposal at a regulated facility.

16. Influent flow rates to the Sutter Campus are measured at monitoring point INF-001, downstream of screening and grit tanks (see Attachment E). These flows include influent from the Can Seg Line (location 2-015) during the non-canning season (for details on Can Seg process water during the canning season, see findings beginning with Finding 35). Average daily flow rates range between 15 to 34 million gallons per day (MGD) depending on the time of year. Lower flow rates to the Sutter Campus occur when flows in the Can Seg Line are sent from the Sutter Campus directly to the Modesto Ranch. Peak wet weather flowrate is 73 MGD with seasonal Can Seg process water flow accounting for approximately 1.8 MGD thereof. Influent annual flow volumes from all trunks are summarized below. (Note that the influent volumes of wastewater shown below are discharged to either surface water under NPDES permits or to land regulated by this Order.)

Table 3. Influent Flow Volumes

Monitoring Year	Total Annual Volume Million Gallons (MG)
2019	6,700
2020	6,800
2021	6,900
2022	7,480
2023	7,654

17. The annual average inflow and infiltration to the Discharger's influent flows were estimated in the Discharger's 2016 Collection System Master Plan (Carollo, 2016) as approximately two percent of the total flows. As such, inflow and infiltration do not have a significant impact on the overall influent rates.

18. Influent wastewater quality samples are collected from sample location INF-001. As shown on Attachment E, samples from INF-001 represent the quality of influent which includes domestic wastewater and Can Seg process water when the Can Seg process water is directed through the Sutter Campus and Jennings Campus (during periods of low flows from the Can Seg industries or off-season). Influent wastewater quality data for select constituents are summarized below. Average concentrations are shown on Table 4 for all data collected between monitoring years 2019 through 2023. Acronyms in the table and used throughout the Order are defined as:

BOD_5 – five-day biochemical oxygen demand
TKN – total Kjeldahl nitrogen
NE – not established

Water Quality Objectives (WQOs) are based on:

EC, TDS, chloride, ammonia, iron, and manganese – Secondary Maximum Contaminant Level (MCL)
Sodium – Agricultural Water Quality Goal
Nitrate as Nitrogen – Primary MCL
Ammonia – USEPA Health Advisory

WQOs presented in data tables through the Order are provided solely for comparison purposes. Their inclusion is intended to offer context for evaluating constituent concentrations in the effluent or other monitoring data. However, the inclusion of WQOs in these tables does not constitute the establishment of groundwater limitations or compliance thresholds under this Order. They are not enforceable limits, but rather screening benchmarks intended to support data interpretation and inform risk evaluation.

Table 4. Influent Wastewater Quality (2019-2023)

Constituent	Units	Result		WQOs
		Maximum	Average	
EC	µmhos/cm	2,680	1,388	900
TDS	mg/L	6,140	1,159	500
Sodium	mg/L	1,100	261	69
Chloride	mg/L	1,920	335	250
BOD_5	mg/L	1,370	423	NE
Nitrate as N	mg/L	0	0 Note 1	10
TKN	mg/L	560	52	NE
Ammonia as N	mg/L	150	36	30
Iron	µg/L	1,200	960	300

Note 1: Average calculation is based on all available data (3 data points).

19. Primary treated effluent from the Sutter Campus is conveyed to the Jennings Campus via the Outfall Pump Station, which discharges to two existing outfall pipelines. Typically, all of the primary effluent flow is to one of these pipelines. The second pipeline is used to convey primary effluent during peak rainfall events when flows exceed the capacity of one outfall pipeline. This second pipeline is also used to convey Can Seg process water flows from the Sutter Campus to the Jennings Campus during the peak canning season (typically from July through October).

20. Biosolids are defined as sewage sludge, consisting of solid, semi-solid, or liquid residue generated during the treatment of domestic sewage. Class A and Class B biosolids have been treated and tested and are beneficially and legally used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities as specified under 40 C.F.R. part 503. The application of biosolids to land can be beneficial by enhancing soil structure, increasing water retention capability, promoting soil aggregation, and reducing the bulk density. Organic matter assists in maintaining soil pores which allow water and air to pass through the soil medium. Such pores can be lost at sites under continuous cultivation and they are critical in maintaining an aerobic environment within the plant root zone.

21. Production of the Class B biosolids occurs at the Sutter Campus for land application at the Modesto Ranch. A small portion of biosolids are disposed of at a landfill in Stockton and at the Discharger's composting facility (regulated separately from this Order) adjacent to the Modesto Ranch. Sludge from the primary clarifiers can be sent to a gravity belt thickener, but the Discharger does not typically use the thickener due to operational issues and because the thickening provided in the primary clarifiers is adequate. Sludge is typically conveyed from the primary clarifiers to two of three mesophilic anaerobic digesters. The third digester is only used as an emergency unit. Two holding tanks are used for digested sludge storage prior to discharge to the unlined drying beds. Digested sludge is then transferred to a series of unlined drying beds. Following this treatment and drying steps, the solids meet Class B standards. Supernatant flows from the holding tanks are routed to the headworks at the Sutter Campus for blending with influent wastewater.

22. The Sutter Campus has 23 unlined sludge drying beds that occupy approximately 30 acres. Fourteen of these beds are used for dewatering digested sludge. A single bed is used as an on-site storm water basin. The remaining beds are used for sludge storage during digester cleaning operations.

23. Dewatered Class B biosolids from the Sutter Campus drying beds contain 91 percent solids on average, having little or no free water, as stated in the RWD. Biosolids are currently land applied at approximately 80 to 95 percent solids.

24. Biosolids quality is summarized below for dewatered Class B biosolids from the Sutter Campus drying beds.

Table 5. 2019-2024 Sutter Campus Biosolids Quality

Parameter	Units (dry)	Average Concentration (Note 1)	Minimum Concentration (Note 1)	Maximum Concentration (Note 1)	Ceiling Concentration (Note 2)
Arsenic	mg/kg	9.1	2.2	18	75
Cadmium	mg/kg	2.1	1.4	3.7	85
Chromium	mg/kg	68	49	110	3,000
Copper	mg/kg	588	310	940	4,300
Lead	mg/kg	33	22	64	840
Molybdenum	mg/kg	21	10	35	75
Mercury	mg/kg	2.4	0.59	4.8	57
Nickel	mg/kg	33	20	53	420
Selenium	mg/kg	7.4	3.8	16	100
Zinc	mg/kg	1,701	990	2,900	7,500
Boron	mg/kg	21	10	41	--
Cyanide	mg/kg	3.4	0.49	8.7	--
Ammonia as N	mg/kg	784	123	1,727	--
TKN	mg/kg	28,182	460	46,000	--
Nitrate	mg/kg	699	1.7	5,200	--
Phosphorus	mg/kg	11,435	110	19,000	--
Potassium	mg/kg	1,942	980	3,700	--
Percent Moisture	%	8.7	2.1	38	--

Note 1: Average, minimum, and maximum values are based on one set of data for each of the years 2019 through 2024, with each year's data points using of an average of between 6 and 20 individual data points collected in different sludge drying beds over a few-day time period.
Note 2: Ceiling concentrations shown are based on 40 C.F.R. 503 and the Discharger's biosolids permit (WDRs 94-030).

25. Dewatered Class B biosolids are hauled from the Sutter Campus drying area to the Modesto Ranch for use as a soil amendment for the LAAs.

Jennings Campus

26. Primary treated wastewater from the Sutter Campus is conveyed to the Jennings Campus via a 7-mile-long pipeline. The wastewater is then split between two separate treatment systems at the Jennings Campus: the BNR/Tertiary Effluent Treatment System and the Secondary Effluent Treatment System. The Secondary Effluent Treatment System treats the wastewater to secondary undisinfected standards and is used for irrigation at the Modesto Ranch.

27. The BNR/Tertiary Effluent Treatment System, which treats the wastewater to tertiary standards using a membrane bioreactor treatment facility followed by UV disinfection, is discharged to surface waters under an NPDES permit. The system consists of secondary biological reactors for BOD removal and nitrification/denitrification, membrane filtration and UV disinfection. The Discharger may occasionally discharge flows from the BNR/Tertiary Effluent Treatment System to the Facility's storage pond system for eventual land application at the Modesto Ranch when tertiary effluent quality does not meet the NPDES permit requirements for surface water discharge. The BNR/Tertiary Treatment System is not discussed further in this Order as the treatment and effluent from this system is regulated under separate WDRs Orders.

28. Flows that exceed the capacity of the BNR/Tertiary Effluent Treatment System are directed to the Secondary Effluent Treatment System, which consists of three fixed film reactors (FFRs), an unlined and aerated Recirculation Channel, three unlined facultative ponds, and storage ponds. The entire pond system occupies roughly 1,100 acres based on Google Earth®. Typically, only one of the facultative ponds is in operation at a time. Effluent from the FFRs is typically directed to the aerated Recirculation Channel consisting of four, interconnected ponds (North, East, South, and West) that encircle the facultative ponds. Wastewater is then pumped from the Recirculation Channel into one of three facultative ponds, which are operated in parallel if more than one pond is in use. Treated effluent from the facultative ponds enters the Facultative Pond Effluent Collector, where it can be directed to the Irrigation Forebay to be applied to the Modesto Ranch or to the Storage Forebay to be pumped to the two storage ponds (Storage Ponds 1 and 2, as shown on Attachment C).

29. Pond dimensions are presented in Table 6. The Recirculation Channel, all ponds, and the Irrigation Forebay have 14-foot berm crest widths. Ponds are unlined with packed earth bottoms of native clayey soils. The bottom elevations of the treatment ponds are approximately 40 feet above mean sea level (AMSL), with the deepest part of the ponds, the digestion pits in the facultative ponds, at approximately 33 feet AMSL. The bottom elevation of the Recirculation Channel is approximately 38 feet AMSL. Estimated percolation rates for all ponds and channels are approximately 8 to 11 inches per month.

Table 6. Pond Dimensions

Pond name	Capacity (MG)	Max. Water Depth (feet) at Spillway	Berm Height (feet)	Surface Area (in acres) at Freeboard
Recirculation Channel	272	5.1	6.7	102 (2 feet of freeboard)

Pond name	Capacity (MG)	Max. Water Depth (feet) at Spillway	Berm Height (feet)	Surface Area (in acres) at Freeboard
Facultative Pond 1	200	6.0	6.7 – 9	102 (2 feet of freeboard)
Facultative Pond 2	214	5.8	6.7 – 9	114 (2 feet of freeboard)
Facultative Pond 3	204	5.3	6.7 – 9	118 (2 feet of freeboard)
Storage Pond 1 (note 1)	720	16 at spillway	20	197 (4 feet of freeboard)
Storage Pond 2 (note 1)	1,430	16 at spillway	20	399 (4 feet of freeboard)
Irrigation Reservoir	10	14	17	2.4 (3 feet of freeboard)
Irrigation Forebay	40	6	10	30 (2 feet of freeboard)

Note 1: Groundwater is essentially at the pond bottom during at least parts of the year.

30. Effluent from the Secondary Effluent Treatment System is discharged to Storage Ponds 1 and 2 before use as irrigation water at the Modesto Ranch. Effluent wastewater quality prior to use as irrigation is sampled at location IRR-FOR (former sample location), as shown on Attachment E. This sample location captures all treated domestic wastewater, which can also contain treated Can Seg process water when Can Seg process water is directed through the Sutter and Jennings Campus. Wastewater quality presented on Table 7 is considered representative of the wastewater quality discharged to land when Can Seg process water is not sent straight to the LAAs. Average annual concentrations are shown. Dissolved oxygen (DO) is presented as the number of detections less than 1 mg/L, and pH is shown as the minimum and maximum measurements.

Table 7. Effluent Quality at Sample Location IRR-FOR

Constituent	2019		2020		2021		2022		2023		WQOs
	Max.	Ave.	Max.	Ave.	Max.	Ave.	Max.	Ave.	Max.	Ave.	
BOD_5 (mg/L)	24	15	26	16	50	24	57	29	64	18	NE
EC (µmhos/cm)	1,880	1,623	1,710	1,605	1,740	1,529	2,280	1,667	1,930	1,736	900

Constituent	2019		2020		2021		2022		2023		WQOs
	Max.	Ave.	Max.	Ave.	Max.	Ave.	Max.	Ave.	Max.	Ave.	
FDS (mg/L)	NA	NA	160	160	870	808	NA	NA	NA	NA	NE
TDS (mg/L)	1,104	957	1,030	938	1,100	866	1,187	959	1,300	1,088	500
Chloride (mg/L)	345	294	312	293	NA	NA	NA	NA	349	311	69
Total Nitrogen	8.2	5.2	9.6	6.6	13.7	9.3	8.9	3.7	11.7	4.9	NE
Nitrate+ nitrite (mg/L)	0.6	0.3	3.6	1.5	NA	NA	ND	ND	0.46	0.2	10
DO (detections <1 mg/L)	0		1		1		3		0		--
pH (s.u.)	7.7 – 9.2		3.1 – 9.9		7.7 – 9.9		7.4 – 9.99		7.7 – 9.6		--

31. Wastewater quality data for each treatment and storage pond is presented in the Information Sheet.

32. Waste activated sludge (WAS) from the BNR/Tertiary Effluent Treatment System and solids generated by the Fixed Film Reactors are discharged to the aerated Recirculation Channel and/or the three unlined facultative ponds in the Secondary Effluent Treatment System. WAS is automatically transferred to the treatment ponds for additional stabilization. Digested sludge is periodically removed from the ponds through dredging or through dewatering the ponds as needed to maintain pond treatment capacities. The solids are dewatered mechanically onsite at the Jennings Campus and stored in an approximately 24-acre unlined bermed storage area, as shown on Attachment C. The Discharger controls potential runoff of biosolids from the processing area by keeping the area free of biosolids between October 31 and March 31. Dewatered Class B biosolids are hauled from the Jennings Campus storage area to the Modesto Ranch for land application.

33. A composting facility owned and operated by the City of Modesto is located on City-owned property adjacent to the Modesto Ranch and is regulated under a separate permit (General Waste Discharge Requirements for Composting Operations, 2015-0121-DWQ-R5S003). The Jennings Campus has been accepting runoff-related discharges from the compost site into the Jennings Campus treatment ponds since 1997.

34. River View Ranch, a cattle feed lot, is located south of LAA 4 and just east of the East Recirculation Channel, as shown on Attachment C. The feed lot is located

on property owned by the City of Modesto, is operated by Mr. Wendel Trinkler, Jr, and is regulated under WDRs General Order for Confined Bovine Feeding Operations, Order R5-2017-0058. Wastewater associated with the feed lot is managed onsite, and discharges of manure and silage waste are directed to an unlined lagoon. There are no direct discharges from the cattle feed lot to the wastewater treatment system. However, discharges to this lagoon could potentially be impacting groundwater quality making distinguishing the magnitude of groundwater impacts from the Facility and the cattle feed lot difficult. Potential impacts to groundwater quality from the cattle feed lot will be addressed under the Confined Bovine Feeding Operations, Order R5-2017-0058.

Cannery Process Wastewater

35. Can Seg process water is conveyed to the Sutter Campus via the Can Seg Line influent sewer, where the wastewater is screened and then directed to either:

- The Sutter Campus headworks for treatment with domestic wastewater when Can Seg flows are generally less than 4 MGD. The combined wastewater is then directed to the Jennings Campus for further treatment.
- The Modesto Ranch during peak canning season, typically from July through October (canning season), when Can Seg flows exceed 4 MGD. Prior to discharging to the LAAs, wastewater from the Can Seg Line is blended with undisinfected secondary treated wastewater from the Jennings Campus for irrigation of the LAAs. The percentage of Can Seg process water in blended effluent for irrigation varies seasonally.

36. When Can Seg Line flow is diverted around the Sutter and Jennings Campus to the Modesto Ranch, the Can Seg Line flows are recorded and water quality sampling occurs at sample point 2-015. Water quality sampling occurs upstream of the screening facility and flow monitoring occurs downstream of the screening facility. Influent Can Seg flow volumes that are directed to the Modesto Ranch are summarized below.

Table 8. Can Seg Process Water Flows to Modesto Ranch (2-015 Location)

Monitoring Year	Total Annual Volume (MG)
2019	1,050
2020	900
2021	1,020
2022	1,227
2023	1,163

37. When Can Seg Line flow is sent directly to the Modesto Ranch, Can Seg Line influent is combined with municipal effluent from the Jennings Campus and water

quality sampling occurs at sample point EFF-003 (formerly CAN-SEG). Influent Can Seg process water blended with municipal effluent quality is summarized below and presented as average concentrations from data collected between 2019 and 2023.

Table 9. Blended Can Seg Process Water Quality (CAN-SEG) (2019-2023)

Constituent	Units	Result	WQOs
BOD_5	mg/L	994	NE
EC	µmhos/cm	1,507	900
FDS	mg/L	774	NE
TDS	mg/L	1,263	500
Total Nitrogen	mg/L	38	NE

Modesto Ranch

38. Modesto Ranch, located south of the Jennings Campus, consists of 31 bermed land application areas (Fields 2 and 4 through 33) ranging from 20 to 128 acres, operated in sections based on the major branches of an irrigation system. Table 10 lists the section designations, field numbering, and acreage of each field. Field numbers are shown in Attachment D. Tailwater is collected from the LAAs and recirculated back to the pond system.

Table 10. Land Application Areas

Section	Field Number	Irrigation Area (acres)	Section	Field Number	Irrigation Area (acres)
A	2	38.6	D	18	22.6
A	4	33.4	D	19	94.9
B	5	48.4	D	20	15
B	6	23.4	D	21	76.2
B	7	117.6	D	22	74
B	8	39.9	E	23	91.6
B	9	62.1	E	24	73.5
B	10	110.5	E	25	114.5
B	11	96.4	E	26	86.5
B	12	13.3	E	27	56.5
C	13	112.7	E	28	67.9
C	14	71.6	F	29	122.6

Section	Field Number	Irrigation Area (acres)	Section	Field Number	Irrigation Area (acres)
C	15	113.2	F	30	95
C	16	80.4	F	31	105.3
C	17	97	F	32	97.1
			F	33	79.6
			Total (all fields)		**2,331**

39. Treated wastewater is transferred from the effluent collector and/or Storage Ponds 1 and 2 to the Irrigation Forebay and then to the Irrigation Reservoir when irrigation is needed. Stored recycled water can also be diverted from the Irrigation Forebay directly to the fields located west of Jennings Road and south of the ponds using Booster Pump Station (BPS-001), as shown on Attachment E. A detailed diagram of the irrigation system is included in the 2018 RWD.

40. During canning season, Can Seg process water is blended with recycled water at the Irrigation Reservoir outfall for irrigation use. Supplemental irrigation water can be supplied from the Westport Drain that is operated by the Turlock Irrigation District. This supplemental water is directed to the Recirculation Channel. In addition, stormwater runoff is captured for irrigation use via the onsite drainage system. Irrigation on the Modesto Ranch occurs via flood irrigation.

41. Yearly effluent flow volumes to the LAAs are summarized below.

Table 11. Flow Volumes to the LAAs

Year	Domestic Effluent (MG) Note 1	Can-Seg Process Water (MG)	Total Flow to LAAs (MG)
2019	1,664	1,013	2,677
2020	1,928	903	2,831
2021	1,460	1,024	2,463
2022	915	1,228	2,143
2023	1,190	1,163	2,353

Note 1: Includes Can Seg process water during the off-season and periods of low flow volumes.

42. Each field has a tailwater containment system that delivers excess wastewater to tailwater pump stations. During the irrigation season, most of the tailwater pump stations return tailwater to the distribution system directly, although a few pumps return flows to the storage pond system. Surfacing groundwater, which can be

present during periods of high groundwater levels, is also collected and directed to the pond system.

43. The Discharger historically monitored flows to the LAA at two sample points. During periods when Can Seg Line flows were not diverted to the LAAs, samples were collected at sample point IRR-FOR, located at the pump station that conveys recycled water from the Irrigation Forebay to the Irrigation Reservoir. This sample point also represented flows discharged from BPS-001. During periods when Can Seg Line flow was diverted directly to the LAAs, samples were collected at sampling point CAN-SEG, downstream from the recycled water and Can Seg process water mixing point. This Order modifies the sampling locations to incorporate new sampling point EFF-003, which is downstream from the recycled water and Can Seg process water mixing point and represents the total flow to the LAAs. Because BPS-001 is only used outside of the canning season, there are no additional inputs of flows or loads between the BPS-001 discharge point and EFF-003. Therefore, water quality in the discharge from BPS-001 is the same water quality discharged at EFF-003 and a secondary water quality sampling location for BPS-001 discharges is not required. However, flows discharged from the BPS-001 will be monitored and reported.

44. The Modesto Ranch LAAs are used for fodder crops, including but not limited to mixed grasses, alfalfa, winter wheat, corn, and a mixture of winter wheat and summer corn. Crops are harvested by tenants that lease the land to grow crops for external sale. No animals are grazed on the LAAs.

45. The main biosolids disposal method is land application at Modesto Ranch. The Discharger has been applying Class B biosolids annually as a soil amendment on the Modesto Ranch since before 1993. Since 1994, the application of biosolids has been regulated according to the requirements of WDRs Order 94-030 and 40 C.F.R. part 503.

46. Class B biosolids are applied only to fields between cropping cycles. Historically, Class B biosolids were allowed to be applied to LAAs for use as fertilizer for fodder crop production only between 1 May through 15 October. This restriction was due to the Discharger's 1993 Initial Study/Mitigated Negative Declaration (IS/MND), which includes a mitigation measure preventing year-round application of biosolids to protect the Aleutian Canada goose. However, the Aleutian Canada goose was delisted as a special-status species in 2001. A California Environmental Quality Act (CEQA) Addendum is under development by the Discharger (who is the lead agency) to evaluate the potential impacts that could result from removal of the application date restriction. For more details on the delisting of the Aleutian Canada goose, please see Attachment A of *Supplement No. 2 to the City of Modesto RWD*. Time restrictions on biosolids application related to the Aleutian Canada goose are required under this Order until the adoption and submission of the CEQA notice of determination.

47. Modesto Ranch fields that receive biosolids are typically planted with a summer crop in May or June in anticipation of the canning season, which typically starts in July and can extend into early October. These fields are typically harvested in late September or early October to allow for biosolids land application in October, where the preferred application period is late October to early November. These fields are then planted with a winter crop after the biosolids applications in November, which is subsequently harvested the following spring. The Discharger also may apply biosolids to the fields in the spring, prior to the May/June planting date.

48. The Discharger has historically calculated nitrogen loading to the LAAs on a calendar basis, January to December. With this approach, the Discharger has had to estimate what the future irrigation water nitrogen and fall biosolids application nitrogen needs would be to allow the farmers to make decisions about spring fertilizer/biosolids application rates. If the irrigation water nitrogen or fall biosolids nitrogen loadings were higher than expected, a theoretical over application could occur. If the irrigation water nitrogen or fall biosolids nitrogen loadings were lower than expected, then the crops would not have enough nitrogen for robust growth.

49. Because the farmers operate the fields around cropping cycles, the fall biosolids nitrogen applications are taken up by the winter crops that are planted after the application occurs. Therefore, from a crop nutrient management standpoint, it is more prudent to estimate crop demands and nitrogen application rates on a cropping cycle basis (October of previous year through September of current year). Therefore, the data collection and reporting process detailed in the MRP provides for this seasonal approach.

50. The biosolids meet the vector attraction and pollution concentration limits specified in 40 C.F.R. part 503 and pathogen reduction standards specified in 40 C.F.R. part 503.32(b). Class B biosolids have been treated sufficiently for the level of pathogens to be substantially reduced but not completely removed.

51. Biosolids application sites can be on any field within the LAAs and are typically rotated from year to year. The Discharger's annual biosolids loading rate is typically about 10 to 20 dry tons per acre.

52. Historically, roughly 200 acres annually receive biosolids. During years where significant amounts of solids are removed from the ponds, the application area may be up to 1,000 acres. The specific fields dedicated for biosolids application each year are identified in the annual monitoring reports.

53. Revised water balances, submitted on 17 November 2025, were developed for an average annual rainfall amount and a 100-year 365-day total rainfall. Based on revised water balances, treated wastewater is being land applied at agronomic rates. The total crop water demand is generally greater than the

volume of treated wastewater, and Can Seg process water applied; therefore, supplemental irrigation is sometimes needed to meet crop demand.

54. Supplemental irrigation water can be provided from the TID Westport Drain. The water is pumped to the Recirculation Channel, where it is blended with the domestic wastewater. Following treatment, the combined flows are then used for irrigation or stored for later use. In addition, stormwater runoff is captured for irrigation use via the onsite drainage system where it is pumped to the Irrigation Forebay. In the future, supplemental irrigation water from other sources may be available and used in addition to, or instead of, TID water, including water from the San Joaquin River, which would be diverted under the Discharger's water right that allows for diversion of 2.5 cubic feet per second from March 1 to November 1, equivalent to 1,220 acre-feet per year over the period.

55. All storm water is captured on site and directed to the pond system. No storm water is discharged off-site.

56. The agronomic rate for nitrogen is the maximum amount of nitrogen needed by the crop grown on the land and is intended to minimize the amount of nitrogen that passes below the root zone of the crop. Biosolids are applied at a rate that is less than or equal to the agronomic rate calculated based on the nitrogen uptake of the crop type grown and including other sources of nitrogen applied to the biosolids application area. Application rates are based on agronomic recommendations for proper fodder crop production, denitrification in the onsite soils, nitrogen from other sources included irrigation water and fertilizer applications, and residual nitrogen from previous application(s).

Planned Changes to Facility and Discharges

57. Expected increases in domestic flows (within the flow limit) will result in a corresponding increase in biosolids available for land application, so the annual areal extent required for biosolids land application will increase. However, the existing boundaries of Modesto Ranch are sufficient to accommodate this increase. The expected biosolids land application expansion will maintain the current nitrogen loading so that the total nitrogen loadings to a given field area remain within the range of the anticipated crop nitrogen uptake rates, per the Discharger's nutrient management planning system.

58. Modifications to the wastewater treatment facilities have been envisioned by the Discharger and were included in the RWD and subsequent RWD Addendums and updates. These modifications may include but are not limited to the following upgrades and improvements in the Facility's operations.

    a. The solids removal and digestion facilities at the Sutter Campus will be moved to the Jennings Campus to help minimize flood risk at the Sutter Campus. By relocating the drying beds to the Jennings, the risk of impacts to groundwater at the Sutter Campus will be significantly reduced. In

addition, the drying beds at the Jennings Campus are scheduled to be lined beds

b. Secondary effluent treatment system upgrades may be constructed to allow for additional BOD_5 removal from Can Seg Line discharges.

c. Construction of facilities to allow for Class A treatment and direct land application of biosolids generated at the Sutter Campus and Jennings Campus. Class A or Class B biosolids may also be received from outside facilities for land application at the Modesto Ranch.

59. There are several existing groundwater monitoring wells scheduled to be abandoned and/or replaced to improve operation efficiency, eliminate data redundancies, and improve representativeness of the monitoring. The proposed changes, as described in the Technical Memorandum dated 15 November 2019, are summarized in the Information Sheet.

Site-Specific Conditions

60. The Sutter Campus is located within a low- and medium-density residential area in the City of Modesto. The nearest agricultural land uses are about one mile to the west and south of the site. The Tuolumne River borders the Sutter Campus to the south of the facility.

61. The Jennings Campus and Modesto Ranch are bordered to the west by the San Joaquin River. Both Jennings Campus and Modesto Ranch are within an agricultural area that includes crop farming and livestock husbandry. The closest urban area to the Modesto Ranch is the City of Patterson, about three miles southwest across the San Joaquin River.

62. The Jennings Campus discharges tertiary-treated disinfected effluent water into the Delta-Mendota Canal for reuse and into the San Joaquin River. Both discharges are authorized and regulated under separately issued NPDES permits.

63. Topography in the vicinity of the Sutter Campus, Jennings Campus, and the Modesto Ranch is relatively flat, sloping gradually towards the adjacent rivers. Within Sutter Campus, the elevation varies from 70 feet AMSL at the northeast portion of the site to 50 feet AMSL near the Tuolumne River south of the site. At the Jennings Campus, the highest ground elevation is approximately 56 feet AMSL near the northeast corner of the site, with gradual downward sloping to the southwest to a minimum of approximately 40 to 45 feet AMSL.

64. The Federal Emergency Management Agency (FEMA) has mapped the Sutter Campus site as being partially within a 100-year floodplain. The FEMA Study flood insurance rate map (panel 06099c0532f, dated 2021) maps the Sutter Campus site within a “Zone AE” floodplain, which corresponds to a one-percent

annual chance of flood based on detailed analytical methods. The Discharger has created stormwater catchment areas at the Sutter Campus to handle on-site run-off and to help prevent flooding of the site. Prior to the start of the rainy season, the Discharger empties the drying beds as much as possible. During the rainy season, the Discharger preferentially uses the drying beds further from the river when available. Planned changes to the Sutter Campus include relocating the solids removal and treatment facilities, including the drying beds to the Jennings Campus and decommissioning of the Sutter Campus drying beds. This project will eliminate threats to flood inundation and threats to groundwater as all discharges to land at the Sutter Campus will cease.

65. Most of the Jennings Campus treatment facilities are within the 100-year floodplain (Zone AE) according to FEMA mapping.. The entire site is protected by levees located on the San Joaquin River, owned by Reclamation District 2091. The levees have been de-certified by the U.S. Army Corps of Engineers and are not accredited by FEMA. Efforts to achieve reaccreditation of the levees or providing flood protection for this site are being evaluated as part of the master plan process.

66. The storage pond berms are regulated by the Department of Water Resource's Division of Safety of Dams due to the volume of water contained exceeding 50 acre-feet, which classifies them as regulated dams.

67. If a failure of the San Joaquin River levees were to occur, the facultative ponds could be inundated during a 100-year flood event, but the storage pond berms are high enough to prevent inundation by a 100-year flood, according to an analysis in the Discharger's 2016 Wastewater Treatment Master Plan. Inundated LAAs pose an acceptable risk to water quality, as managed land application of Facility wastes will limit the amount of waste discharged offsite by such flooding.

68. Annual average precipitation is approximately 13 inches, with the majority of rainfall typically occurring from November through April (National Climactic Data Center, Modesto County Airport weather station Number 045738). The 100-year maximum total annual precipitation is approximately 22 inches, and the reference annual evapotranspiration rate is approximately 53 inches per year according to the California Irrigation Management Information System (CIMIS) Modesto Station #71.

69. Based on information in the Natural Resources Conservation Service (NRCS) soil survey for Eastern Stanislaus County in 2014, the Sutter Campus area surficial soil is essentially fine sandy loam, specifically Hanford Fine Sandy Loam, with a small area at the northeast corner of the site being Tujunga, a loamy sand. These soil types are characterized as having moderately high permeability and being well-drained.

70. The Jennings Campus treatment and storage pond areas are underlain by slightly saline, sandy loam and loamy sand soils, characterized as being imperfectly drained. Therefore, runoff and percolation of water is relatively slow.

71. The LAAs of Modesto Ranch have surficial soils identified as saline or saline alkali with slow percolation rate similar to the Jennings Campus soils.

Groundwater Conditions

72. The groundwater monitoring network currently consists of 21 groundwater monitoring wells located at the Jennings Campus and Modesto Ranch to monitor potential impacts to groundwater from the ponds and from the land application of treated wastewater and biosolids, as shown on Attachment F. The groundwater wells have been monitored since at least the year 2000.

73. There are no groundwater monitoring wells at the Sutter Campus. In 2022, a groundwater investigation was conducted and approximately 22 shallow groundwater samples were collected within and around the beds to evaluate potential groundwater impacts. The groundwater samples were analyzed for nitrate as nitrogen. Concentrations of nitrate as nitrogen were less than 10 mg/L (nitrate as nitrogen Maximum Contaminant Level [MCL]) in nine samples, two samples were greater than 10 mg/L but less than 25 mg/L, and 11 samples were greater than 25 mg/L. Based on the Discharger's evaluation and the Facility's location within a Priority 1 Basin under the Nitrate Control Program, ambient or current background nitrate as nitrogen concentrations in the area are generally greater than 10 mg/L and generally less than 25 mg/L. Concentrations of nitrate greater than ambient conditions indicates the drying beds are likely contributing to nitrate groundwater pollution. This Order requires the Discharger to cease discharging solids to beds at the Sutter Campus by 2036. The proposed new drying beds will be located at the Jennings Campus and will be lined for the protection of groundwater (see Provisions M.2.e, f, and g).

74. The mean depth to groundwater across the entire Jennings Campus and Modesto Ranch facility is approximately 12 feet below ground surface (bgs) and ranges between 7 to 15 feet bgs across all monitoring wells. The groundwater elevation in the treatment ponds area ranges from 30 to 40 feet AMSL during dry periods and can be higher than 40 feet AMSL during very wet periods.

75. Historically, groundwater beneath the Jennings Campus and Modesto Ranch has high TDS concentrations attributed mainly to "migration of a deep, saline water body originating in regionally deposited, marine sedimentary rocks that underlie the San Joaquin Valley", according to the Turlock Groundwater Basin Groundwater Management Plan, March 18, 2008. This Plan also notes that saline soils in the area potentially influence salinity concentrations in shallow groundwater.

76. The horizontal hydraulic shallow groundwater gradient across the Jennings Campus and Modesto Ranch is generally west-southwest toward the river except during the wet season. During the wet season, the shallow groundwater gradient is typically flat due to the elevated level of the San Joaquin River.

77. Groundwater monitoring well depths, screened intervals, and general locations are presented below in Tables 12 and 13 for Jennings Campus and in Tables 12 and 13 for Modesto Ranch. The letter "D" in the well name indicates a "deep" well, with a minimum well depth greater than 49 feet bgs. Wells without the D suffix have a maximum well depth of 43 feet bgs. Depths to groundwater are as reported in the Fourth Quarter 2023 Monitoring Report.

Table 12. Groundwater Monitoring Well Details

Well ID	Installation Date	Screen Interval (ft bgs)	Depth to GW (ft bgs)	GW Elevation (ft AMSL)	Location
MW-1	Pre-2000	16.0 – 25.8	15.4	36.0	Crossgradient, next to storage pond (Jennings Campus)
MW-2	Pre-2000	18 - 28	12.4	33.9	Downgradient of facultative ponds (Jennings Campus)
MW-2D	5/19/2000	68 - 87	12.4	34.0	Downgradient of facultative ponds (Jennings Campus)
MW-3	Pre-2000	17.5 – 27.5	10.4	35.2	Downgradient of facultative ponds
MW-4	Pre-2000	15 - 25	10.3	46.8	Upgradient (Jennings Campus)
MW-4D	5/18/2000	61.7 - 76	11.4	46.0	Upgradient (Jennings Campus)
MW-5	Pre-2000	21.2 – 30.0	5	42.5	Downgradient (interior of LAAs)
MW-5D	3/30/2000	72.2 – 86.8	7	41.5	Downgradient (interior of LAAs)
MW-6	Pre-2000	19.6 – 29.6	5.8	44.7	Upgradient (LAAs)
MW-7	Pre-2000	7.5 – 22.0	10.6	44.2	Upgradient (Jennings Campus)
MW-9	Pre-2000	15 – 29.5	11.4	41.8	Upgradient (Jennings Campus)
MW-10	Pre-2000	20.5 – 23.5	13	44.5	Upgradient (Jennings Campus)

Well ID	Installation Date	Screen Interval (ft bgs)	Depth to GW (ft bgs)	GW Elevation (ft AMSL)	Location
MW-11D	3/29/2000	71.5 - 88	12.2	44.2	Upgradient (Jennings Campus)
MW-12	3/16/2000	14.5 – 28.5	14	37.9	Downgradient (Jennings Campus)
MW-12D	4/18/2000	85 – 102.5	14.6	37.2	Downgradient (Jennings Campus)
MW-13	4/13/2000	36.9 – 42.9	6.8	40.7	Downgradient (LAAs)
MW-13D	4/12/2000	82.5 – 101.5	9.8	37.9	Downgradient (LAAs)
MW-14	3/20/2000	22.5 – 31.1	10.2	45.1	Upgradient (LAAs)
MW-14D	4/12/2000	49.6 – 67.1	10.7	44.2	Upgradient (LAAs)
MW-15	4/11/2000	21.5 – 30.2	12.2	37.9	Downgradient (LAAs)
MW-15D	4/11/2000	71.9 – 87.7	12.3	37.7	Downgradient (LAAs)

78. Groundwater quality up- and down-gradient of the ponds at the Jennings Campus is summarized below for select constituents. Average concentrations for monitoring years 2019 through 2023 are shown, along with the WQOs associated with each constituent of concern. Iron, manganese, arsenic, and molybdenum are dissolved concentrations. WQOs shown in the table are used for comparison purposes only.

Table 13. Groundwater Quality: Jennings Campus

Well ID	EC (µmhos/cm)	TDS (mg/L)	Nitrate + Nitrite (mg/L)	Total Coliform (MPN100/ mL)	Sodium (mg/L)	Chloride (mg/L)
UPGRADIENT						
MW-7	822	510	21	2.4	812	42
MW-10	860	538	15	7.2	89	49
MW-11D	2,194	1,520	53	2.7	270	149
DOWNGRADIENT						
MW-1	794	471	5.1	9.5	106	122
MW-2	1,383	757	1.0	7.8	194	263
MW-2D	1,274	686	0.3	3.7	189	228

Well ID	EC (µmhos/cm)	TDS (mg/L)	Nitrate + Nitrite (mg/L)	Total Coliform (MPN100/ mL)	Sodium (mg/L)	Chloride (mg/L)
MW-3	1,573	886	0.1	3.7	215	304
MW-12	1,716	882	0.1	2.5	185	206
MW-12D	1,633	930	0.2	3.0	270	275
WQO	**900**	**500**	**10**	**2.2**	**69**	**250**

Table 14. Groundwater Quality (Dissolved Metals): Jennings Campus

Well ID	Iron (µg/L)	Manganese (µg/L)	Arsenic (µg/L)	Molybdenum (µg/L)
UPGRADIENT				
MW-7	185	18	3.3	7.2
MW-10	251	205	11.1	2.2
MW-11D	150	279	5.9	6.7
DOWNGRADIENT				
MW-1	212	1,106	2.6	29.2
MW-2	10,236	2,832	20.4	12.8
MW-2D	5,392	2,528	14.4	10.2
MW-3	11,861	2,635	35.4	9.7
MW-12	20,368	2,369	60.9	22.8
MW-12D	3,447	465	15.2	18.8
WQO	**300**	**50**	**10**	**10**

79. Based on a comparison of the groundwater quality up and down-gradient of the ponds at the Jennings Campus, impacts to groundwater have occurred as a result of seepage from the ponds.

80. Concentrations of constituents in monitoring wells located downgradient of the ponds exceed WQOs, with the exception of nitrate+nitrite. The concentrations of constituents between the downgradient wells vary significantly (i.e., average iron concentration in MW-1 is 207 µg/L while iron concentrations in the other downgradient wells exceed 10,000 µg/L).

81. EC, TDS, and nitrate+nitrite concentration trends in all upgradient and downgradient monitoring wells associated with the Jennings Campus show steady-state concentration trends over the last five years.

82. Groundwater quality up- and down-gradient of the LAAs at Modesto Ranch is summarized below. Average concentrations for select constituents for monitoring years 2019 through 2023 are shown, along with the WQOs or goals associated with each constituent of concern.

Table 15. Groundwater Quality: Modesto Ranch

Well ID	EC (µmhos/cm)	TDS (mg/L)	Nitrate + Nitrite (mg/L)	Total Coliform (MPN100/ mL)	Sodium (mg/L)	Chloride (mg/L)
UPGRADIENT						
MW-6	2,124	1331	6.1	3.11	429	223
MW-4	1,757	1260	77.5	2.14	162	86
MW-4D	1,172	789	38.5	0.68	145	77
MW-9	2,773	1,695	40	5.3	360	484
MW-14	1,441	903	22.4	12.38	235	109
MW-14D	1,517	960	12.6	2.32	279	104
DOWNGRADIENT						
MW-5	3,945	2,265	0.6	140	541	929
MW-5D	8,005	6,230	0.54	15.9	974	2,961
MW-13	2,365	1,371	0.21	3.6	340	442
MW-13D	1,118	760	0.1	2.4	234	323
MW-15	1,695	951	0.3	2.0	239	285
MW-15D	2,293	1,355	0.1	2.1	328	409
WQO	**900**	**500**	**10**	**2.2**	**69**	**250**

Table 16. Groundwater Quality (Dissolved Metals): Modesto Ranch

Well ID	Iron (µg/L)	Manganese (µg/L)	Arsenic (µg/L)	Molybdenum (µg/L)
UPGRADIENT				
MW-6	121	29	4.1	106
MW-4	675	345	7.1	9.0
MW-4D	404	346	5.4	3.0
MW-9	420	779	9.5	32.9
MW-14	304	336	5.0	5.5
MW-14D	262	181	2.9	21.4
DOWNGRADIENT				
MW-5	57,642	3,348	11.3	1.5
MW-5D	10,496	10,456	16	0.4
MW-13	18,282	2,859	23.2	8.5

Well ID	Iron (µg/L)	Manganese (µg/L)	Arsenic (µg/L)	Molybdenum (µg/L)
MW-13D	466	319	2.9	16.7
MW-15	3,251	2,128	12.9	4.9
MW-15D	6,986	2,599	6.1	3.9
WQO	**300**	**50**	**10**	**10**

83. Average up-gradient groundwater concentrations for all constituents listed in the table generally exceed WQOs (with the exception of arsenic), indicating other activities in the area, such as the long-term use of the area for agricultural purposes, have also impacted groundwater quality.

84. Concentration trends for EC, TDS, and nitrate+nitrite in all groundwater monitoring wells show steady-state concentration trends over the last five years, with the exception of MW-14, where nitrate+nitrite concentrations show a decreasing trend.

Compliance History

85. The Discharger has received several Notice of Violations (NOVs) over the last 9 years (2016 through 2024). NOVs are summarized below.

Table 17. Notice of Violations

NOV Date	Violation
7/1/2016	pH violations and monitoring and reporting violations
6/26/2018	pH violations and monitoring and reporting violations
6/5/2019	Monitoring and reporting violations
10/23/2020	pH violations and monitoring and reporting violations
3/28/2022	Five discharges of partially treated wastewater (three staff errors; a leak in the Can Seg line; and a hose connection failure)
9/29/2023	pH violations and monitoring and reporting violations
5/24/2024	pH violations

86. In addition to the violations listed above, 30 odor complaints have been reported to the San Joaquin Valley Air Pollution Control District (APCD) and the Central Valley Water Board between 2016 and 2024. The complaints were related to odors from the Sutter Campus.

87. On 25 February 2025, the Discharge submitted an *Odor, Corrosion, and UVT Evaluation*. As described in the evaluation, odors at the Sutter Campus can be attributed to the long hydraulic retention time of wastewater in the collection system. The long retention time in the seven-mile pipeline between the Sutter and Jennings Campuses is also resulting in high concentrations of hydrogen

sulfide (H2S), causing corrosion issues at the Jennings Campus. The primary objectives of the evaluation were to:

- Quantify sulfide contributions from major sewer trunks.
- Measure H2S levels at key locations, including lift station discharge manholes.
- Determine the most effective chemical treatment alternatives to control H2S emissions and reduce corrosion in the sewer system which may also be contributing to metals in groundwater.
- Identify potential pilot tests for chemical treatments to confirm their effectiveness and cost-efficiency.

The evaluation included actions the Discharger can implement to address the odor and corrosion issues and a timeline for implementing these actions. **MRP R5-2025-0059** requires the Discharger to submit annual updates to the Central Valley Water Board on the steps it has taken to address the odors and corrosion and the status and effectiveness of the mitigation/prevention efforts (see Annual Reporting in MRP R5-2025-0059).

Water Recycling Regulatory Considerations

88. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform as indicator organisms.

89. The Discharger uses recycled water for irrigation purposes at the Modesto Ranch. The State Water Board's Division of Drinking Water (DDW), which has primary statewide responsibility for protecting water quality and public health, has established statewide criteria for the use of recycled water (Cal. Code Regs., tit. 22, § 60301 et seq.). This Order implements the applicable portions of the California Code of Regulations, title 22 (Title 22) water recycling regulations.

90. Effluent from the Jennings Campus is treated to meet at least the requirements for undisinfected secondary recycled water (see Title 22, section 60301). This Order requires that effluent from the Jennings Campus be used for irrigation on crops at the Modesto Ranch in accordance with Title 22, section 60304.

91. State Water Board Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Recycled Water Policy), as amended by subsequent Resolutions 2013-0003 and 2018-0057, promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gas emissions.

92. Central Valley Water Board Resolution R5-2009-0028, In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants, encourages water recycling, water conservation, and the regionalization of wastewater treatment facilities. Resolution R5-2009-0028 provides that the Central Valley Water Board may require any discharger that

owns and/or operates a wastewater treatment plant to submit a report documenting:

a. Efforts to promote new or expanded wastewater recycling opportunities and programs.

b. Water conservation measures.

c. Regional wastewater management opportunities and solutions (e.g., regionalization).

93. Recycling of the Discharger's effluent is consistent with the intent of the Recycled Water Policy and Resolution R5-2009-0028, as amended per Resolutions 2013-0003 and 2018-0057.

94. Title 22, section 60323, requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards to the State Water Board's Division of Drinking Water (DDW) for approval. On 24 May 2018, the Discharger submitted to the State Water Resources Control Board, Division of Drinking Water (DDW), a Title 22 Engineering Report (Title 22 Report) on the Production, Distribution, and Use of Recycled Water treated to undisinfected secondary standards for the discharge to land. On 22 June 2018, the DDW issued comments on the Title 22 Report, including specific comments and requirements for inclusion in these WDRs. On 21 July 2020, the Discharger submitted an addendum to the Title 22 Report to address DDW comments. DDW formally approved the Title 22 Report on 22 July 2020.

Legal Authorities

95. This Order is adopted pursuant to Water Code section 13263, subdivision (a), which provides in pertinent part as follows:

> *The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge…, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonable required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.*

96. Compliance with section 13263, subdivision (a), including implementation of applicable water quality control plans, is discussed in the findings below.

97. The ability to discharge waste is a privilege, not a right, and adoption of this Order shall not be construed as creating a vested right to continue discharging waste. (Wat. Code, § 13263, subd. (g).)

98. This Order and its associated MRP are also adopted pursuant to Water Code section 13267, subdivision (b)(1), which provides as follows:

> *[T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste … 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.*

99. The reports required under this Order, as well as under the separately issued MRP, are necessary to verify and ensure compliance with these WDRs. The burden associated with such reports is reasonable relative to the need for their submission.

Basin Plan Implementation

100. Pursuant to Water Code section 13263, subdivision (a), WDRs must "implement any relevant water quality control plans and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241."

Beneficial Uses of Water

101. This Order implements the Central Valley Water Board's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan), which designates beneficial uses for surface water and groundwater and establishes WQOs necessary to preserve such beneficial uses. (See Wat. Code, § 13241 et seq.).

102. Local drainage is to the Tuolumne and San Joaquin Rivers. The existing beneficial uses of these surface waters are: agricultural supply (AGR); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPAWN); and wildlife habitat (WILD). The Basin Plan also lists municipal and domestic water supply (MUN) as a potential beneficial use.

103. Beneficial uses of underlying groundwater are municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

Water Quality Objectives

104. The Basin Plan establishes narrative WQOs for chemical constituents, taste and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.

105. The Basin Plan's numeric WQO for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.

106. The Basin Plan's narrative WQOs for chemical constituents require MUN designated water to at least meet the MCLs specified in Title 22. The Basin Plan provides that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

107. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations to implement the narrative objective.

Salt and Nitrate Control Programs

108. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting (Resolution R5-2018-0034). The Basin Plan amendments became effective on 17 January 2020 and were revised by the Central Valley Water Board in 2020 with Resolution R5-2020-0057 (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf). The revisions to the Basin Plan amendments became effective on 10 November 2021.

109. Under the Salt Control Program, dischargers that are unable to comply with stringent salinity requirements may instead be subject to requirements, as determined appropriate by the Central Valley Water Board, and participate in a basin-wide effort known as the Prioritization and Optimization Study (P&O Study) to develop a long-term salinity strategy for the Central Valley. On 20 April 2021, the Discharger submitted a Notice of Intent to comply with the Salt Control Program. The Discharger elected to participate in the P&O Study and was issued an identification number (**CV-SALTS ID: 2653**). This Order sets a **Salinity Action Level of 2,000 mg/L for TDS**. The limit is based on potential impacts to

groundwater, an evaluation of the Discharger's wastewater treatment system and effluent quality, and management practices.

110. The Nitrate Control Program (NCP) is a prioritized program for addressing legacy and ongoing nitrate impacts to the region's waters. The Jennings Campus is within Groundwater Basin 5-022.03 (San Joaquin Valley, Turlock Sub-Basin). The Sutter Campus is within Groundwater Basin 5-022.02 (San Joaquin Valley Modesto Basin). Both basins are a Priority 1 Basin for the NCP. The Board issued Notices to Comply to dischargers in Priority 1 Basins in May 2020. These notices provided dischargers with a choice to participate in an individual permitting approach (Pathway A) or in a collective permitting approach (Pathway B). Under the collective approach, dischargers jointly form "Management Zones" that fulfill the requirements of the Nitrate Control Program. In response to the Notice to Comply, the Discharger selected **Pathway B and joined the Modesto Management Zone (Valley Water Collaborative)**. As stated in Resolution R5-2020-0057 (*Revisions to the Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin to Incorporate a Central Valley-Wide Salt and Nitrate Control Program*), if a permitted discharger would like to change the selected nitrate pathway that they have elected, the Central Valley Water Board will consider approval of this change on a case-by-case basis (see the Resolution for more details).

111. Under the NCP, dischargers that cause or contribute to nitrate pollution in groundwater must qualify for a limited term "exception" from meeting nitrate limits. Compliance time schedules must be as short as practicable and are not to exceed 35 years. The Central Valley Water Board will only grant exceptions upon finding that all elements of the Board's Exceptions Policy are met. For nitrate, the Exceptions Policy dictates that exceptions will not be considered unless an adequate supply of clean, safe, reliable and affordable drinking water is available for those who have been adversely affected by the non-compliant discharge.

112. Management Zones in Priority 1 Basins were required to submit Management Zone Implementation Plans (MZIPs). Valley Water Collaborative submitted MZIPs for the Turlock and Modesto Subbasins on 5 September 2023. The MZIPs were deemed complete by the Central Valley Water Board's Executive Officer. The MZIPs contain a proposal for how dischargers within the Turlock and Modesto Subbasins will meet the requirements of the Nitrate Control Plan and the Exceptions Policy.

113. To meet the requirements of the NCP, the Turlock and Modesto MZIPs includes sector-based Nitrate Reduction Programs, including one for Non-15 Program dischargers (i.e., dischargers of nonhazardous, nondesignated waste to land (see Wat. Code, § 13173)), like the Discharger. The MZIPs propose that the Discharger prepare and submit a facility-specific Nitrate Reduction Work Plan that would characterize the facility's impact on groundwater, quantify the facility's nitrate loading to the Upper Zone of groundwater, estimate the necessary improvements to the facility's discharge to comply with the Management Zone's

Groundwater Protection Target(s) and/or other developed compliance metrics, and provide an implementation schedule that will ensure that the facility complies with the Nitrate Control Program.

114. The Turlock and Modesto Subbasin MZIPs propose to meet the requirements of the Exceptions Policy by, among other things, continuing an interim drinking water program that performs outreach to residents potentially affected by nitrate contamination, offers free well testing for nitrate, and provides free replacement water to households whose wells are found to exceed the nitrate drinking water standard.

115. The MZIPs will serve as the basis for permit amendments for all dischargers in the respective Management Zones. The Central Valley Water Board tentatively plans to consider a package of permit amendments for all dischargers in the Modesto Management Zone in a single permitting action, where the Central Valley Water Board would also make findings as to whether the requirements of the Exception Policy are met by the proposals in the MZIPs. In the interim, the Discharger is subject to a Conditional Prohibition that requires that the discharger continue to participate in funding and implementing the drinking water programs described in the MZIPs.

116. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs. As such this Order may be amended or modified to incorporate any newly applicable requirements to ensure that the goals of the Salt and Nitrate Control Programs are met.

Compliance with Antidegradation Policy

117. State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Antidegradation Policy) prohibits the Central Valley Water Board from authorizing degradation of “high quality water” unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through WDRs requiring dischargers to implement the best practicable treatment or control (BPTC).

118. The Antidegradation Policy applies when an activity discharges to high quality waters and will result in some degradation of such high-quality waters. "High quality waters" are defined as those waters where water quality is more than sufficient to support beneficial uses designated in the Basin Plan. Whether a water is a high-quality water is established on a constituent-by-constituent basis, which means that an aquifer can be considered a high-quality water with respect to one constituent, but not for others (SWRCB Order No. WQ 91-10). If the activity will not result in the degradation of high-quality waters, the Antidegradation Policy does not apply, and the dischargers need only demonstrate that it will use "best efforts" to control the discharge of waste.

119. There are no groundwater monitoring wells located at the Sutter Campus so on-going monitoring has not occurred in this area. The only discharge to land that occurs at the Sutter Campus is the drying of solids in the unlined sludge drying beds. Based on the shallow groundwater data reported in samples collected via Geoprobe at the sludge drying beds, discharges to these beds have likely contributed to the nitrate as nitrogen groundwater pollution. Groundwater in the area surrounding the Sutter Campus is considered high quality water in regards to nitrate as nitrogen, and therefore, the Antidegradation Policy is applicable. To address groundwater impacts and degradation from the drying beds, the Discharger must cease discharging to the beds by 1 July 2036 (see Provision M.2.e), which will eliminate ongoing threats to groundwater quality. In addition, the Discharger has enrolled in the Salt and Nitrate Control Programs (for more information on the Nitrate Control Program, see the findings in the Salt and Nitrate Control Program section beginning with Finding 108).

120. The Discharger has monitored groundwater at the Jennings Campus and Modesto Ranch since 2000. Compliance with the Antidegradation Policy is therefore based on available groundwater data.

121. For the purposes of this Order, constituents in the effluent and biosolids from this Facility with the potential to degrade groundwater and affect beneficial use includes salts (represented by EC and TDS), total nitrogen, metals, and total coliform.

122. Table 18 presents a comparison of annual average flow weighted effluent concentrations for select constituents to average concentrations in groundwater.

    Upgradient wells used for averaging purposes include data from 2019 through 2023 for MW-4; MW-4D; MW-6; MW-7; MW-9, MW-10; MW-11D; MW-14; and MW-14D. Downgradient wells include MW-1; MW-2; MW-2D; MW-3; MW-12; MW-12D; MW-13; MW-13D; MW-15; and MW-15D.

    Flow weighted annual average concentrations were calculated for:

    - Effluent data from sample location IRR-FOR, which represents domestic wastewater and includes Can Seg process water that is sent through the Sutter and Jennings Campuses during the non-cannery season.
    - Effluent data from sample location CAN-SEG, which represents Can Seg process water discharged directly to the LAAs following screening.

    NA = not available

Table 18. Antidegradation Summary

Constituent	Year	Flow Weighted Average Effluent Concentrations		Upgradient Groundwater Quality	Downgradient Groundwater Quality	WQOs/ Goals
		IRR-FOR	CAN-SEG			
EC (µhmos/cm)	2022	1,565	1,515	1,628	1,612	700
	2023	1,700	1,539			
TDS (mg/L)	2022	918	1,627	1,045	900	500
	2023	1,050	1,342			
Total Nitrogen (mg/L)	2022	NA (note 1)	43	NA (note 1)	NA (note 1)	NE
	2023	NA (note 1)	40			
Nitrate +nitrite (mg/L)	2022	0.17	NA (note 1)	33	1.9	10
	2023	0.17	NA (note 1)			
Total Coliform (MPN 100/mL)	NA	NA	NA	5.2	5.1	2.2
Iron, dissolved (µg/L)	NA	NA	NA	1,100	8,337	300
Manganese, dissolved (µg/L)	NA	NA	NA	281	1,866	50
Arsenic, dissolved (µg/L)	NA	NA	NA	6.4	20.3	10
Molybdenum, dissolved (µg/L)	NA	NA	NA	22.2	12.9	10

Note 1: The Information Sheet provides a summary of the type of nitrogen data available for each sample location.

123. To determine compliance with the Antidegradation Policy, a conservative approach was taken in the evaluation. Groundwater is considered high quality water in regards to all constituents presented in Table 18 above for the Jennings Campus and the Modesto Ranch. A discussion of the characterization of these constituents to demonstrate compliance with the Antidegradation Policy is provided below.

124. **Salinity (EC and TDS)**. Concentrations of EC and TDS in influent domestic wastewater are generally equivalent to treated effluent quality. As summarized on Table 18, EC and TDS average concentrations in influent are 1,388 µmhos/cm and 1,159 mg/L, respectively, while concentrations in effluent are 1,579 µmhos/cm and 1,050 mg/L, respectively.

Samples collected from the CAN-SEG sample location, which includes Can Seg process water that has been sent directly to the LAAs and blended with treated wastewater from the storage ponds prior to discharge, show slightly higher concentrations of EC and TDS when compared to influent quality. Influent and effluent concentrations for EC and TDS from both sample locations (IRR-FOR and CAN-SEG) exceed their respective WQOs. Concentration trends in effluent for TDS and EC show steady-state trends, indicating the Discharger has maintained the quality of the effluent for at least the last five years (2019 through 2023) as required under the Salt Control Program for the P&O Study.

EC and TDS concentrations in groundwater in both up- and downgradient wells exceed WQOs. The discharges to land has contributed to groundwater degradation; however, groundwater quality in upgradient wells generally exceed WQOs in the surrounding area. Comparisons of groundwater concentrations to treated wastewater effluent quality indicate that groundwater concentrations exceed that of the wastewater being applied to the land.

The Discharger has elected to participate in the P&O Study under CV-SALTS; therefore, the Order sets a TDS effluent limitation as a limit based on historical effluent data, groundwater quality, and treatment system performance. Review of the available groundwater data suggests that the discharge has not significantly impacted groundwater quality with respect to salinity, and concentration trends are steady-state in all groundwater monitoring wells for EC and TDS for monitoring years 2019 through 2023. The purpose of this limit is to ensure the Discharger is implementing appropriate performance-based measures at the Facility and is intended to prevent increases of TDS concentrations in groundwater. Compliance with the effluent limit shall constitute compliance with the water quality control plan and ensures that the Discharger is maintaining current discharge concentrations and loading levels of salt. This Order sets a **Salinity Action Level for TDS of 2,000 mg/L** that includes an approximate 23 percent safety factor to allow for operational flexibility and water conservation efforts, and requires continued monitoring of EC and TDS in effluent and groundwater.

125. **Total Nitrogen**. For nutrients such as nitrogen, the potential for groundwater degradation depends on wastewater quality, plant uptake, and the ability of the vadose zone below the land application areas to support nitrification and denitrification to convert the nitrogen to ammonia, nitrate, ammonia, or nitrogen gas before it reaches the water table. Effluent and groundwater were analyzed for the following:

Table 19. Nitrogen Analyses

Influent (Can Seg Process Water)	Effluent		Groundwater
	IRR-FOR	CAN-SEG	
Ammonia TKN	Nitrate+nitrite	Total nitrogen	Nitrate+nitrite

Therefore, this evaluation is based on nitrate+nitrite, total nitrogen, and TKN data but uses the WQO for nitrate as nitrogen for comparison purposes.

Nitrate+nitrite concentrations in effluent are low (<1 mg/L) while the concentrations of total nitrogen exceed 10 mg/L. The majority of the total nitrogen in influent consists of ammonia and TKN, which is the organic fraction of total nitrogen. This indicates that the majority of nitrogen is readily available for plant uptake. Concentrations trends for total nitrogen at the CAN-SEG sample location show relatively steady-state trends over time (2019 to 2023).

High nitrate+nitrite concentrations (greater than the WQO) in upgradient groundwater indicate the area has been impacted by other sources in the area. Downgradient nitrate+nitrite concentrations in on-site monitoring wells are lower than the upgradient concentrations. This could indicate anoxic conditions in groundwater. As groundwater migrates away from the Jennings Campus and LAAs towards the Facility boundaries and the environment becomes re-oxygenated, TKN and ammonia that was not removed by plant uptake or other vadose zone processes could convert to nitrate as nitrogen with concentrations potentially exceeding WQOs in groundwater. It should be noted that the Facility is surrounded by land used for agricultural purposes, including a cattle feed lot, which is likely contributing to groundwater degradation. While discharges from the Facility has impacted groundwater, the discharge is not the sole contributor to the groundwater degradation.

For the continued protection of groundwater quality, this Order requires the effluent and groundwater to be monitored for TKN, ammonia, total nitrogen, and nitrate as nitrogen, sets a nitrogen loading limit to the LAAs, requires the Discharger to continue its efforts to control and manage nitrogen in its discharge, and participate and comply with the Nitrate Control Program. The Discharger has selected Pathway B under the Nitrate Control Program and joined the Modesto Management Zone (Valley Water Collaborative).

126. **Metals**. Metals included in this discussion are associated with the application of wastewater and biosolids and are listed below.

Antimony	Copper	Nickel
Barium	Iron	Selenium
Beryllium	Lead	Silver
Cadmium	Manganese	Thallium

Chromium	Mercury	Vanadium
Cobalt	Molybdenum	Zinc

Typical domestic wastewater is not expected to contain significant amounts of metals. Influent and effluent wastewater were not analyzed for dissolved metals.

Concentrations of metals in up- and down-gradient monitoring wells are less than their respective WQOs, with the exception of arsenic, iron, manganese, and molybdenum.

Dissolved arsenic, iron, manganese, and molybdenum in groundwater can be present in groundwater as a result of anoxic conditions, which can occur in saturated soils where excessive organic material is present. An anoxic environment can solubilize naturally occurring metals in soil. Excessive BOD_5 in the applied wastewater can contribute to anoxic conditions. The Facility uses the FFRs and treatment ponds to reduce BOD_5 and minimize organic loads to the LAAs. However, the discharge of wastewater and organic material to the unlined ponds could also be contributing to organic loading. Average concentrations of BOD_5 in influent and effluent wastewater are summarized below.

Table 20. BOD_5 Concentration Comparison

Average Concentration (2019-2023	Influent (Sutter Campus)	Influent (Cannery Wastewater)	Effluent (IRR-FOR location)	Effluent (CAN-SEG location)
BOD_5 (mg/L)	423	2,260	20	994

Can Seg process water contains concentrations of BOD_5 that are significantly higher than concentrations in the domestic influent wastewater, indicating the majority of BOD_5 in the effluent is associated with the Can Seg process water. When not managed properly, high BOD_5 concentrations and organics in soil can result in odor issues and create anoxic environments where metals could mobilize and impact groundwater quality. To help mitigate impacts, the Discharger blends the Can Seg influent with treated municipal effluent to reduce BOD_5 concentrations and organic loading in wastewater applied to the LAAs.

Between 2019 and 2023, concentration trends for arsenic, iron, manganese, and molybdenum in groundwater show steady-state conditions, with the exception of:

- Iron concentration trends in MW-5 (downgradient) are decreasing.
- Manganese concentration trends in MW-10 (upgradient) and MW-14 (upgradient) are decreasing.
- Manganese in MW-11D (upgradient) and MW-13 (downgradient) show increasing concentration trends.

Impacts to groundwater from land applied biosolids and organics in wastewater are likely impacting groundwater beneath the Jennings Campus and the Modesto Ranch.

For the protection of groundwater, this Order sets a BOD_5 loading limit to avoid excessive anoxic soil conditions and impacts to groundwater and requires the Discharger to conduct an *Arsenic, Iron, Manganese, and Molybdenum in Groundwater Assessment Workplan* (Provision M.2.i).

127. **Total Coliform.** Concentrations of total coliform has been reported in up- and down-gradient wells exceeding the WQO of 2.2 MPN/100 mL. Concentrations in upgradient wells range between 1 MPN/100 mL and 107 MPN/100 mL in data collected between 2019 and 2023. Downgradient concentrations vary significantly and ranged between 0.9 MPN/100 mL and 2,420 MPN/100 mL (MW-5 in 2019).

Although total coliform concentrations in groundwater beneath the Facility exceed the WQO, similar concentrations are present in upgradient groundwater, indicating that the source is not solely attributable to the domestic wastewater treatment system. Potential contributors include regional upgradient sources, avian activity in the vicinity of the wastewater ponds, and the presence of undisinfected wastewater in the ponds. Groundwater monitoring data indicate stable, steady-state conditions over time.

128. Although this Order authorizes limited degradation of receiving groundwater, such degradation will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds applicable WQOs.

129. The Discharger implements, or will implement, as required by this Order the following measures, which the Central Valley Water Board has determined constitute BPTC. These measures will minimize the extent of water quality degradation resulting from the Facility's discharges:

a. Influent screening and grit removal to remove as much of the inert influent solids as possible, minimizing non-biodegradable content in the biosolids.

b. Treatment of biosolids in anaerobic digesters followed by drying and land application, minimizing pathogen density, and minimizing free water.

c. Treatment of biosolids to meet the USEPA's Class A and/or Class B criteria for land application (40 C.F.R. §503).

d. Rotation of fields receiving biosolids to allow recovery periods between applications.

e. Use of end-of-pipe mixing to blend segregated Can Seg process water with recycled water to minimize the concentrations of non-nutritive compounds in irrigation water.

f. Use of closed pipelines (as opposed to open ditches) for the irrigation water distribution system, minimizing losses to groundwater and improving irrigation water distribution for more even application.

g. Harvests are timed in relation to the intensive hydraulic loading of the canning season.

h. Grading and tilling the LAAs to ensure efficient irrigation infiltration and to maintain soil quality.

i. Use of a specialist outside contractor to transport and land-apply biosolids over a period between cropping cycles.

j. Use of best management practices for land application of effluent and biosolids and use of Can Seg process water based on the California League of Food Processors' *Manual of Good Practice for Land Application of Food Processing/Rinse Water* (*Manual of Good Practice*).

k. Nitrogen loading from effluent, blended effluent, and biosolids, as well as other fertilizers is done at a calculated rate, specific to the nitrogen uptake for the crop to be planted, determined based on agronomic recommendations for proper crop production and residual nutrients from previous applications.

l. Maintenance of setback distances for the Class B biosolids staging, short-term storage, and application areas, as defined in Section G, Biosolids Discharge Specifications, of this Order.

m. Maintenance of setback distances for irrigation operations as defined per the Land Application Area Specifications in Section J of this Order.

n. All LAAs include berms and tailwater collection to collect runoff from the LAAs which helps to avoid standing water.

o. Ensure the even application of wastewater and biosolids to avoid over application and ponding conditions.

p. Implementation of specific Discharger-developed management plans to improve effluent management and quality and minimize potential threats to groundwater, including:

    i. *Industrial Pretreatment Program*

    ii. *Ranch Management Plan*, incorporating an irrigation management plan

    iii. *Nutrient Management Plan* (NMP), which included a nitrogen management plan. The Discharger's lessees prepare NMPs each year to inform the Discharger of the crops that will be grown, which then allows the Discharger to determine the total nitrogen demand for the LAAs.

q. All discharges to the sludge drying beds must cease by 1 July 2036.

r. Newly constructed sludge drying beds at the Jennings Campus shall be lined.

s. Continued participation in the Salt and Nitrate Control Programs.

130. Generally, limited degradation of groundwater by some of the typical constituents of concern (e.g., EC and nitrate) released with the discharge from a municipal wastewater utility after effective source control and treatment, is consistent with maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. The degradation will not unreasonably affect present and anticipated beneficial uses of groundwater or result in water quality less than water quality objectives.

131. The Facility contributes to the economic prosperity of the region by providing necessary services and employment for the local community; by providing incomes for numerous aligned businesses; and by providing a tax base for local and county governments.

132. Based on the foregoing, the adoption of this Order is consistent with the State Water Board's Antidegradation Policy.

California Environmental Quality Act

133. In accordance with the CEQA (Pub. Res. Code § 21000 et seq.), on 28 January 2020, the Discharger certified a final Environmental Impact Report (EIR) for the Modesto Wastewater Master Plan (MWMP), which encompasses the waste management and land application activities authorized under this Order. The Central Valley Water Board was consulted in the development of the EIR.

134. The EIR is conclusively presumed compliant with CEQA for use by the Central Valley Water Board, as a responsible agency, and no further review is required at this time (Cal. Code Regs., tit. 14, § 15162).

135. To the extent that this Order authorizes any physical changes to the environment that were not evaluated in the EIR, this Order is exempt from CEQA pursuant to California Code of Regulations, title 14, section 15301, because it authorizes negligible or no expansion of use at an existing facility.

136. The Discharger, as lead agency, is currently preparing a CEQA Addendum to evaluate the potential environmental impacts that could result from the proposed removal of the time restrictions regarding land application of biosolids and/or from the proposed acceptance of Class B biosolids from other municipalities for land application at the Modesto Ranch. A date restriction was included in Order 94-030 due to the presence of Aleutian Canadian geese, a special status species. Since the adoption of Order 94-030 in 1994, the Aleutian Canada goose

is no longer identified as a special-status species. If CEQA is adopted that removes the date restriction of biosolids application and allows for the acceptance of biosolids from other municipalities, the time restriction is no longer applicable and the Discharger can accept biosolids from other municipalities, as permitted under these WDRs. (see Provision M.2.j).

Other Regulatory Considerations

137. These WDRs regulate a facility that may impact a disadvantaged community and/or tribal community and includes an alternative compliance path that allows the Discharger time to come into compliance with water quality objectives (i.e., salinity and nitrate). The Discharger has selected the Alternative Permitting Approaches for the Salt and Nitrate Control Programs, which provide performance-based approaches for achieving compliance with salinity and nitrate limits through implementation of specific requirements (i.e., support facilitation and completion of the Salinity P&O Study and Nitrate Management Zone Implementation Plans). The Central Valley Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in disadvantaged and tribal communities that may be affected by the discharges authorized by this Order. Pursuant to Water Code section 13149.2, the Central Valley Water Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of these WDRs. The Board also considered environmental justice concerns within the Board's authority and raised by interested persons with regard to those impacts.

138. The Central Valley Water Board anticipates that the issuance of these WDRs will result in water quality impacts within the scope of the Board's authority. Specifically, these WDRs authorize the continued discharge of wastewater with salinity concentrations above applicable water quality objectives. The Central Valley Water Board has identified the following measures available and within the scope of its authority to address the impacts of the Facility to the nearby disadvantaged communities in Stanislaus County: 1) active participation in the P&O Study and compliance with the Salt Control Program, 2) compliance with a salinity limitation, and 3) preparation and implementation of Salinity Evaluation and Minimization Plan to establish goals for potentially reducing salinity concentrations in the Facility's discharge.

139. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." Although this Order is not subject to Water Code section 106.3, as it does not revise, adopt or establish a policy, regulation or grant criterion, (see § 106.3, subd. (b)), it nevertheless promotes the policy by requiring discharges to meet MCLs for drinking water (excluding salinity), which are designed to protect human health and ensure that water is safe for domestic use. For salinity, the

Order requires compliance with the Salt Control Program. Although the Basin Plans' Exceptions Policy for Salinity allows participants in the Salt Control Program to obtain limited-term exceptions from MCLs for salinity, this Program is consistent with the Human Right to Water Policy because its overarching management goals and priorities include long-term development of sustainable management practices and, where feasible, restoration of impacted groundwater basins and sub-basins.

Threat-Complexity Rating

140. Based on the threat and complexity of the discharge, the facility is determined to be classified as 1B as defined below:

a. Category "1" – Those discharges of waste that could cause the long-term loss of a designated beneficial use of the receiving water. Examples of long-term loss of a beneficial use include the loss of drinking water supply, the closure of an area used for water contact recreation, or the posting of an area used for spawning or growth of aquatic resources, including shellfish and migratory fish..

b. Complexity Category "B" includes any discharger not included in Category A with either (1) physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or(2) any Class II or Class III waste management units.

Title 27 Exemption

141. This Order, which prescribes WDRs for discharges of undisinfected secondary treated wastewater and biosolids from a municipal treatment plant, along with industrial food-processing process water from cannery operations, is exempt from the prescriptive requirements of California Code of Regulations, title 27 (Title 27), section 20005 et seq. (See Cal. Code Regs., tit. 27, § 20090, subd. (b).)

Storm Water

142. Because the Discharger captures stormwater runoff from the Jennings Campus site for reuse as irrigation water, coverage under NPDES Order No. CAS000001, *General Permit for Storm Water Discharges Associated with Industrial Activities* (General Storm Water Permit) is not required at this time for the Jennings Campus. However, discharge of storm water runoff from the Sutter Campus is regulated under the General Storm Water Permit. LAAs are not subject to the requirements of the General Storm Water Permit.

Sanitary Sewer Overflows

143. Sanitary Sewer Overflows (SSOs), which typically consist of a mixture of domestic and commercial wastewater, often contains pathogenic organisms,

toxic pollutants, nutrients, oxygen demanding compounds, oil and grease, suspended solids, and other pollutants. When an SSO results in a discharge to surface water, it can cause temporary exceedances of WQOs, pose a threat to public health, adversely affect aquatic life, and impair recreational use and aesthetic enjoyment of surface waters in the area. The most common causes for SSOs are grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and/or contractor-caused blockages.

144. On 6 May 2022, the State Water Board adopted the SSO General Order, under which all public agencies that own or operate a sanitary sewer system with a total system length of more than one mile must enroll. The Discharger is enrolled under the SSO General Order.

Groundwater Wells

145. The Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.

146. Statistical data analysis methods outlined in the USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (Unified Guidance) are appropriate for determining compliance with the Groundwater Limitations of this Order. Depending on the circumstances, other methods may also be appropriate.

Scope of Order

147. This Order is strictly limited in scope to those waste discharges, activities, and processes described and expressly authorized herein.

148. Pursuant to Water Code section 13264, subdivision (a), the Discharger is prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and timing of waste discharges authorized herein, without filing a new RWD per Water Code section 13260.

149. Failure to file a new RWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.

150. This Order is also strictly limited in applicability to those individuals and/or entities specifically designated herein as "Discharger," subject only to the discretion to designate or substitute new parties in accordance with this Order.

Procedural Matters

151. All the above and the supplemental information and details in the attached Information Sheet (incorporated herein), were considered in establishing the following conditions of discharge.

152. The Discharger, interested agencies, and interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (Wat. Code, §13167.5.)

153. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

154. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code section 13263, that WDRs Orders 94-030, 99-112, and MRP 99-112-01 are rescinded (except for enforcement purposes, and pursuant to Water Code sections 13263 and 13267, the City of Modesto Water Quality Control Facility, its agents, employees, and successors shall comply with the following.

A. Standard Provisions

1. Except as specifically provided below, the Discharger shall comply with all applicable provisions of the attached *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, 1 March 1991 (SPRRs).

B. Discharge Prohibitions

1. During Phase I of the Salt Control Program, the Discharger is prohibited from discharging salts at concentrations exceeding the salinity numeric value of 700 µmhos/cm (as a monthly average) unless the Discharger is implementing the Phase I requirements of the Salt Control Program (i.e., full participating in the P&O Study).

2. The Discharger is prohibited from discharging nitrate and other forms of nitrogen speciation (e.g., total inorganic nitrogen and total Kjeldahl nitrogen) unless the Discharger is implementing the requirements of the Nitrate Control Program.

3. Except as expressly authorized under a separate permit, the discharge of wastes to surface waters or surface water drainage courses, including irrigation ditches outside of control of the Discharger, is prohibited.

4. Discharge of waste classified as “hazardous”, as defined in Title 22, section 66261.1 et seq., is prohibited.

5. Except as authorized pursuant to Section E.2 of the SPRRs, treatment system bypass of untreated or partially treated waste is prohibited..

6. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.

7. Discharge of toxic substances into any wastewater treatment system or LAA such that biological treatment mechanisms are disrupted is prohibited.

8. Application of solids from preliminary treatment at the Sutter Campus (e.g., influent screening) to the LAAs is prohibited.

9. Application of biosolids shall be confined to the designated use areas (Modesto Ranch LAAs).

10. The discharge of biosolids is prohibited, except as allowed for authorized storage, processing, and land application.

11. Irrigation water or wastewater shall not be applied to LAAs if standing water or saturated conditions are observed.

12. Application of biosolids at rates in excess of the nitrogen requirements of the crops/vegetation, or at rates that would cause the excess nitrogen or metals to leach to groundwater is prohibited.

13. Recycled water not meeting the standards of undisinfected secondary recycled water as defined in Title 22, section 60301.900 shall not be land applied at the Modesto Ranch LAAs.

C. Flow Limitations

1. Effluent flows, measured at locations EFF-003 and BPS-001 shown on Attachment E, to the LAAs from the Jennings Campus and the Can Seg Line combined shall not exceed the limits shown on Table 21.

Table 21. Effluent Flow Limitations

Flow Measurement	Flow Limit
Total Annual Flow (as determined by the total flow for the calendar year)	4,600 MG
Monthly Average Daily Irrigation Flow (including Can Seg flows sent to the Modesto Ranch)	25.2 MGD

D. Salinity Action Level

1. To comply with the Salt Control Program, the Dischargers selected the Alternative Salinity Permitting Approach (i.e., participation in the P&O Study). Therefore, these WDRs establish a **TDS Salinity Action Level of 2,000 mg/L** at Monitoring Location EFF-003 as a flow-weighted annual average for TDS. The flow-weighted average TDS concentration is based on total flow and concentration for each source of water discharged.

   As part of the Annual Monitoring report required per **MRP R5-2025-0059**, the Discharger shall compare the flow-weighted annual average effluent TDS concentration (monitored at EFF-003) to the Salinity Action Level. If the Facility's discharge exceeds the Salinity Action Level, the Discharger shall submit a Salinity Action Level Report by 1 March of the year following the exceedance of the Salinity Action Level. The Salinity Action Level Report shall, at a minimum, include the following:

   a. An evaluation of the Discharger's salinity effluent levels. This evaluation shall discuss any changes to the source water for the City, any increased water conservation efforts implemented within the Facility or canneries, and any other changes to Discharger's operations that could have contributed to the increased salinity concentrations.

   b. If additional time is needed to investigate the source(s) of the salinity in the Facility's discharge, the Salinity Action Level Report shall include a detailed work plan describing what actions the Dischargers will conduct (with completion dates) to investigate the source(s) of salinity and report its findings to the Central Valley Water Board. The findings from the investigations shall be submitted to the Central Valley Water Board no later than **October 1st** of the year following the exceedance of the Salinity Action Level.

   c. The Salinity Action Level Report shall evaluate the potential impact the increased salinity concentrations could have on underlying

groundwater and downgradient users. If additional time is needed for this evaluation, the Salinity Action Level Report shall propose a submittal date (**no later than October 1st** of the year following exceedance of the Salinity Action Level).

E. Mass Loading Limits

The Discharger shall maintain compliance with the following land discharge specifications, and loading calculations shall be performed as specified in the separately issued MRP, Section III.B

1. The total nitrogen loading from the discharge, including effluent, effluent blended with Can Seg process water, biosolids, and fertilizer, to the LAAs, as determined by the methods described in **MRP R5-2025-0059**, shall not exceed **crop demand.**

2. The maximum BOD_5 loading limit to the LAAs, as calculated as a cycle average as determined by the methods described in **MRP R5-2025-0059**, shall not exceed **200 lb/ac/day (monthly average)**.

F. Discharge Specifications

1. Domestic wastewater shall be treated to undisinfected secondary recycled water standards in accordance with Title 22 section 60301, prior to discharge to the LAAs.

2. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.

3. Wastewater treatment, storage, and disposal shall not cause conditions of pollution or nuisance (see Wat. Code § 13050).

4. The discharge shall remain within the permitted waste treatment and or containment structures and LAAs at all times.

5. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.

6. 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.

7. 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 continuous 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.

8. Public contact with wastewater and Class B biosolids at the Facility shall be prevented through use of fences, signs, or acceptable alternatives.

9. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions that affects an entire community or neighborhood, or any considerable number of persons.

10. As a means of discerning compliance with Discharge Specification 9, the dissolved oxygen (DO) content in the upper one foot of any of the facultative ponds in use shall not be less than 1.0 mg/L for three consecutive sampling events. If DO concentrations are less than 1.0 mg/L for three consecutive sampling events and objectionable odors are perceivable beyond the property limits, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the odors within 30 days.

11. 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 through control of water depth, harvesting, or herbicides.

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

    d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

12. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

13. The Discharger shall monitor solids accumulation in the facultative ponds at least every three (3) years, beginning in **2027**, and shall periodically remove biosolids as necessary to maintain adequate treatment capacity. The Discharger shall monitor solids accumulation in the recirculation ponds at least every three (3) years, beginning in **2030**, and shall periodically remove biosolids as necessary to maintain adequate treatment capacity. Specifically, if the pond is in service and the estimated volume of sludge in the digestion pit of a facultative pond exceeds 80 percent of the calculated digestion pit capacity, the Discharger shall initiate a clean out of the digestion pit within 18 months after the date of the estimate. If the estimated volume of solids in any Recirculation Channel exceeds 30 percent of the channel design volume based on the measured depth to the solids surface, the Discharger shall initiate cleanout of that Recirculation Channel within 18 months after the date of the estimate.

14. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications F.6 and F.7.

G. Biosolids Discharge Specifications

For the purposes of this Order, biosolids refers to sewage sludge that has been treated and tested and shown to be capable of being beneficially and legally used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities specified under 40 C.F.R. part 503.

1. Biosolids shall comply with either Class A or Class B pathogen standards listed in Appendix B of 40 Code of Federal Regulations part 503.

2. Biosolids shall comply with either Class A or Class B pathogen standards listed in 40 Code of Federal Regulations part 505.33.

3. If Class B biosolids are applied to a site where the soil will be tilled, biosolids shall be incorporated within 24 hours after application.

4. Biosolids may not be applied between 15 October and 1 May each year due to the classification of the Aleutian Canada goose as a special-status species. If the CEQA Addendum is adopted by the Lead Agency, the time restriction shown in this requirement will no longer be applicable.

5. Biosolids may not be applied to any agricultural field 24 hours before forecasted precipitation, during periods of precipitation, and for at least 24 hours after cessation of precipitation, or when soils are saturated.

6. Class B Biosolids less than 75 percent moisture shall not be applied during periods when the surface wind speed exceeds 25 miles per hour as determined by the nearest calibrated regional weather station (e.g., airport, CIMS).

7. Biosolids applied to LAAs shall have pollutant concentrations no greater than those tabulated below:

Table 22. Ceiling Concentrations

Constituent	Ceiling Concentration (mg/kg dry weight)
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

8. Biosolids shall not be applied to LAAs in amounts that cause the following cumulative metals loading limits to be exceeded:

Table 23. Cumulative Loading Rate Limits

Pollutant	Cumulative Pollutant Loading Rate Limit (lb/ac)
Arsenic	37
Cadmium	35
Copper	1,338
Lead	268
Mercury	15
Molybdenum	16
Nickel	375
Selenium	89
Zinc	2,498

9. Biosolids distinguished as “Class B” in 40 Code of Federal Regulations part 503 must comply with the following:

    a. The discharge of tail water or field runoff is prohibited within 30 days after application of biosolids for areas where biosolids have not been incorporated into the soil and where there is not a minimum of 33 feet of unmowed grass or similar vegetation bordering the application area and along the path of runoff to prevent movement of biosolids particles from the application site.

b. After an application of biosolids in any field, the discharger shall ensure the following:

i. For at least 30 days, food, feed, and fiber crops are not harvested.

ii. For at least 60 days after application of biosolids in areas with average daily (daytime) air temperatures exceeding 50ºF or for at least 90 days after land application where such conditions are not met, domesticated animals are not grazed.

iii. For at least 12 months:

1. Public access to the site is restricted for sites with a high potential for public exposure;

2. Turf is not to be harvested if the harvested turf will be placed on land with a high potential for contact by the public as defined in 40 Code of Federal Regulations part 503.11; and

3. Grazing of milking animals used for producing unpasteurized milk for human consumption is prevented if the field is used as pasture.

iv. For at least 14 months, food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface are not harvested.

v. For at least 20 months, food crops with harvested parts below the land surface are not harvested when the biosolids remain exposed on the surface for four months or longer prior to incorporation.

vi. For at least 38 months, food crops with harvested parts below the land surface are not harvested when the biosolids remained exposed on the ground surface for less than four months prior to incorporation into the soil.

10. Biosolids staging, storage, and application areas shall be at least:

a. 10 feet from property lines, except where property lines are adjacent to properties also using biosolids as a soil amendment;

b. 500 feet from domestic water supply wells;

c. 100 feet from non-domestic wells, with the exception of onsite irrigation wells owned and operated by the Discharger;

d. 50 feet from public roads;

e. 100 feet from surface waters; and

f. 2,500 feet from any domestic surface water supply intake.

H. Biosolids Storage Specifications

11. Facilities for the storage of biosolids shall be located, designed, and maintained to restrict public access to biosolids.

12. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.

13. The storage of biosolids, residual sludge, and solid waste on the 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 the Groundwater Limitations of this Order.

14. The Discharger is prohibited to discharge solids, sludge, or biosolids to the Sutter beds by 31 December 2036 as required by Provision M.2.e.

I. Recycled Water Specifications

For the purpose of this Order, “Use Area" means an area with defined boundaries where recycled water treated to meet Title 22 standards is used or discharged, and is synonymous in this Order with LAAs. The following recycled water specifications apply to the LAAs at Modesto Ranch.

1. No physical connection shall exist between recycled water piping and any domestic or irrigation water supply well that does not have an air gap or reduced pressure principle device.

2. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to a Title 22 Engineering Report prepared pursuant to Title 22 section 60323 and approved by DDW.

3. An engineering report must be submitted to DDW and the Central Valley Water Board for review and approval of any future use of recycled water or expansion of existing irrigation areas beyond those described in the approved Title 22 Engineering Report(s).

4. Recycled water shall be at least undisinfected secondary recycled water as defined in Title 22, section 60301.900.

5. Recycled water shall be used in compliance with Title 22, section 60304. All crops irrigated with undisinfected secondary recycled water shall be processed in accordance with Title 22, section 60304, subdivision (d)(6). DDW shall be informed of any changes to the irrigation or harvesting, of any crops irrigated with recycled water and/or changes to the pathogen-destroying treatment process to determine if an updated Title 22 Engineering Report is required.

6. The Discharger shall designate a use area supervisor responsible for the use and management of recycled water within the use area including but not limited to implementation of routine inspections, reporting, and distribution of harvested crops as well as training for all farmworkers on safe handling procedures for recycled water use.

7. No irrigation with, or impoundment of, undisinfected secondary recycled water shall take place within 150 feet of any domestic water supply well, with the exception of the Jennings Campus domestic supply well.

8. In accordance with Title 22 section 60310(d), the use of recycled water shall comply with the following:

    i. Any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency.

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

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

9. The perimeter of the LAA shall be graded to prevent runoff onto adjacent properties not owned or controlled by the Discharger and to prevent ponding along public roads or other public areas.

10. Any discharge of untreated or partially treated wastewater to the use area shall be reported immediately to the Central Valley Water Board, DDW, and local health official, and operations shall cease until the issue is resolved.

11. All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording:

"RECYCLED WATER - DO NOT DRINK"

12. Signs must be placed in conspicuous places, including at each entrance to the recycled water irrigated area. Alternative signage and wording or an educational program may be acceptable, upon DDW approval, provided the

Discharger demonstrates to DDW that the alternative approach will assure an equivalent degree of public notification.

13. The installation of recycled water pipeline(s) at the use site area(s) must be in accordance with the separation criteria pursuant to the Title 22, section 64572.

14. In accordance with Title 22, section 60310, subdivision (i), the recycled water system in irrigated areas must not include hose bibs. Only quick couplers that differ from those used on potable water system can be used.

J. Land Application Area Specifications

For the purposes of this Order, LAAs refer to the discharge areas at Modesto Ranch, as described in the Findings.

1. The Discharger shall ensure that all irrigation water and biosolids are applied and distributed with reasonable uniformity across each LAA field, consistent with good agricultural irrigation, and biosolids application practices. The Discharger shall implement changes to the irrigation system and/or operational practices as needed to ensure compliance with this requirement. The Discharger shall maximize the use of available LAAs to minimize waste constituent loading.

2. Land application of recycled water and blended effluent shall be managed to minimize erosion.

3. The LAAs shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance, the Dischargers shall temporarily stop irrigation and implement corrective actions to ensure compliance with this Order.

4. Any runoff of tailwater generated from the application of treated effluent shall be confined to the LAAs or any ponds and shall not enter any surface water drainage course or storm water drainage system that leaves Modesto Ranch.

5. Vegetation, which may include fodder crops, pasture grasses, native grasses and trees, and/or ornamental landscaping, shall be grown in the LAAs. Crops shall be selected based on nutrient uptake, consumptive use of water, irrigation requirements to maximize crop uptake of water and nutrients, and acceptable crops to receive undisinfected secondary recycled water.

6. The Central Valley Water Board recognizes that some leaching of salts is necessary to manage salt in the root zone of the crops. Leaching shall be managed to minimize degradation of groundwater and prevent pollution.

7. Adequate measures shall be taken to prevent the breeding of mosquitoes and other vectors of health significance. Measures may include but are not limited

to keeping tailwater (irrigation runoff) ditches essentially free of emergent, marginal, and floating vegetation.

K. Groundwater Limitations

Discharge of waste from any portion of the Facility shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or natural background groundwater quality, whichever is greater:

1. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, excluding salinity constituents subject to the Salt Control Program.

2. Taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

3. A most probable number (MPN) of 2.2/100 ml or more of total coliform organisms (TCO) over any seven-day period.

L. Solids Disposal Specifications

For the purposes of this Order “sludge” means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes; “solid waste” refers to grit and screenings generated during preliminary treatment; “residual sludge” means sludge that will not be subject to further treatment at the treatment plant; and “biosolids” refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations.

1. Solid waste and residual sludge shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation, prevent nuisance conditions, and maintain adequate treatment and storage capacity.

2. Solids removed from the bar screens and grit tanks at the Sutter Campus shall be hauled offsite for disposal at a regulated facility.

3. Any handling and storage of residual sludge, solid waste, and biosolids at the Facility shall be 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 the groundwater limitations of this Order.

4. 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 section 20005 et seq. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid WDRs issued by the State Water Board or a regional water quality control board will satisfy these specifications.

5. Use of biosolids as a soil amendment shall comply with this Order.

6. The use and disposal of biosolids shall comply with existing federal and State laws and regulations, including permitting requirements and technical standards included in 40 Code of Federal Regulations part 503. If the State Water Board and/or the Central Valley Water Board are, in the future, authorized to implement regulations contained in 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 Part 503 whether or not they have been incorporated into this Order.

   Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least 90 days in advance of the change.

M. Provisions

1. The Discharger shall comply with the separately issued **MRP R5-2025-0059** and any subsequent revisions thereto. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.

2. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision M.4:

   a. At least **120 days** prior to monitoring well abandonment, replacement, or installation for the groundwater monitoring wells at the Jennings Campus and Modesto Ranch, the Discharger shall submit a *Groundwater Monitoring Well Installation and Abandonment Workplan*. The workplan shall be prepared in accordance with and include the items listed in the first section of Attachment H, *Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Report*, which is attached hereto. Groundwater monitoring wells shall be designed to yield samples representative of the uppermost portion of the first aquifer underlying the Jennings Campus ponds and the Modesto Ranch LAAs. Any well installed or abandoned shall be so per applicable State of California and Stanislaus County standards. For the monitoring wells proposed to be abandoned, the monitoring and sampling of those wells, as required by MRP Order R5-2025-0059, will no be longer required upon submittal of this Workplan.

b. Within **90 days** of completion of any monitoring well installation or abandonment, the Discharger shall submit a *Groundwater Monitoring Well Installation and Abandonment Completion Report* for the abandoned or replaced wells at the Jennings Campus and Modesto Ranch. The report shall be prepared in accordance with, and include the items listed in, the second section of Attachment H: *Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Report*, which is attached hereto. The report shall describe the installation and development of all new monitoring wells and explain any deviation from the proposed workplan. Upon completion of monitoring well replacement (i.e., abandonment and installation) activities, the Discharger shall submit appropriate documentation including maps, list of updated well names, and well locations justification independently from quarterly monitoring reporting. The Report must include copies of the well abandonment permits issued by the Stanislaus County Environmental Health Department.

c. **Within 90 days of a CEQA determination by the lead agency** that there will not be adverse environmental impacts resulting from the removal of the time restrictions regarding biosolids application or from the acceptance of Class B biosolids from other municipalities, the Discharger shall submit the Notice of Determination to the Central Valley Water Board. Upon submittal of the documentation, the time restrictions regarding biosolids application due to the presence of the Aleutian Canada goose and/or the acceptance of Class B biosolids from other municipalities will be permitted. If a determination is not made, the time restriction for biosolids application and/or the prohibition of accepting Class B biosolids from other municipalities will remain in effect in this Order.

d. At least **4 months prior** to acceptance of Class A or Class B biosolids from other facilities, the Discharger shall submit an *Offsite Biosolids Management Plan*. The plan shall describe the operational procedures regarding biosolids transport, acceptance, testing, land application and storage activities, including procedures for spill prevention and response plans and adverse weather plans (as appropriate). The Discharger shall not accept biosolids from any facility until the plan has been acknowledged by the Central Valley Water Board or a 6-month period has passed, whichever occurs first.

e. **By 31 December 2036**, the Discharger shall cease all discharge of sludge to the unlined sludge drying beds located at the Sutter Campus.

    i. **By 31 December 2026,** the Discharger shall submit a Groundwater Monitoring Well Installation Work Plan for the evaluation of groundwater quality at the Sutter Campus.

ii. **By 31 December 2031**, the Discharger shall submit a plan to the Central Valley Water Board describing the status of decommissioning the Sutter Campus drying beds and intended timeline for relocation. The submitted plan may include a *Sutter Campus Groundwater Quality Evaluation and Relocation Timeline Extension Request* that provides an assessment of the impacts associated with the operation of the unlined drying beds on downgradient beneficial uses. The analysis presented shall include data collected from a survey of domestic wells within an appropriate radius of the Sutter Campus. If it is demonstrated that beneficial uses are not impacted in the downgradient wells, the report may provide a proposed revised timeline for relocation of the drying beds.

iii. **At least 120 days** prior to ceasing use of the Sutter Campus sludge drying beds, the Discharger shall submit a *Sutter Campus Sludge Drying Beds Work Plan* that provides details on the planned decommissioning of the beds. The plan must outline the proposed procedures for decommissioning the beds, including methods for removing residual sludge and criteria and verification procedures to ensure that sufficient material has been removed to prevent further degradation of groundwater quality.

iv. **Within 60 days after decommissioning of the applicable drying beds at the** Sutter Campus, the Discharger shall submit a *Sutter Campus Sludge Drying Beds Decommissioning Completion Report.* The report shall include:

1) The date the beds were decommissioned and method of decommissioning.

2) A detailed description of the procedures used to remove residual sludge.

3) An explanation of how it was determined that residual sludge was sufficiently removed; and

4) A technical justification demonstrating that the removal efforts are protective of groundwater and prevents further degradation.

f. **At least 1 year** prior to initiating construction for new lined sludge drying beds at the Jennings Campus, the Discharger shall submit a *Jennings Campus Sludge Drying Beds Work Plan*. The Work Plan shall include detailed construction specifications, including a proposed liner that will meet a hydraulic conductivity standard of $1x10^{-6}$ centimeters per second (cm/s) or less, and demonstrate how the proposed lined beds will be protective of groundwater.

g. **Within 60 days after completion of construction of any new sludge drying beds at the Jennings Campus,** the Discharger shall submit a *Sludge Drying Beds Installation Completion Report.* The report shall document final construction details and confirm that the beds were constructed in accordance with the Work Plan. Deviations from the Work Plan will be described and include a discussion of why any deviations are considered protective of groundwater quality.

h. **By 1 July 2027**, the Discharger shall submit a *Floodplain Evaluation and Berm/Levee Management Plan* to the Central Valley Water Board detailing the current floodplain designation status of the Jennings Campus and identifying measure to the implemented to address berms and levees location within the designated flood plain. The plan shall also describe how these measures align with the California Department of Water Resources' Dam Safety requirements. The Discharger shall provide annual status updates regarding on-going evaluations of the flood plain status of the Jennings Campus and any planned and completed measures taken to address the berms/levees for the Jennings Campus and the Modesto Ranch. Annual updates shall be included in the annual monitoring reports required under **MRP R5-2025-0059**.

    1) **Within 90 days** after completion of all activities to address flood plain concerns, the Discharger shall submit a report describing the completed changes/upgrades implemented to address flood concerns and why these changes are considered sufficient to protect the Jennings Campus from a 100-year flood event. Upon submittal of the completion report, the updates in the annual monitoring reports are no longer required.

i. **By 30 June 2028**, the Discharger shall submit an *Arsenic, Iron, Manganese, and Molybdenum in Groundwater Assessment Workplan,* which shall include, at a minimum, the following:

    1) An evaluation of the horizontal and vertical extent of the dissolved metals concentrations in groundwater beneath and downgradient of the Jennings Campus (including the Modesto Ranch) associated with the Facility's discharge.

    2) The horizontal and vertical extent of the dissolved metals concentrations in groundwater beneath and downgradient of the Jennings Campus and Modesto Ranch will be evaluated in comparison to the horizontal and vertical extents of dissolved metals in groundwater in similar areas that are not affected or potentially affected by discharges from the City's Jennings Campus or the Modesto Ranch. These similar areas will be defined based on characteristics such as: geomorphology (San Joaquin River flood basin), soil types, soil hydraulic properties, soil saturation,

depth to groundwater, aquifer hydraulic characteristics, aquifer geochemical characteristics, land use, irrigation water source, and vegetation types.

3) An evaluation of the potential impacts the concentrations may have on downgradient beneficial uses. This shall include conducting a survey of domestic wells within an appropriate radius of the Jennings Campus, including the Modesto Ranch. The results of the well survey shall be included in the evaluation with a proposed strategy and schedule for sampling wells that could be impacted by the discharge.

4) Proposing potential additional monitoring wells to determine compliance with the groundwater limitations in this Order.

5) An evaluation of the Discharger's irrigation practices to determine if modification to the irrigation system could be made that would improve uniformity of wastewater application across the LAAs.

6) An evaluation of proposed corrective actions, including the development of a timeline and implementation plan, for mitigating groundwater impacts to downgradient beneficial uses. The evaluation shall identify any additional measures that may be necessary to address metals and any associated constituents associated with identified metals impacts in groundwater.

The assessment must demonstrate that the distances of the proposed compliance monitoring well locations from the Facility are a small as possible.

j. **By June 2033,** the Discharger shall submit an *Arsenic, Iron, Manganese, and Molybdenum in Groundwater Compliance Assessment Report* in accordance with Workplan submitted pursuant to Provision M.2.i. If it is determined through the assessment that elevated arsenic, iron, manganese, and molybdenum concentrations have been caused by the Discharger's discharge and have impacted downgradient domestic wells by causing exceedances of WQOs or background concentration, whichever is greater, the Report shall propose strategies that will be investigated for mitigating impacts (e.g., supplying drinking water to the user(s) of the impacted wells).

k. At least 180 days prior to any sludge removal from the ponds and disposal, the Discharger shall submit a *Sludge Cleanout Plan*. The plan shall specifically describe the removal, drying, and disposal of the sludge, the measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows when solids are removed from the

site prior to the onset of the rainy season (1 October). Also see Discharge Specification F.13.

3. The Discharger shall submit the technical reports and work plans required by this Order for consideration and shall incorporate comments from the Central Valley Water Board in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.

4. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

5. If the Discharger proposes to 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 (SOPs) prior to initiation of the hauling. The SOPs shall address material handling (including unloading, screening, and other processing) prior to anaerobic digestion, transportation, spill prevention, and spill response. In addition, the SOPs 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 the material prior to its introduction to the digester. The Discharger shall provide training to its staff on the SOPs and shall maintain records for three years of each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of three years for the disposition of solid waste segregated from the digester feed material and hauled off-site, including the disposal site location and quantity of solids transferred to each location.

6. A discharger whose waste flows have been increasing, or are projected to increase, shall estimate when flows will reach the hydraulic and treatment capacity of its treatment, collection, and disposal facilities. The projections shall be made, based on the previous three year's average dry weather flows, peak flows, and total annual flows as appropriate and be included as part of the annual report. When a projection shows that the capacity of any part of the system may be exceeded within four years, the Dischargers shall notify the Central Valley Water Board.

7. The Discharger shall comply with **MRP R5-2025-0059**, which is part of this Order, as well as any subsequent revisions thereto as ordered by the Executive Officer. Submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the operative MRP.

8. The Discharger shall comply with the applicable provisions of the Salt and Nitrate Control Programs adopted in Resolution R5-2018-0034 (as revised per Resolution R5-2020-0057) to address ongoing salt and nitrate accumulation in the Central Valley developed as part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV SALTS) initiative.

9. Upon Central Valley Water approval of the Modesto Management Zone Implementation Plan (MZIP), these WDRs will be amended to incorporate applicable MZIP tasks, including the requirement to prepare and implement a Nitrate Reduction Work Plan. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

10. The Discharger shall provide certified wastewater treatment plant operators in accordance with California Code of Regulations, title 23, division 3, chapter 26 (§ 3670 et seq.).

11. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.

12. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC, pursuant to section 313 of the “Emergency Planning and Community Right to Know Act” (42 USC § 11023).

13. The Discharger shall comply with the requirements of the operative SSO General Order (currently Order WQ 2022-0103-DWQ), the accompanying MRP (Order WQ 2008-0002-EXEC), and any subsequent revisions thereto. In accordance with these Orders, the Discharger shall notify the Central Valley Water Board, and take appropriate remedial action, upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.

14. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas, or off-site reuse of effluent

that is used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.

15. In the event of any change in control or ownership of the Facility, the Discharger must 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.

16. To assume operation as Discharger 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, the name, address, and telephone number of the person(s) responsible for contact with the Central Valley Water Board, and a statement complying with the signatory paragraph of Standard Provision B.3 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. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

17. In order to rescind WDRs that are no longer necessary because the discharge to land permitted under this Order has ceased, the Discharger must contact the Central Valley Water Board to discuss appropriate wastewater treatment system closure requirements.

18. A copy of this Order including the MRP, Information Sheet, Attachments, and SPRRs, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

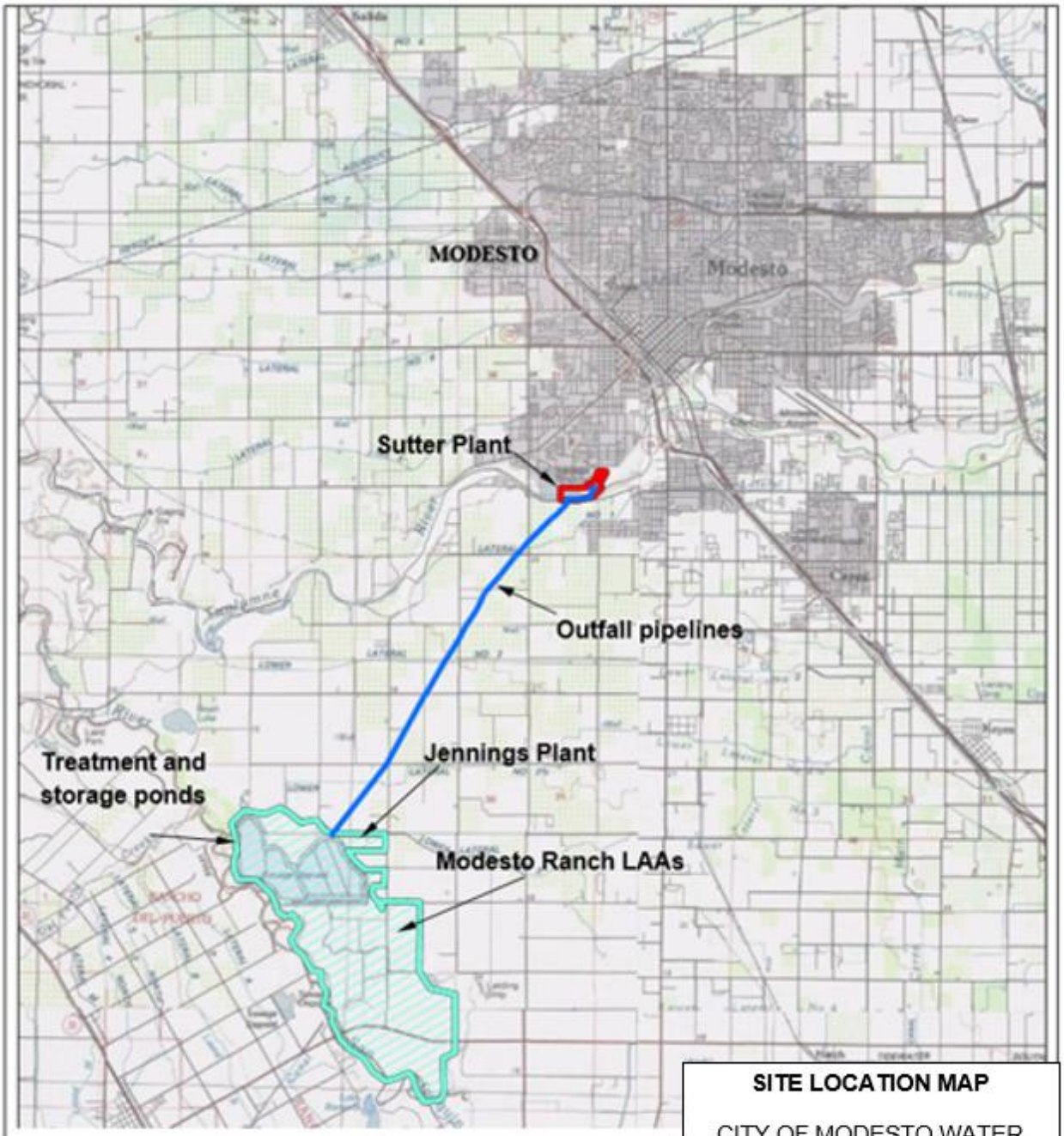
ENFORCEMENT

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take any other enforcement action(s). Failure to comply with this Order may result in the assessment of administrative civil liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350, and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board for administrative review in accordance with Water Code section 13320, and California Code of Regulations, title 23, section 2050 et seq. To be timely, the State Water Board must receive the petition by 5:00 pm on the 30th day after the date of this Order, except that if the 30th day falls on a Saturday, Sunday or State Holiday, the petition must be received by the State Water Board by 5:00 pm on the next business day. The law and regulations applicable to filing petitions are available on the internet at the State Water Boards' Public Notices Petitions for Water Quality webpage (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will be provided upon request.

ATTACHMENT A - SITE LOCATION MAP



Source: Base map is comprised of images of United States Geological Survey paper topographic maps. (From RWD Figure 1, West Yost Associates)

LAAs = land application areas

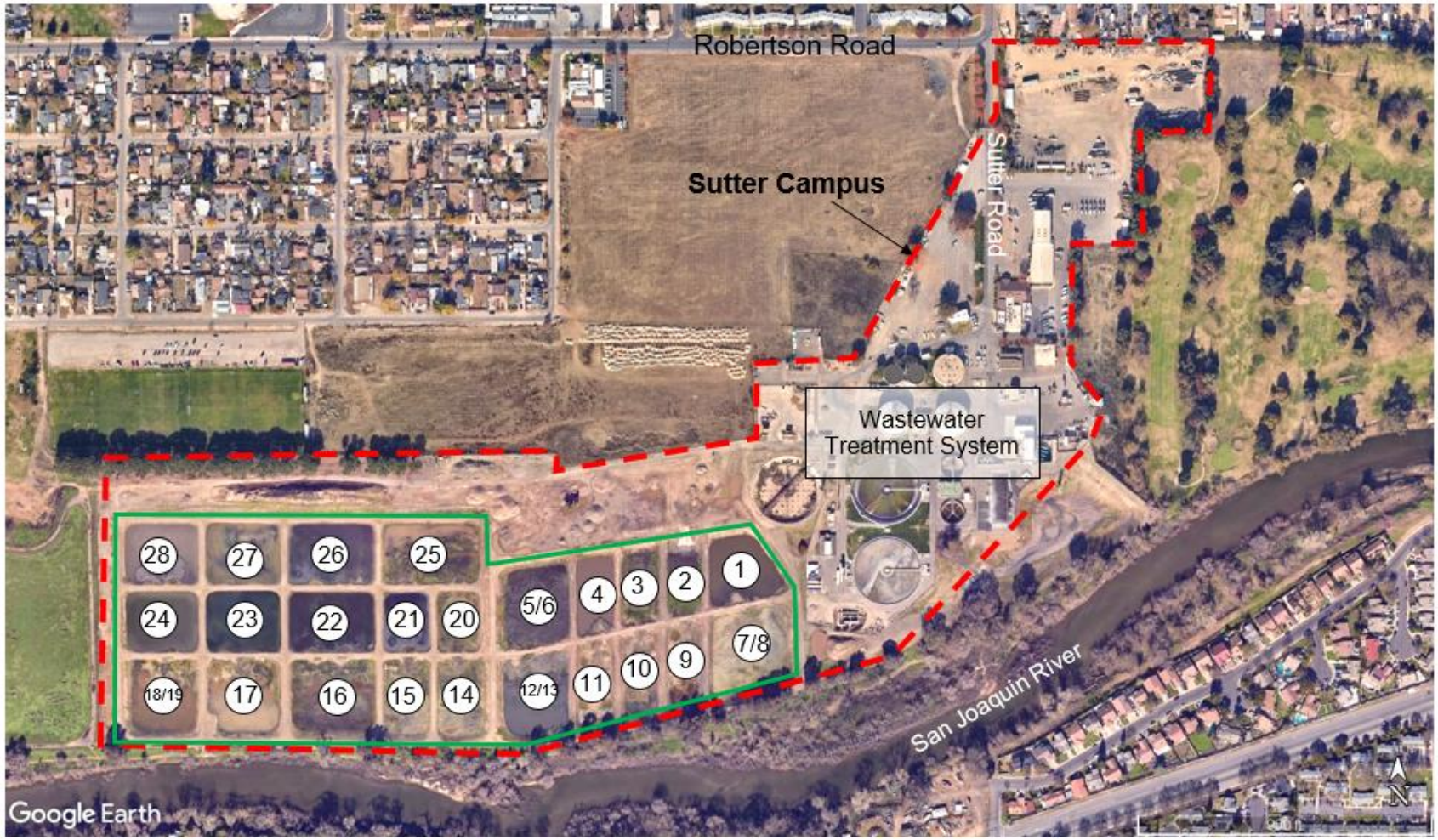
N W E S

Approximate Scale
1 inch = 2 miles

SITE LOCATION MAP

CITY OF MODESTO WATER RECYCLING FACILITY – SUTTER CAMPUS/CITY OF MODESTO WATER RECYCLING FACILITY – JENNINGS CAMPUS
STANISLAUS COUNTY

ATTACHMENT B - SUTTER CAMPUS SITE FEATURES MAP



Legend

(#) Sludge drying beds

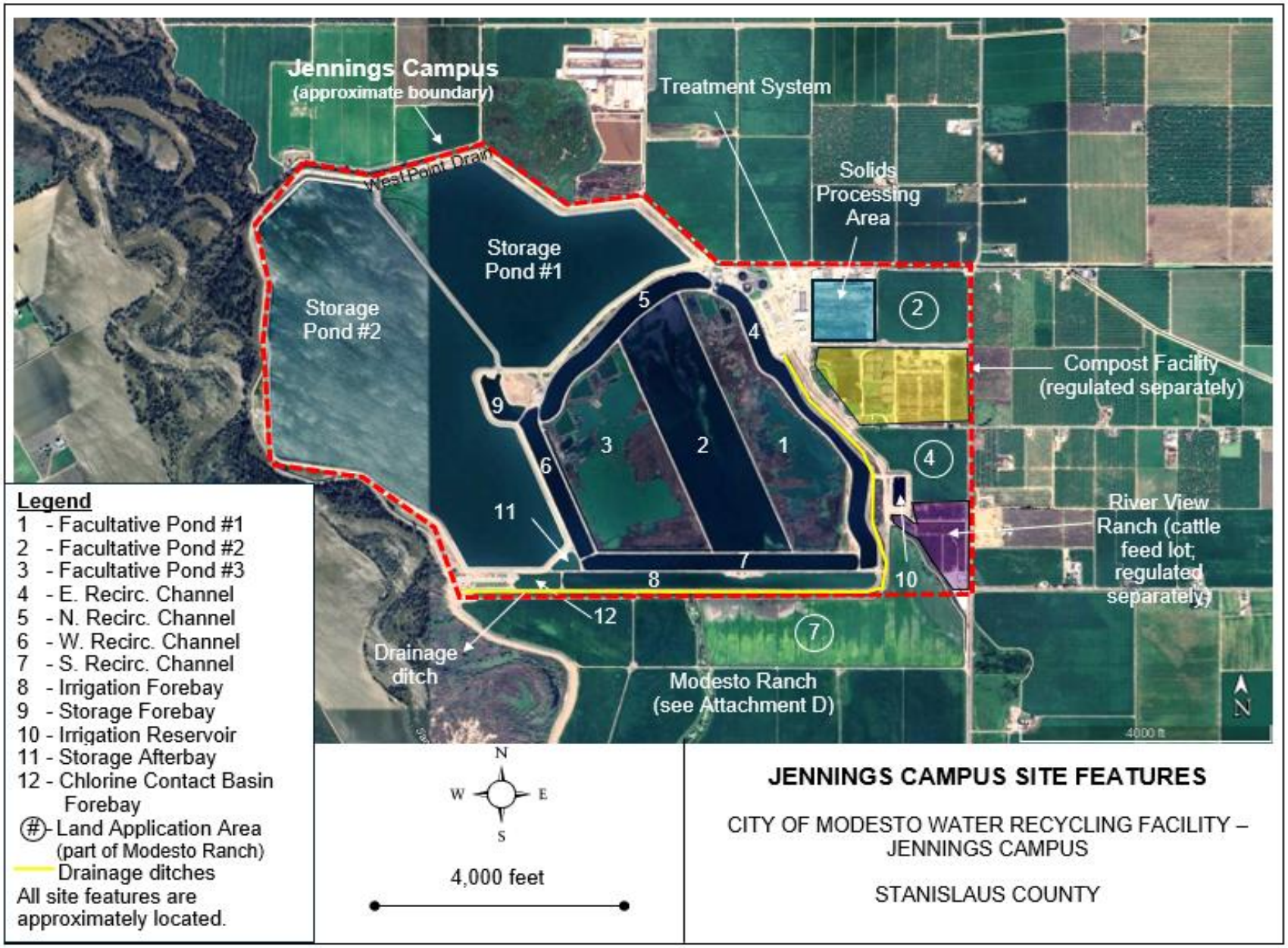
All site features are approximately located.

N
W E
S
~ 500 feet

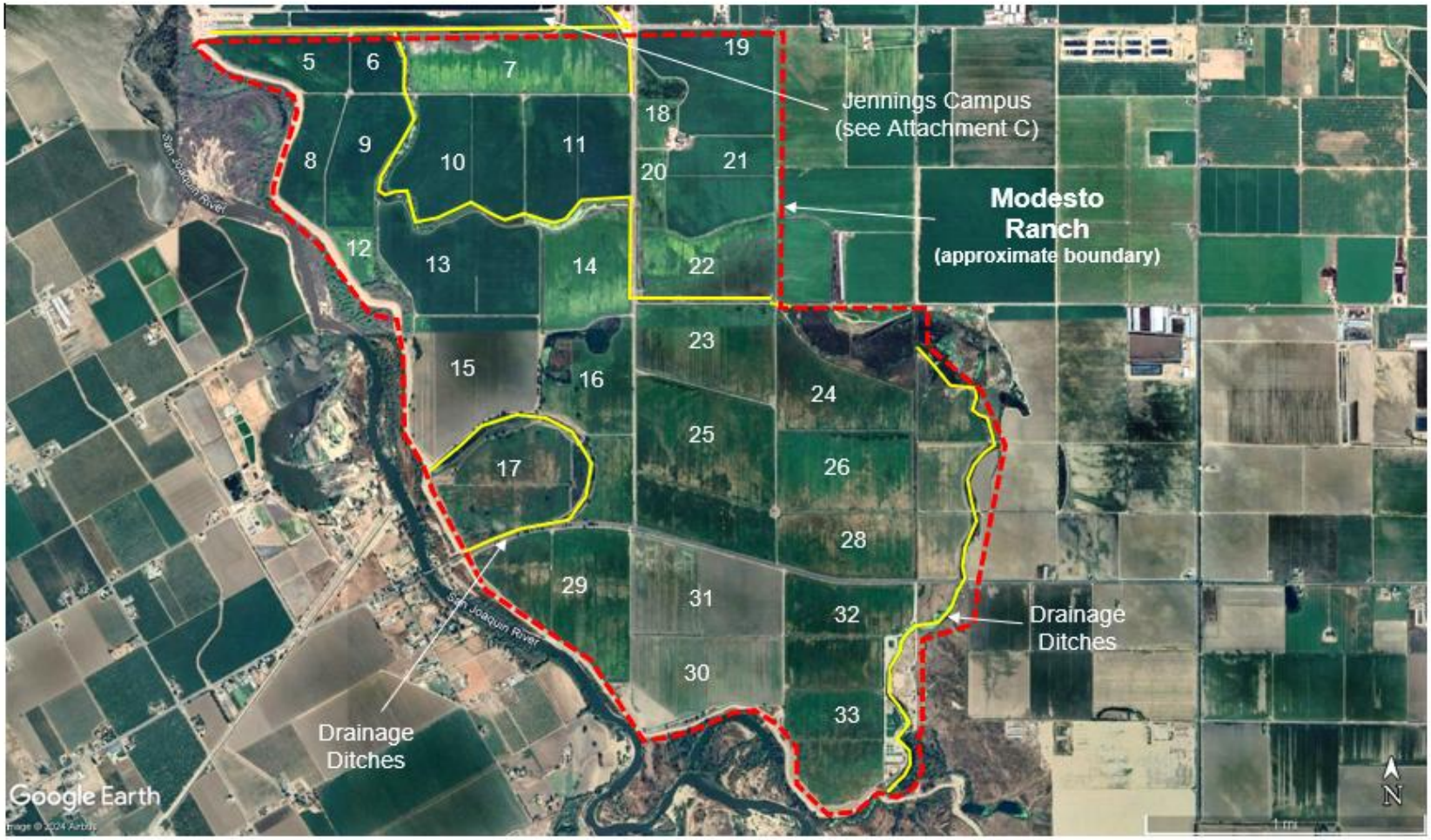
SUTTER CAMPUS SITE FEATURES MAP

CITY OF MODESTO WATER RECYCLING FACILITY – SUTTER CAMPUS
STANISLAUS COUNTY

ATTACHMENT C - JENNINGS CAMPUS SITE FEATURES MAP



ATTACHMENT D - MODESTO RANCH SITE FEATURES MAP



Legend

Land Application Area

All site features are approximately located.

N
W E
S

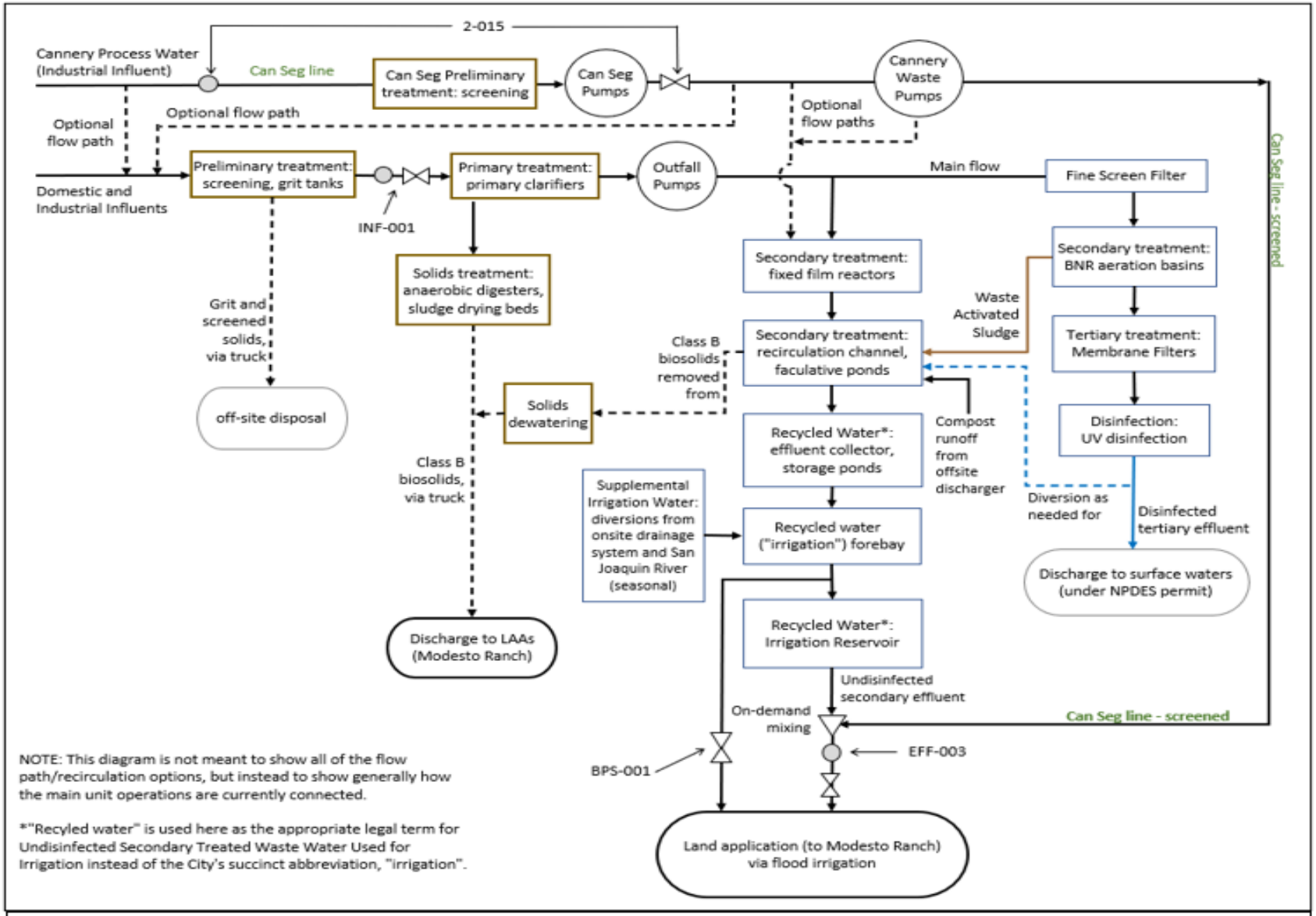
~ 0.5 miles

MODESTO RANCH SITE FEATURES

CITY OF MODESTO WATER RECYCLING FACILITY – JENNINGS CAMPUS

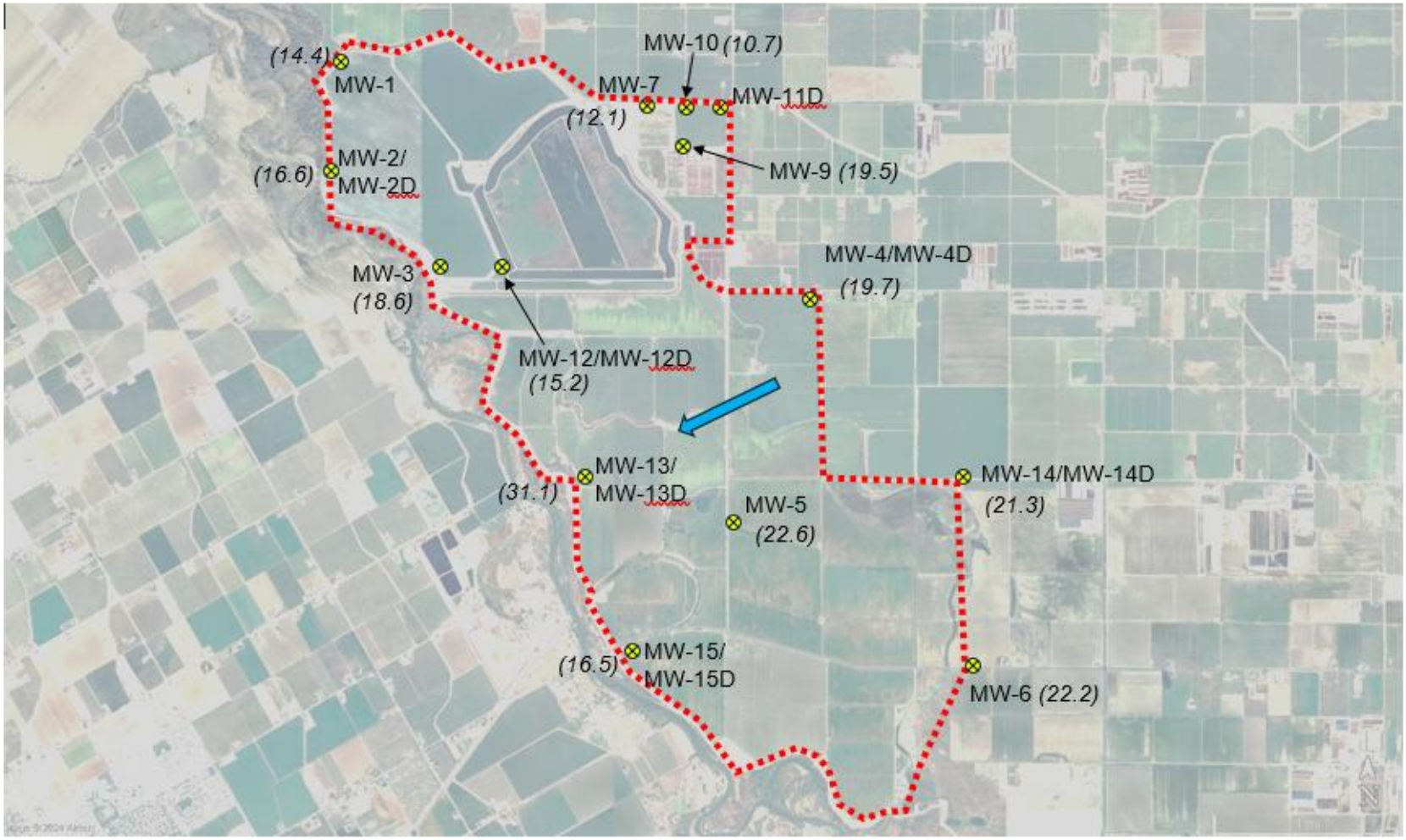
STANISLAUS COUNTY

ATTACHMENT E – WASTEWATER FLOW SCHEMATIC



WASTEWATER FLOW SCHEMATIC
CITY OF MODESTO REGIONAL WATER RECYCLING FACILITIES
SUTTER CAMPUS AND JENNINGS CAMPUS
STANISLAUS COUNTY

ATTACHMENT F – GROUNDWATER WATER MONITORING WELL LOCATIONS



Legend

Groundwater monitoring well

General groundwater flow gradient (~0.0006 feet/foot)

Numbers in () are groundwater elevations as of 4Q2023 for the shallow nested monitoring wells.

N
W E
S

1 mile

All site features are approximately located.

GROUNDWATER MONITORING WELL LOCATIONS

CITY OF MODESTO WATER RECYCLING FACILITY – SUTTER CAMPUS/CITY OF MODESTO WATER RECYCLING FACILITY – JENNINGS CAMPUS
STANISLAUS COUNTY

ATTACHMENT G – RECYCLED WATER SYMBOL

ATTACHMENT H
REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS AND MONITORING WELL INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1 below. Wells may be installed after staff approves the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report that includes the information contained in Section 2 below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

SECTION 1 - Monitoring Well Installation Workplan and Groundwater Sampling and Analysis Plan

The monitoring well installation workplan shall contain the following minimum information:

A. General Information:

1. Purpose of the well installation project
2. Brief description of local geologic and hydrogeologic conditions
3. Proposed monitoring well locations and rationale for well locations
4. Topographic map showing facility location, roads, and surface water bodies
5. Large scaled site map showing all existing on-site wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:

1. On-site supervision of drilling and well installation activities
2. Description of drilling equipment and techniques
3. Equipment decontamination procedures
4. Soil sampling intervals (if appropriate) and logging methods

C. Monitoring Well Design (in narrative and/or graphic form):

1. Diagram of proposed well construction details:

2. Borehole diameter

3. Casing and screen material, diameter, and centralizer spacing (if needed)

4. Type of well caps (bottom cap either screw on or secured with stainless steel screws)

5. Anticipated depth of well, length of well casing, and length and position of perforated interval

6. Thickness, position and composition of surface seal, sanitary seal, and sand pack

7. Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

1. Method of development to be used (i.e., surge, bail, pump, etc.)

2. Parameters to be monitored during development and record keeping technique

3. Method of determining when development is complete

4. Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):

1. Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey

2. Datum for survey measurements

3. List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP shall be included as an appendix to the workplan and shall be used as a guidance reference document for individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

1. Equipment to be used during sampling
2. Equipment decontamination procedures
3. Water level measurement procedures
4. Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
5. Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
6. Purge water disposal
7. Analytical methods and required reporting limits
8. Sample containers and preservatives
9. Sampling
    - General sampling techniques
    - Record keeping during sampling (include copies of record keeping logs to be used)
    - QA/QC samples
10. Chain of Custody
11. Sample handling and transport

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

A. General information:

1. Purpose of the well installation project
2. Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells

3. Number of monitoring wells installed and copies of County Well Construction Permits

4. Topographic map showing facility location, roads, surface water bodies

5. Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):

1. On-site supervision of drilling and well installation activities

2. Drilling contractor and driller's name

3. Description of drilling equipment and techniques

4. Equipment decontamination procedures

5. Soil sampling intervals and logging methods

6. Well boring log:

- Well boring number and date drilled
- Borehole diameter and total depth
- Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
  - Depth to first encountered groundwater and stabilized groundwater depth
  - Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (in narrative and/or graphic form):

Well construction diagram, including:

- Monitoring well number and date constructed
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Length of well casing, and length and position of perforated interval

- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)

D. Well Development:

1. Date(s) and method of development
2. How well development completion was determined
3. Volume of water purged from well and method of development water disposal
4. Field notes from well development should be included in report

E. Well Survey (survey the top rim of the well casing with the cap removed):

1. Identify the coordinate system and datum for survey measurements
2. Describe the measuring points (i.e., ground surface, top of casing, etc.)
3. Present the well survey report data in a table
4. Include the Registered Engineer or Licensed Surveyor’s report and field notes in appendix

INFORMATION SHEET

Background

The City of Modesto (Discharger) owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Modesto, the Empire Sanitary District, and a portion of the City of Ceres. The Facility serves a population of over 224,000 people along with local industries including food processing industries, e.g., canneries.

The Facility is regulated under four separate WDRs. The discharge of tertiary treated wastewater to surface waters of the San Joaquin River and Delta-Mendota Canal is regulated under two different National Pollutant Discharge Elimination System (NPDES) Permits (Nos. CAG585001 and CA0085316). Land applied biosolids are regulated by WDRs Order 94-030, adopted on 28 January 1994. Discharges of secondary undisinfected recycled wastewater to land for use as irrigation is regulated by WDRs Order 99-112, adopted on 28 July 1999. **WDRs R5-2025-0059** replaces and rescinds Orders 94-030 (biosolids) and 99-112 (wastewater to land). This Order does not authorize or otherwise regulate wastewater discharges to surface water.

The Facility is made up of three treatment facilities: Sutter Campus, Jennings Campus, and the Modesto Ranch. The Sutter Campus receives and screens the influent of domestic and industrial wastewater, followed by sedimentation. Biosolids are removed in the sedimentation process and are treated to Class B standards in anaerobic digesters and then dried on-site at the Sutter Campus for eventual land application. Primary effluent from the Sutter Campus is discharged to the Jennings Campus. The Jennings Campus treatment includes two different treatment trains. One train treats the wastewater to tertiary recycled water standards that discharges to surface waters. The second treatment train treats the wastewater to secondary undisinfected standards, and is stored in over 1,000 acres of wastewater ponds for use as irrigation at the Modesto Ranch. Biosolids are further treated in digestion pits. The Modesto Ranch consists of approximately 2,331 acres of LAAs and receives the secondary undisinfected recycled water to irrigate fodder crops. The LAAs also received process water from several canneries and dried biosolids from the Sutter Campus and Jennings Campus for use as a soil amendment.

Influent and Effluent Conditions

Between 2019 and 2023, influent flow rates into the Sutter Campus ranged from 6,700 million gallons (MG) to 7,654 MG, which includes industrial wastewater from canneries. During the cannery process season (approximately mid-July through mid-October), the cannery wastewater is screened, sent directly to the Modesto Ranch, commingled with treated effluent from the Jennings Campus, and used as irrigation. Class B biosolids generated at the Sutter Campus are dried on 23 unlined beds and then sent to the Modesto Ranch for use as a soil amendment. Class B biosolids generated at the Jennings Campus are removed from the digestion pits and mechanically dried at the

Jennings Campus site before being sent to the Modesto Ranch for use as a soil amendment.

Influent flow volumes from the canneries when wastewater is directed to the Modesto Ranch between 2019 and 2023 were up to 1,227 MG per year.

Effluent wastewater samples are collected prior to discharging to the Modesto Ranch and are considered representative of the quality of wastewater discharged to land. This sample location captures all domestic wastewater and all wastewater from the Can Seg Line. Average concentrations of constituents reported between 2019 and 2023 are summarized below. On Table 24 below, Column 1 represents effluent quality from the Jennings Campus when Can Seg flows are low, generally off-season. Column 2 represents effluent quality from canneries when wastewater is directed from the Sutter Campus to the Modesto Ranch and blended with wastewater from the Jennings Campus prior to discharge (see Attachment E). Units are mg/L unless noted otherwise.

Table 24. Average Effluent Concentrations

Constituent	Column 1	Column 2
	Average	Average
BOD_5	20	994
EC (µmhos/cm)	1,632	1,507
FDS	808	774
TDS	962	1,263
Chloride	299	NA
Nitrate+nitrite	0.7	NA
TKN	NA	38
Ammonia as N	NA	8.3

As presented in the 2018 RWD, wastewater quality for each treatment pond and storage pond for monitoring years 2010-2016 is summarized below.

Table 25. Pond Water Quality

Storage Facility	Maximum Concentration	Average Concentration	Minimum Concentration	Number of Data Points
EC (µmhos/cm)				
Treatment Pond No. 1	1,550	1,200	1,060	73
Treatment Pond No. 2	1,350	1,190	1,060	76
Treatment Pond No. 3	1,330	1,180	1,060	76
Storage Pond No. 1	1,450	1,190	1,050	76

Storage Facility	Maximum Concentration	Average Concentration	Minimum Concentration	Number of Data Points
Storage Pond No. 2	1,500	1,310	1,140	76
pH (standard units)				
Treatment Pond No. 1	11.6	7.9	6.8 (note 1)	2,035
Treatment Pond No. 2	10.1	8.0	6.4 (note 1)	2,143
Treatment Pond No. 3	10.0	8.0	6.9 (note 1)	2,143
Storage Pond No. 1	10.1	8.4	5.7(note 1)	2,143
Storage Pond No. 2	10.2	8.6	5.8 (note 1)	2,143
Dissolved Oxygen (mg/L)				
Treatment Pond No. 1	21.9	8.5	0.1	2,036
Treatment Pond No. 2	22.0	9.4	1.0	2,144
Treatment Pond No. 3	21.9	9.3	0.4	2,144
Storage Pond No. 1	21.9	9.2	1.2	2,144
Storage Pond No. 2	21.9	10.4	1.0	2,144

Note 1: Uncharacteristically low pH values of 4.2 or 4.3 standard units for each facility have been censored from this data set. The next lowest pH value is shown.

Groundwater Conditions

The groundwater monitoring network consists of 21 groundwater monitoring wells located at the Jennings Campus and Modesto Ranch to monitor potential impacts to groundwater from the land application of treated wastewater and biosolids. The groundwater wells have been monitored since at least the year 2000.

Groundwater data from the monitoring wells indicates that groundwater has been impacted from discharges from the treatment plant. Concentration trend analyses show that the degradation has stabilized and the discharge is not impacting groundwater beyond current conditions.

In a Technical Memorandum dated 15 November 2019, the Discharger proposed several changes to the current groundwater monitoring network, as summarized in the table below.

Table 26. Proposed Changes to the Groundwater Monitoring Network

Monitoring Well	Action	Reason for Change
MW-1 MW-4 MW-7 MW-10	Abandon	The variability in monitoring results from these wells and location of these wells demonstrate that they do not provide accurate characterization of the potential impacts of discharges to the LAAs to onsite groundwater.

Monitoring Well	Action	Reason for Change
MW-2 MW-3 MW-5 MW-6 MW-9 MW-12 MW-13 MW-14 MW-15	Replace	These wells have 6-inch diameter casings and are scheduled to be replaced with 2-inch diameter casings to reduce purge volumes and reduce labor costs for sample collection. The replacement wells will be equipped with dedicated sample pumps. MW-5 will be relocated to an area that is considered more representative of current land and groundwater conditions. MW-9 is expected to be relocated downgradient of the new biosolids handling area.
MW-2D MW-4D MW-5D MW-11D MW-12D MW-13D MW-14D MW-15D	Potential abandon	Water quality from these deep groundwater monitoring wells compared to the paired shallow wells is similar and therefore, potentially redundant. However, one or more of these wells may be useful in the development of the Workplan required as part of Provision M.2.i.

In discussions with the Discharger, the proposed changes to the groundwater monitoring network have not been implemented as of issuance of these WDRs. Prior to any changes, the Discharger is required to submit a *Groundwater Monitoring Well Installation and Abandonment Workplan* describing the proposed changes, including justifications for the changes, as required by Provision M.2.a. The Discharger shall work with Central Valley Water Board staff to ensure the proposed changes will meet the requirements of these WDRs for groundwater compliance.

Effluent and Loading Limits

Based on the water balances, this Order sets a total annual flow limit of 4,600 MG and a monthly daily average flow limit of 25.2 MGD.

This Order also sets a Salinity Action Level as a flow-weighed annual average TDS concentration of 2,000 mg/L. This action level was based on historical effluent and groundwater data and includes an approximate 23 percent safety factor to allow flexibility for water conservation efforts. By choosing to participate in the Prioritization and Optimization (P&O) Study, the Discharger may continue implementing reasonable, feasible, and practicable efforts to control salinity through performance-based measures.

This Order sets a BOD_5 loading limit of 200 lb/ac/day as a monthly average and a nitrogen loading limit not to exceed crop demand.

Groundwater Limit Compliance Language

Groundwater limitations establish that the release of waste constituents from any portion of the Facility shall not cause or contribute to the exceedance of water quality objectives in the receiving water. If the Facility's discharge contains waste at a level greater than a water quality objective but the groundwater receiving the waste remains below the water quality objective, the limitation would not be violated. However, if the same discharge contains waste at a level greater than the water quality objective and causes the receiving water to exceed a water quality objective, the groundwater limitation would be violated. Similarly, if the same discharge contains waste above the water quality objective and the receiving water is above the objective, the Facility's discharge would be contributing to an exceedance of the water quality objective and would be violating the receiving water limitation, if the receiving water natural background concentration is less than the water quality objective.

In the scenario where the level of waste in the Facility's discharge is below the water quality objective and the receiving water exceeds the water quality objective; the limitation would not be violated. Where natural background conditions exceed the water quality objective, compliance would be evaluated considering the established natural background concentration instead of the water quality objective.

Only discharges causing or contributing to the exceedance of the water quality objective or natural background concentration (if greater than the water quality objective) in the groundwater would be in violation of the limitation.

The Basin Plan contains the following in Section 3 Water Quality Objectives:

"The objectives contained in this plan, and any State or Federally promulgated objectives applicable to the basins covered by the plan, are intended to govern the levels of constituents and characteristics in the main water mass unless otherwise designated…"

Any analysis of the above factors to determine exceedances of groundwater limitations would consider this and other guidance from the Basin Plan (e.g., hydrogeologic and background characterization studies, regional groundwater flow and dilution, operation of the facility's groundwater interceptor ditch system, etc.).

Monitoring Requirements

Section 13267 of the California Water Code authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of waste discharges on waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate. The Order includes treated domestic wastewater, commingled wastewater, pond, LAAs, solids, biosolids, and groundwater monitoring requirements. This monitoring is necessary to characterize the

discharge and evaluate any impacts to groundwater and compliance with the requirements and specifications in the Order.

Salt and Nitrate Control Programs Regulatory Considerations

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted Resolution No. 2019-0057 conditionally approving the Central Valley Water Board Basin Plan amendments and directing the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. The Office of Administrative Law (OAL) approved the Basin Plan amendments on 15 January 2020 (OAL Matter No. 2019-1203-03).

Pursuant to the Basin Plan amendments, dischargers received a Notice to Comply with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments (17 January 2020). Upon receipt of the Notice to Comply, the Discharger will have no more than six months to inform the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt Permitting). The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. The Discharger (SALT ID: **2653**) has chosen to pursue Option 2 (Alternative Salinity Permitting Approach).

For the Nitrate Control Program, the Discharger's Sutter Campus falls within the Groundwater Basin 5-022.02 (San Joaquin Valley, Modesto Sub-Basin) and the Discharger's Jennings Campus falls within the Groundwater Basin 5-022.03 (San Joaquin, Turlock Sub-Basin). Both basins are a Priority 1 Basin. To comply with the Nitrate Control Program, Discharger is a participant of the Modesto Management Zone (Valley Water Collaborative). More information regarding the CV-SALTS regulatory planning process can be found at the following link: (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/).

The CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs regionwide, including the WDRs that regulate discharges from the Facility. More information regarding the CV-SALTS regulatory planning process can be found at the following link: (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/).

Reopener

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The Order sets limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

These WDRs require the City of Modesto to undertake substantial compliance efforts, including the cessation of discharges to unlined sludge drying beds at the Sutter Campus and the evaluation of potential groundwater impacts from metals at the Jennings Campus and Modesto Ranch. As the City implements these requirements, it may identify new information or funding opportunities that could affect the scope or timing of compliance. The City may submit a written request to amend these WDRs to modify specific provisions. Any such request must demonstrate that the proposed changes are necessary to address groundwater quality concerns in a prioritized manner and to mitigate potential water quality impacts as expeditiously as practicable.

Legal Effect of Rescission of Prior WDRs or Orders on Existing Violations

The Central Valley Water Board’s rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.