CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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

[TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER R5-2025-XXXX

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	Administrative Draft
Program:	Non-15
Region 5 Office:	Redding
Discharger(s):	Shasta County Department of Public Works
Facility:	Redding Regional Septage Disposal Facility
Address:	18624 Cambridge Road
County:	Shasta County
Parcel Nos.:	270-170-010
GeoTracker ID:	L10009362733
Prior Orders:	R5-2008-0138, 94-018, 77-279

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 XX Month 2025

_____

PATRICK PULUPA,
Executive Officer

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GLOSSARY

Antidegradation Policy .....Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16

Basin Plan.....Water Quality Control Plan for [BASIN]

bgs.....Below Ground Surface

$BOD_{[5]}$ .....[Five-Day] Biochemical Oxygen Demand at 20° Celsius

BPTC .....Best Practicable Treatment and Control

CEQA.....California Environmental Quality Act, Public Resources Code section 21000 et seq.

CEQA Guidelines.....California Code of Regulations, Title 14, section 15000 et seq.

C.F.R......Code of Federal Regulations

COC[s].....Constituent[s] of Concern

DO.....Dissolved Oxygen

DTSC .....California Department of Toxic Substances Control

DWR.....California Department of Water Resources

EC .....Electrical Conductivity

EIR .....Environmental Impact Report

FDS.....Fixed Dissolved Solids

FEMA.....Federal Emergency Management Agency

IPP .....Industrial Pretreatment Program

LAA.....Land Application Area

lbs/ac/yr.....Pounds per Acre per Year

µg/L.....Micrograms per Liter

GLOSSARY

µmhos/cm .....Micromhos per Centimeter

MG[D] .....Million Gallons [per Day]

mg/L.....Milligrams per Liter

msl.....Mean Sea Level

MRP .....Monitoring and Reporting Program

MW.....Monitoring Well

MCL .....Maximum Contaminant Level per Title 22

mJ/cm^2 .....Millijoules per Square Centimeter

ORP .....Oxygen Reduction Potential

N.....Nitrogen

ND.....Non-Detect

NE.....Not Established

NM.....Not Monitored

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

R[O]WD .....Report of Waste Discharge

RCRA.....Resource Conservation and Recovery Act

SPRRs .....Standard Provisions and Reporting Requirements

SERC .....State Emergency Response Commission

TDS.....Total Dissolved Solids

Title 22.....California Code of Regulations, Title 22

Title 23.....California Code of Regulations, Title 23

Title 27.....California Code of Regulations, Title 27

GLOSSARY

TKN.....Total Kjeldahl Nitrogen

Unified Guidance.....Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (USEPA, 2009)

USEPA.....United States Environmental Protection Agency

VOC[s].....Volatile Organic Compound[s]

WDRs.....Waste Discharge Requirements

WQO[s].....Water Quality Objective[s]

FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) hereby finds as follows:

Introduction

1. Shasta County Department of Public Works (Discharger) owns and operates the Redding Regional Septage Disposal Facility (Facility), which is located approximately 3.5 miles west of the City of Anderson in Shasta County, Section 30, Township 30N, Range 4W, Mount Diablo Base and Meridian (MDB&M). The Facility's location is depicted on the Site Location Map in **Attachment A**.

2. The Facility is comprised of Shasta County Assessor Parcel Number (APN): 270-170-010.

3. As Facility's owner and operator, the Discharger is responsible for compliance with the Waste Discharge Requirements (WDRs) prescribed in this Order.

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

   a. Attachment A—SITE LOCATION MAP

   b. Attachment B—FACILITY MAP

   c. Attachment C—Requirements for Monitoring Well Installation Workplans And Monitoring Well Installation Reports

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

5. Also attached is **Monitoring and Reporting Program Order** (MRP) **R5-2025-XXXX**, which requires monitoring and reporting for discharges regulated under these WDRs. Compliance with the MRP and subsequent revisions there to is the sole responsibility of the Discharger.

6. On 15 July 2019, the Discharger submitted a Report of Waste Discharge (ROWD) to update WDRs for the existing septage disposal Facility to continue to accept untreated septage, drinking water filter back-wash, and waste fats, oils, and grease (FOG), which is discharged to a series of 15 infiltration/evaporation ponds.

Regulatory History

7. The City of Redding, City of Anderson, and Shasta County first constructed the septage receiving facility in 1976 to serve the regional area. The Facility originally consisted of 10 clay-lined ponds with 16.2 million gallons (MG) storage capacity. In 1977 the Central Valley Water Board adopted WDRs Order 77-279 to regulate the Facility's wastewater discharge. The WDRs stated that the design receiving limit was 14,000 gallons per day (gpd) of septage and spent laundry waste.

8. In 1993, Shasta County submitted a ROWD showing the design waste receiving limit to be 9,000 gpd and actual waste receiving at 11,000 gpd. In 1994, the Central Valley Water Board adopted WDRs Order 94-018, which did not set a receiving water limit and specified that only domestic septage waste was received at the Facility. The WDRs required reporting of waste(s) received, reporting available storage capacity, and installation of a groundwater monitoring network.

9. In 2000, the Discharger obtained Central Valley Water Board approval to reconfigure the pond system as one series of nine ponds, increasing residence time and evaporative capabilities. One pond, Pond W5, was not included in the chain and was used for emergency storage. This pond is often referred to as the Decant Pond.

10. In 2006, unauthorized wastewater discharges led the Central Valley Water Board to issue Cease and Desist Order R5-2007-0022, which required the Discharger to expand the Facility. Engineering reports determined the original pond system storage capacity to be 17.7 MG, slightly higher than the storage volume reported in the original WDRs. Five additional, lined ponds (1A, 1B, 2, 3, and 4) were constructed in 2007, expanding the Facility to 33.2 MG storage capacity.

11. A 2007 Capacity Study and Water Balance supported a waste receiving limit increase to 13 MG per year. In 2008 Central Valley Water Board adopted WDRs R5-2008-0138 setting a waste receiving limit of 13 MG per year.

12. Capacity shortages in February 2017 and March 2019 resulted in unauthorized wastewater discharges to drainage(s) adjacent to the disposal pond(s) totaling 4.2 MG and 1.9 MG, respectively. The Discharger received Notices of Violation (NOV) for unauthorized wastewater discharges in March 2017 and March 2019. Both events occurred during above-average water years when storage capacity was inadequate.

13. On 15 July 2019, the Discharger submitted a ROWD prepared by Lawrence & Associates. The Discharger submitted supplemental information on 1 November 2019 and 9 December 2019. The 2019 ROWD water balance

utilized waste receiving data (2018-2019, 9.2 MG), historic weather data for the same period and wastewater discharge volumes to calibrate the water balance model. In the 2019 ROWD the Discharger does not provide water balance scenarios for the proposed design waste receiving limit (13 MG).

Facility and Discharges

Existing Facility and Discharges

14. The Facility serves as a regional septage receiving location and consists of 15 surface impoundments covering approximately 19 acres. A Facility Map is provided in Attachment B. Licensed private haulers weigh in and out at scales for the neighboring Class III municipal landfill facility and use a gate key to access the unmanned Facility for waste disposal.

15. Septage waste is from domestic sources and is limited to solids and liquids pumped from septic tanks and wastes from portable toilets. The Facility also receives restaurant and grease trap wastes (i.e., fats, oils, and grease (FOG)) and water filter backwash from drinking water treatment plants. The Discharger estimates that the FOG and water filter backwash waste streams comprise about three percent of the waste received.

16. FOG waste has not been shown to cause surface buildup on Ponds 2 through 4. No added maintenance requirements or interference with treatment processes have been documented as a result from acceptance of FOG waste.

17. The first five ponds (1A, 1B, 2, 3, and 4) are lined and are constructed (from top to bottom) with 1 foot of cover soil, a 24-oz non-woven geotextile, a 60-mil white HDPE geomembrane, and a second 24-oz non-woven geotextile over compacted subgrade. The first two ponds incorporate an added 0.3-foot-thick layer of asphalt pavement to allow for solids removal by heavy equipment. A leak detection system is constructed beneath the liner system above the subgrade at low elevation collection troughs. The leak detection system consists of a 4-inch Schedule 80 perforated PVC pipe surrounded by 3/8-inch permeable material (gravel) with a leak detection monitoring system sump at each pond.

18. Ponds 1A and 1B alternately receive incoming wastewater, where solids settle out of the wastewater. Alternating of receiving ponds occurs annually, allowing drying and removal of solids from the unused pond. Before the receiving pond reaches liquid capacity, wastewater discharges through a pipe or weir to the next in-series pond. All ponds are constructed with a weir which controls overflow to the next pond when storage capacity is reached. Final Ponds E4 and E5 are not equipped with such a weir but are equipped with an emergency gate-valve.

19. Ponds W1 through W5 and E1 through E5 were constructed in original clay soils. Berms were constructed with 95 percent compaction.

20. In 2017, the Discharger installed two evaporators (Model SMI 420F) in pond W1, which were initially manually operated in the dry season. In 2019, the Discharger equipped the Facility with a weather station, permanent power, and automatic controllers to automate and increase the relative use of the evaporators.

21. Table 1 summarizes total annual waste receiving. In 2019, Big Valley Sanitation, one of the largest users of the Facility, began discharging wastewater to the City of Redding municipal sewer system rather than the Facility. As a result, the Facility has seen a 30 percent decrease in wastewater discharged to the ponds.

Table 1 – Annual Waste Receiving, MG

Year	Annual Waste Receiving
2015	7.39 MG
2016	9.09 MG
2017	9.20 MG
2018	9.42 MG
2019	8.21 MG
2020	6.95 MG
2021	6.16 MG
2022	5.24 MG
2023	5.03MG
2024	5.08MG

22. There is no source water use at the Facility. All wastewater is transported to the Facility for final disposal.

23. Wastewater quality data for the primary pond (1A/1B), first unlined pond (W1), mid-treatment pond (E1) and final pond (E4/E5) are summarized in Table 2.

Table 2 – Wastewater Quality Average Concentrations (2008-2021)

Constituent	Units	Pond 1A/1B Min/Max	Pond 1A/1B Avg	Pond W1 Min/Max	Pond W1 Avg	Pond E4/E5 Min/Max	Pond E4/E5 Avg
pH	Std Units	5.6/9.5	7.04	5.4/10.2	8.64	6.9/11.1	8.85
Electrical Conductance	µmhos/ cm	1048/7010	3700	610/9254	3699	250/4080	1211
Total Dissolved Solids	mg/L	822/2430	1525	922/5710	2511	190/2370	801
Biological Oxygen Demand	mg/L	69/3720	1326	24/86	45	ND/43	13
Chemical Oxygen Demand	mg/L	276/9170	3676	370/1110	660	42/456	175
Chloride	mg/L	52/360	251	221/1830	741	25/801	248
Total Kjeldahl Nitrogen	mg/L	52/613	428	19/97	37	1.7/21.5	6.4
Nitrate-Nitrogen	mg/L	0.025/0.15	0.05	0.01/12.6	0.96	ND/0.13	0.03
Sulfate	mg/L	ND/269	24	1/500	37	ND/53.9	11.6
Arsenic	mg/L	0.008/0.056	0.024	0.002/0.014	0.008	ND/0.012	0.006
Cadmium	mg/L	ND/0.022	0.005	ND	ND	ND	ND
Chromium	mg/L	ND/0.142	0.037	ND/3.3	1.6	ND/0.002	0.001
Copper	mg/L	0.092/4.57	1.216	ND/0.068	0.013	ND/0.003	0.002
Nickel	mg/L	0.016/0.119	0.062	ND/0.044	0.024	ND/0.024	0.007
Zinc	mg/L	0.026/14.30	4.213	0.005/0.494	0.062	ND/0.003	0.003

Proposed Changes to Facility

24. No changes are proposed to the Facility infrastructure or to the waste receiving limit.

25. The Discharger proposes a wet-weather capacity management plan to maximize available storage capacity and establish emergency response measures. The proposed changes in operations are contained in Discharge Specifications F.15.

26. The Discharger proposed that acceptance of FOG at the facility be continued. Acceptance of FOG as a waste stream into the pond system has never formally been addressed in any permitting by the Central Valley Water Board, though there appears to be no adverse or deleterious effects to the system from the discharge of FOG to the facility's pond system.

Industrial Pretreatment Considerations

27. Certain industrial wastes, when discharged to wastewater treatment facilities without adequate controls, may cause one or more of the following problems:

    a. **Interference or Upset.** Discharges of high volumes or concentrations of certain waste constituents can inhibit or interfere with proper operations, thereby impairing the Facility's ability to treat wastewater—and potentially preventing compliance with WDRs.

    b. **Sludge Management.** Industrial wastes, particularly metals and other toxic constituents, can limit available sludge management alternatives, thereby increasing the cost of sludge management and disposal.

    c. **Pass-Through.** Some industrial wastes may not receive adequate treatment and pass through the treatment system in concentrations that can unreasonably degrade groundwater quality and/or prevent recycling of domestic wastewater.

    d. **Other Hazards.** Additionally, the discharge of explosive, reactive, or corrosive wastes can cause damage to the pond system liners or the leachate collection system.

28. Currently, there are no significant industrial waste being discharged, and/or proposed for discharge, to the Facility. Consequently, an Industrial Pretreatment Program will not be required at this time. However, this Order requires the Discharger to report any proposed new industrial discharges and, if directed by the Central Valley Water Board, to develop an Industrial Pretreatment Program regulating such discharges.

Site-Specific Conditions

Topography, Climate and Land Use

29. The Facility is located on a gentle ridge top with elevations ranging from 700 to 730 feet above mean sea level (feet MSL).

30. Surface-water drainage in the north and east portions of the property is toward unnamed tributaries of Anderson Creek, a tributary of the Sacramento River, in the Enterprise Flat Hydrologic Area (508.10) of the Sacramento Hydrologic Basin. Surface-water drainage along the southwest portion of the property is toward an unnamed tributary to Cottonwood Creek, a tributary of the Sacramento River, in the Lower Cottonwood Hydrologic Area (508.20) of the Sacramento Hydrologic Basin.

31. The soils underlying the ponds are predominantly Red Bluff gravelly loam with 0 to 3 percent slopes, high runoff potential, and very low hydraulic conductivity. Test pits dug to depths of 15 feet at the time of pond construction indicated approximately two feet of silty, gravelly sand, with underlying soils containing clay-bound sand, gravel, and cobbles mixed with hardpan. The land surrounding the ponds is predominantly Newtown gravelly loam with 30 to 50 percent slopes, very high runoff potential, low permeability, and a moderate to high erosion hazard.

32. The nearest weather station reporting storm event data, average monthly and 100-year annual precipitation data is Ferguson Ranch, Cottonwood CA is approximately six miles southwest of the site at an elevation of 801 ft MSL (NOAA Station ID 043020, Ferguson Ranch). This station was formerly referred to as Davis Ranch by the California Data Exchange Center. Average annual precipitation at Ferguson Ranch is 26.53 inches for the period 1952 to 1967 (https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3020).

33. The California Irrigation Management System (CIMIS), published by Department of Water Resources (DWR), indicates the reference evapotranspiration is approximately 57 inches per year. (https://wwwcimis.water.ca.gov/Content/pdf/CimisRefEvapZones.pdf).

34. According to National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Point Precipitation Frequency Estimates (Volume 6 Version 2) the 100-year and 1,000-year 24-hour rainfall events are recorded to be 6.95 and 9.12 inches, respectively. See NOAA Ferguson Rch Precipitation Data (https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ca).

35. According to the Federal Emergency Management Agency's (FEMA) the Facility is not located within a 100-year floodplain. See Map Number 06089C1940G, revised September 3, 2010 Flood Insurance Rate Map, enter address 18624 Cambridge Road, Anderson CA (https://msc.fema.gov/portal),

36. Land uses in the vicinity include Public Facilities to the south (Anderson Landfill), Limited Agriculture with Mobile Homes permitted to the east, Exclusive Agriculture to the west and Limited Residential to the north. There is no irrigated agriculture within one mile of the Facility. The nearest residences are 0.5 miles to the north, on the opposite side of Anderson Creek, and one mile to the east.

37. There is no water supply at the Facility. The nearest groundwater supply well is located 0.25 miles to the south and serves the Anderson Landfill facility. It is screened at a depth of 300 feet.

Groundwater, Vadose Zone and Subsurface Conditions

38. The Red Bluff Formation consists of alluvial deposits of poorly sorted cobbles, gravel, sand, silt, and clay and ranges from 5 to 7 feet thick. The Tehama Formation underlies the Red Bluff deposits and consists of dense silt and clay interbedded with sand and gravel. Test pit logs indicate a hardpan layer separating the two formations, at 5 to 7 feet below ground surface (ft bgs). Boring logs show intermittent fine and coarse-grained layers with moisture between 40 and 70 feet at MW-5 and MW-1 and a continuous saturated zone at 290 to 350 ft bgs.

39. According to the DWR's Interactive Groundwater Maps, depth-to-groundwater across the Facility is approximately 240 feet below ground surface (bgs). Regional groundwater flow in the area is generally to the east-southeast toward the Sacramento River. See DWR Groundwater Information Center (https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels). Based on data obtained from the three regional groundwater monitoring wells at the Facility, regional groundwater elevations range from approximately 370 feet MSL to 450 feet MSL with a northerly gradient estimated between 0.032 feet/foot to 0.036 ft/ft.

40. There is evidence of a shallow discontinuous aquifer zone, monitored by one groundwater well, MW-1. Groundwater elevations measured at this well range from 640 to 662 feet MSL (about 50 to 70 ft bgs). This shallow discontinuous aquifer zone is also observed in some wells in the northern portion of the neighboring landfill facility. Shallow groundwater data indicate groundwater flows to the southwest in the northwest wells and to the southeast in the vicinity of the northeast wells.

41. The Facility's groundwater monitoring network currently consists of the monitoring wells identified in **Table 3**.

Table 3—Groundwater Monitoring Network

Monitoring Well	Year Installed	Depth / Location
MW-1	1995	79 ft / Shallow discontinuous aquifer
MW-2	1995	337 ft/ Deep aquifer, abandoned
MW-3	1995	355 ft / Deep aquifer, downgradient
MW-4	1995	353 ft / Deep aquifer, downgradient
MW-5	2009	344 ft / Deep aquifer cross gradient

42. Based on limited available data, deep groundwater flow beneath the Facility is to the north and MW-5 is located downgradient or cross gradient relative to the primary lined ponds. Because the lined ponds are unlikely to impact groundwater quality at 300 feet bgs, MW-5 is considered an acceptable upgradient well for monitoring groundwater impacts from the Facility.

43. The DWR Water Data Library shows water quality data from three groundwater wells within two miles of the Facility. Data for one well, located two miles south, dates back to 1957; data from the other two wells, located two miles south and two miles east of the Facility, dates back to 1979. Historic (background) groundwater quality data are summarized in **Table 4**.
DWR Water Data Library Map (https://wdl.water.ca.gov/waterdatalibrary/#loaded)

Table 4—Historic Groundwater Quality

Constituent	Units	29N04W06N001M 1957, 2mi S	29N04W06R001M 1979, 2.1mi SSE	30N04W33D001M 1979, 2mi E
pH	Std Units	7	7.1	7.1
Total Alkalinity	mg/L	96	78	84
Dissolved Chloride	mg/L	3	3.4	3
Conductance	µmhos/cm	200	160	176
Total Hardness	mg/L	70	52	56
Dissolved Nitrate	mg/L	0.4	<0.1	0.9
Dissolved Sodium	mg/L	17	13	16
Dissolved Sulfate	mg/L	2	0.5	<1
Total Dissolved Solids	mg/L	151	127	152

44. Since 1991, downgradient deep groundwater quality has been monitored at wells MW-3 and MW-4 and downgradient shallow groundwater water quality has been monitored at well MW-1. Average downgradient groundwater quality data for the period 2001 to 2022 is summarized in **Table 5**.

Table 5—Downgradient Groundwater Quality, Average Concentrations

Constituent	Units	Deep Groundwater Quality	Shallow Groundwater Quality
pH	Std Units	7.64	7.31
Electrical Conductance	µmhos/cm	246	478
Chloride	mg/L	4.5	65.5
Nitrate-Nitrogen	mg/L	0.02	6.2
Total Kjeldahl Nitrogen	mg/L	<0.1	0.53**
Sodium	mg/L	29.7	28.3*
Sulfate	mg/L	4.3	43.2**
Total Dissolved Solids	mg/L	164	331

*Reported 2001-2008.

**Reported 2008-2019.

45. Although limited data are available from only one monitoring location, shallow groundwater quality data for the period 2001 through 2019 indicate degraded water quality. Electrical conductance (EC), Total Dissolved Solids (TDS), Nitrate-Nitrogen and Total Kjeldahl Nitrogen (TKN) are elevated in the shallow groundwater zone. However, concentrations remain below water quality objectives (WQOs), with the exception of one exceedance of the Secondary Maximum Contaminant Levels (MCLs) for TDS and EC. Also, several pH observations were below the WQO of 6.5, which may occur due to natural conditions.

46. In 2016, the Discharger submitted calculated concentration limits for EC, chloride, and nitrate as nitrogen, as required by MRP R5-2008-0138, to determine boundaries between naturally occurring concentrations and “measurably significant” evidence of a release from the wastewater ponds. Based on a 95 percent confidence interval, the confidence intervals were 4.25 mg/L for chloride, 431.30 µmhos/cm for EC, and 0.04 mg/L for nitrate as nitrogen.

47. Concentration limits are exceeded consistently at MW-1 in the shallow discontinuous groundwater zone. In the deep groundwater zones, chloride concentrations have exceeded the concentration limit at downgradient wells MW-3 and MW-4. No exceedances of the concentration limit for EC and nitrate as nitrogen have been observed in the deep groundwater zone.

48. Deep groundwater data collected at Facility wells indicate very good groundwater quality similar to historic groundwater quality observed in offsite groundwater supply wells.

49. In 1991, the Discharger installed four 30-foot-deep suction lysimeters to monitor water quality in the vadose zone. Historic data indicated elevated concentrations of EC, TDS, chloride, and nitrate in the vadose zone with the highest concentrations observed in L-1. Lysimeters L-2 and L-3 showed increasing concentration trends from 2001 to 2009; however these trends have lessened since the lined ponds were added in 2007. Concentrations in lysimeters L-1 and L-4 decreased over the same period. Average vadose zone concentrations are summarized in **Table 6**.

Table 6—Vadose Zone Pore Water Quality, Average Concentrations (Maximum Values in Parenthesis)

Constituent	Units	L-1[3]	L-2	L-3	L-4
pH[1]	Std Units	**6.31 (5.7)**	**6.14 (5.2)**	**6.38 (5.6)**	**6.09 (5.4)**
Specific Conductance	µmhos/cm	**1955 (3500)**	**1316 (2500)**	**1035 (1950)**	**1148 (1950)**
TDS[1]	mg/L	**1092 (1520)**	**719 (1080)**	**630 (680)**	**695 (920)**
Chloride[1]	mg/L	**492 (1300)**	**305 (495)**	208	210
Nitrate as N	mg/L	**11.3**	3.2 (10.8)	**12.7 (14.4)**	1
Total Kjeldahl Nitrogen[1]	mg/L	1.13	0.62	0.72	0.46
Sulfate[1]	mg/L	29.7	9.84	11.84	61.53
Arsenic[2]	mg/L	0.001	0.001	0.001	0.001
Chromium[2]	mg/L	0.001	0.000	0.000	0.001
Copper[2]	mg/L	0.051	0.019	0.006	0.018

Note: [1] Sample size 14 for lysimeters.

[2] Sample size 8 lysimeters.

[3] L-1 not sampled after December 2018 due to Vandalism.

Statutory Authority

50 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.

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

52. 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).)

53. 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.

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

Basin Plan Implementation

55. 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

56. This Order implements the Central Valley Water Board's Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (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.)

57. Local drainage is to Anderson Creek and Cottonwood Creek, tributaries to the Sacramento River, the beneficial uses of which (per the Basin Plan) include: municipal and beneficial use (MUN); agricultural supply (AGR); industrial process supply (PRO); industrial service supply (IND); industrial power (POW); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); migration of aquatic organisms (MIGR); and spawning, reproduction and/or early development (SPWN); and wildlife habitat (WILD).

58. Per the Basin Plan, beneficial uses of underlying groundwater at the Facility are: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

Water Quality Objectives

59. The numeric WQO for bacteria is expressed as the most probable number (MPN) of coliform organisms per 100 mL of water. For MUN-designated groundwater, the objective is an MPN of 2.2 organisms over any seven-day period.

60. The narrative WQO for chemical constituents in groundwater generally provides that groundwater shall not contain constituents in concentrations adversely affecting beneficial uses. For MUN-designated waters, the Basin Plan further provides that water, at a minimum, meet the primary and secondary maximum contaminant levels (MCLs) specified in California Code of Regulations, title 22 (Title 22).[1] (See Title 22, §§ 64431, 64444, 64449.)

61. The narrative WQO for toxicity provides that groundwater shall be maintained free of toxic substances in concentrations producing detrimental physiological responses in human, animal, plant or aquatic life associated with designated beneficial uses.

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[1] 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.

62. To the extent necessary, narrative WQOs are quantified, on a site-specific basis, as numeric limits for constituents with potential to adversely impacted designated uses. In determining a site-specific numeric limit, the Central Valley Water Board considers relevant published criteria.

Salt and Nitrate Control Program

63. 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.

64. For the Salt Control Program, dischargers that are unable to comply with stringent salinity requirements may instead participate in a basin-wide effort known as the Prioritization and Optimization Study (P&O Study), which is intended to develop a long-term salinity strategy for the Central Valley. The Discharger (CV-SALTS ID 2429) was issued a Notice to Comply with the Salt Control Program on 5 January 2021. On 1 April 2021, the Discharger paid the fee to join the P&O Study. This Order requires the Discharger to continue efforts to control salinity in its discharge and sets a performance-based effluent limit for EC of 125 percent of the measured annual average concentration. (See Requirement D, Effluent Limitations.)

65. The Discharger is not currently subject to the Nitrate Control Program (NCP) because its discharge is to a non-prioritized groundwater basin (i.e., [Redding Area 5-006]. The Discharger may become subject to the NCP in the future if the Central Valley Water Board issues Notices to Comply to dischargers discharging nitrate to the receiving basin and/or authorizes an expansion of the Discharger's discharge of nitrate to the environment. This Order requires the Discharger to comply with the Basin Plan's WQO for Nitrate of 10 mg/L.

Compliance with Antidegradation Policy

66. State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of "high quality waters" 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) will be

minimized through WDRs requiring the Discharger to implement the best practicable treatment or control (BPTC).

67. Groundwater quality monitoring at the Facility is available from 2001. Given the partial availability of pre-1968 regional or water quality information, compliance with the Antidegradation Policy will be determined based on existing background water quality (Antidegradation Baseline).

68. Constituents of concern (COCs) that have the potential to degrade groundwater include pH, EC, TDS, chloride, chromium, and nitrate-nitrogen as discussed below. Average concentrations observed from 2001-2021 are provided in **Table 7**.

Table 7—Constituents with Potential for Water Quality Degradation, Average concentrations (Maximum Values in Parenthesis)

Constituent	Units	Pond W1 (first unlined pond)	Pond E5 (final unlined pond)	MW-1	MW-3	MW-4	MW-5	WQO
				Shallow Groundwater	Deep Groundwater			
pH[1]	Std Units	9.09	8.95	**6.09 (5.4)**	7.62	7.63	7.9	6.5-8.5
Specific Conductance (EC)[1]	µmhos/cm	3,634	2,281	674	252	237	226	900
TDS[1]	mg/L	2,422	1,650	413	179	142	140	500
Chloride[1]	mg/L	9.22	522	82.6	4.19	4.75	3.7	250
Chromium[1]	µg/L	44.6	2.35	6.26(14)	3.3	10.9	ND	50
Nitrate as Nitrogen	mg/L	2.36	0.19	6.3	<0.02	0.03	0.02	10

Note 1: Sample size=6 for MW-1. Sample size=14 for MW-3, MW-4, MW-5.

69. **pH**. The discharge of low pH wastewater, pH concentrations observed in unlined ponds have exceeded the MCL for pH. Low pH values have been measured in the vadose zone and shallow groundwater, with shallow groundwater exceeding WQOs while deep groundwater has not shown exceedance of WQOs. The discharge is expected to cause an exceedance of water quality objectives in shallow groundwater, though significant degradation of deep groundwater for pH is not expected. It is anticipated that degradation with respect to pH will occur as a result of the discharges authorized by this Order.

70. **Nitrate (as Nitrogen).** Based on the available data, groundwater in the vicinity of the Facility after 1968 (available pre 1968 data also correlates well with post 1968 data) reported nitrates as N of less than 1 mg/L. Nitrate concentrations in deep groundwater remain in the range of historic water quality concentrations. However, shallow groundwater quality shows probable degradation with respect to nitrate. Concentrations remain below the MCL. It should be noted that TKN-nitrogen is observed at low but increasing concentrations in shallow groundwater. TKN nitrogen typically undergoes denitrification in the unsaturated zone and/or undergoes nitrification and converts to nitrate. TKN presence in shallow groundwater indicates incomplete denitrification and/or nitrification, which may result from relatively rapid infiltration through preferential pathways beneath the ponds or leakage within the well itself. The shallow groundwater zone is limited in areal extent and no groundwater supply wells in the area are completed in this zone. Concentrations of nitrate in the shallow groundwater remain below the MCL, and the deep groundwater zone shows no sign of degraded water quality with respect to nitrate.

71. **Electrical Conductivity (EC).** The discharge is high in salts, which become more concentrated as pond water evaporates. EC concentrations observed in unlined ponds have exceeded the MCL for EC. . Elevated EC concentrations have been measured in the vadose zone and shallow groundwater, but concentrations in shallow groundwater do not exceed WQOs. The discharge is not expected to cause an exceedance of water quality objectives in the shallow groundwater, nor significant degradation of deep groundwater for EC. It is anticipated that degradation with respect to EC will occur as a result of the discharges authorized by this Order.

72. **Total Dissolved Solids (TDS).** Similar to EC, TDS concentrations increase as pond water evaporates and infiltrates to the ground. Chloride is highly mobile in groundwater and chloride concentrations contribute to EC and TDS concentrations. Elevated TDS concentrations have been measured in the vadose zone and shallow groundwater, and the Secondary MCL of 500 mg/L was exceeded on one occasion. The deep groundwater zone has shown no increases in TDS concentrations. It is anticipated that limited degradation with respect to TDS will occur as a result of the discharges authorized by this Order.

73. **Chloride.** Chloride is a component of EC and TDS, and its concentrations contribute to the overall salinity of the discharge. Like EC and TDS, chloride concentrations in the pond system increase with evaporation. Chloride is one of the most mobile and persistent salts, infiltrating from the ponds and migrating through pore spaces and groundwater at a near identical rate as groundwater. Deep groundwater concentrations do not demonstrate increasing concentrations, however shallow groundwater and vadose zone chloride concentrations are elevated and reflect downward migration of wastewater from the unlined ponds. Shallow groundwater is of limited areal extent and concentrations remain well below the Secondary MCL for chloride (250 mg/L). Thus, it is anticipated that degradation with respect to chloride will occur as a result of the discharges authorized by this Order.

74. **Chromium.** Chromium is a naturally occurring element that can be found in ground water, the regional aquifers underlaying the site are known to contain naturally occurring chromium. Shallow and deep groundwater concentrations do not demonstrate increasing concentrations of Chromium. Shallow groundwater is of limited areal extent and concentrations remain well below the MCL for chromium (50 µg/L). Thus, it is anticipated that degradation with respect to chromium will occur as a result of the discharges authorized by this Order.

75. This Order and the accompanying MRP require the implementation of the following management practices, which the Central Valley Water Board has determined to constitute the Best Practicable Treatment and Control (BPTC) for the discharge and constituents of concern described above. These measures will minimize the extent of water quality degradation resulting from the discharge authorized by this Order.

76. The degradation authorized by this Order is of maximum benefit to the people of the state. The Facility is the largest septage-receiving facility north of the Sacramento area and provides a centralized disposal point for septage, FOG, and water filter backwash; this type of centralized waste management and disposal is socioeconomically and environmentally preferable to more dispersed alternatives. Furthermore, the continued operation of the Facility will promote the economic prosperity of local communities and associated industries.

77. Based on the foregoing, the adoption of this Order is consistent with the Antidegradation Policy.

California Environmental Quality Act

78. The issuance of this Order, which prescribes requirements for and monitoring of waste discharges at an existing facility, with negligible or no expansion of its existing use, is exempt from the procedural requirements of the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., pursuant to California Code of Regulations, title 14, section 15301. The discharges authorized under this Order are substantially within parameters established under prior WDRs, particularly with respect to character and volume of discharges.

79. To the extent that the construction of any new basins, ponds, surface impoundments, and/or new monitoring wells are authorized under this Order, such features involve minor alterations to land, which are exempt from CEQA procedural requirements pursuant to California Code of Regulations, title 14, section 15304 (CEQA Guidelines).

Other Regulatory Considerations

Water Code Section 13149.2

80. These WDRs regulate a facility that may impact a disadvantaged community and includes an alternative compliance path that allows the Discharger time to come into compliance with water quality objectives (i.e., salinity). The Discharger has selected the Alternative Salinity Permitting Approach for the Salt Control Program, which provides an alternative approach for compliance with salinity limits through implementation of specific requirements (i.e., support facilitation and completion of the Salinity P&O Study). The Central Valley Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities through its notice and comment procedures. Pursuant to Water Code section 13149.2, and as discussed in the following findings, the Central Valley Water Board reviewed readily available information and information raised by interested persons concerning anticipated water quality impacts in disadvantaged communities resulting from adoption of this Order. The Board also considered environmental justice concerns within the Board's authority previously raised by interested persons with regard to those impacts.

81. 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 discharge of wastewater with salinity concentrations that may cause degradation or exceedances of applicable WQOs in the near-term. The BPTC measures required by this Order, as described above, are intended to minimize and, in the longer term, mitigate the impacts of

the Facility's discharges to nearby disadvantaged communities in Shasta County. Although this Order may result in limited increases to salinity and nitrogen concentrations in groundwater in the near-term, the Salt Control Programs is intended to achieve long-term balance and restoration, where possible, of salt-impacted groundwater basins across the region.

Human Right to Water

82. 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, which are designed to protect human health and ensure that water is safe for domestic use. For salinity, this Order requires compliance with the Salt Control Program. Although the Basin Plans' Exceptions Policy for Salinity allows participants in this Program to obtain limited-term exceptions from MCLs for salinity, this Program is consistent with the Human Right to Water Policy because its over-arching management goals and priorities include short-term provision of safe drinking water to impacted users and long-term restoration of impacted groundwater basins and sub-basins where reasonable, feasible, and practicable.

Threat-Complexity Rating

83. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **2**-**B**.

    a. Threat Category "2" reflects waste discharges that can impair receiving water beneficial uses, cause short-term water quality objective violations, cause secondary drinking water standard violations, and cause nuisances.

    b. Complexity Category "B" reflects 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 WMUs.

Title 27 Exemption

84. This Order, which prescribes WDRs for discharges of nonhazardous sewage and wastewater, is exempt from the prescriptive requirements of California Code of Regulations, title 27, section 20005 et seq. (See Cal. Code Regs., tit. 27, § 20090, subd. (b).)

Stormwater

85. This Facility collects all storm water onsite. Therefore, at this time, the Discharger is not required to obtain coverage under the statewide General Permit for Storm Water Discharges Associated with Industrial Activities, State Water Board Order 2014-0057 DWQ, NPDES General Permit CAS000001 (Industrial General Permit).

Scope of Order

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

87. 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 ROWD per Water Code section 13260.

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

89. 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

90. All of the above information, as well as the information contained in the Information Sheet, was considered by the Central Valley Water Board in prescribing the WDRs set forth below.

91. The Discharger, interested agencies, and other 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. (See Wat. Code, § 13167.5.)

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

93. 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 sections 13263, that WDRs Order R5-2008-0138 is rescinded (except for enforcement purposes) and, pursuant to section 13263 and 13267, that the Discharger and their agents, employees and successors shall comply with the following.

A. Standard Provisions

Except as expressly provided herein, the Discharger shall comply with the Standard Provisions and Reporting Requirements dated 1 March 1991 (SPRRs), which are incorporated herein.

B. Discharge Prohibitions

1. Waste classified as “hazardous” (see Cal. Code Regs., tit. 22, § 66261.1 et seq.), shall not be discharged at the Facility under any circumstance.

2. Waste constituents shall not be discharged or otherwise released from the Facility (including during treatment and storage activities) in a manner that results in:

    a. Violations of the Groundwater Limitations of this Order; or

    b. Conditions of “nuisance” or “pollution,” as defined per Water Code section 13050.

3. Except as otherwise expressly authorized in this Order, septage waste and other waste shall not be discharged to surface waters or surface water drainage courses (including irrigation ditches outside of the Discharger's control).

4. Except as provided in Section E.2 of the SPRRs, incorporated herein, untreated wastes and partially treated wastes shall not bypass the treatment system (including treatment ponds).

5. Waste shall not be discharged from the Facility in a manner other than as described in Findings 14 through 23.

6. Waste shall not be discharged from the Facility in a manner other than as described in this Order. Discharge described in Findings provision 25 is prohibited unless regulatory permitting has been attained from applicable agencies.

7. Toxic substances shall not be discharged into the wastewater treatment system such that biological treatment mechanisms are substantially disrupted.

C. Conditional Discharge Prohibition

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 Alternative Permitting Approach (i.e., full participation in the P&O Study).

D. Waste Receiving Limitations

1. Effective immediately, waste receiving to the Facility shall not exceed the limits set forth in Table 8.

Table 8—Waste Receiving Limitations

Waste Receiving Limit	Period	Reporting Units	Limit
Total Annual Receiving	Flow, 1 Jan. – 31 Dec.	MG	9.3

E. Salinity Action Level

1. To comply with the Salt Control Program, the Discharger has selected the Alternative Salinity Permitting Approach (i.e., participate in the Prioritization and Optimization [P&O] Study). Therefore, as discussed in Findings, these WDRs establish a **Salinity Action Level of 4,542 µmhos/cm** (or flow-weighted TDS concentration). As part of the Annual Report (or Fourth Quarter Monitoring Report) required in the MRP, the Discharger shall evaluate the Facility's annual average effluent EC (or flow-weighted TDS) (monitored at the inlet of Pond W1) 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:

2. An evaluation of the Facility's salinity effluent levels. This evaluation should include a discussion of any changes to the source water for the area served by the POTW, any new industrial dischargers discharging to the POTW, any increased conservation efforts implemented within the POTW service area (with flow data demonstrating decreased flows to the

Facility), and any other changes to Facility's collection or treatment system that could have contributed to the increased salinity concentrations.

3. 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 Discharger 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 investigation 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

4. 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 the exceedance of the Salinity Action Level).

F. Discharge Specifications

1. Waste discharges shall remain within authorized waste treatment and/or containment structures.

2. For all lined ponds (i.e. ponds 1A, 1B, 2, 3, and 4) all wastewater shall be contained in or stored on an engineered lined surface. The engineered lined surface shall meet a hydraulic conductivity standard of 1×10^{-6} centimeters per sec or less.

3. All systems and equipment shall be operated to optimize discharge quality.

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

5. Public contact with wastewater at the Facility shall be prevented through such means as fences, signs, or acceptable alternatives.

6. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.

7. As a means of ensuring compliance with Discharge Specification D.5, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if the DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharger shall implement weekly DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive weeks. If the DO in any single pond is below 1.0 mg/L for three consecutive weeks, the Discharger shall report the findings to the Central Valley Water Board in accordance with **Section B.1** of the SPRRs. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.

8. 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. 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.

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

10. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications F.8 and F.9.

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. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 10.0. Provision I.2 calls for a study of pond water chemistry, to better understand high pH observations and consider options to decrease concentrations.

14. Pond sludge is removed from ponds 1A and 1B alternately every year as part of the routine maintenance program. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds 2 through 4 at least every five years beginning in 2025 and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in a single pond reservoir exceeds ten percent of that singular pond's storage capacity, the Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

15. The wet weather capacity management plan described in the Proposed Changes section, provision 25, will be used to insure adequate wastewater storage capacity. The management plan requires that:

a. Prior to 1 September each year, ponds E4 and E5 will be emptied of all wastewater and sludge. This wastewater and sludge is to be placed in other ponds at the site for evaporation/infiltration and/or disposed of at a licensed treatment facility.

b. Rinsing of ponds E4 and E5 by capturing the initial two inches of stormwater (sourced from rainfall into the ponds and adjacent berm areas) in E4 and E5 and pumping this water to pond E3 to be commingled with wastewater.

c. Capturing subsequent storm water in ponds E4 and E5, which would then be considered “non-contact storm water.” No other liquid and/or wastes would be a permitted in E4 and E5 at this time.

d. If the Facility’s wastewater storage capacity becomes limited due to above-average precipitation, the Discharger will conduct water quality testing of non-contact stormwater in ponds E4 and E5 in accordance with the MRP and, before discharging such waters to the environment, the Discharger will report water quality results to and request regulatory coverage from the Central Valley Water Board’s National Pollutant Discharge Elimination System (NPDES) or Non-15 permitting programs, as appropriate. Total volume of the proposed discharge is unknown but would be limited to the “non-contact stormwater” volumes contained at the time of permit application in the pond E4 and E5. Once regulatory coverage for discharging of “non-contact stormwater” has been attained the discharge of said water could occur only to the extent of providing capacity of the pond system for normal operations or the current volume of “non-contact storm water” retained in ponds E4 and E5, whichever is of lesser volume.

e. If regulatory coverage for offsite discharge cannot be obtained, the Discharger will dispose of “non-contact stormwater“ at a licensed treatment facility.

16. The Discharger shall implement the necessary legal authorities, programs, and controls to ensure that the following are not introduced to the treatment system:

a. Wastes which create a fire or explosion hazard in the wastewater treatment and storage system;

b. Wastes which will cause corrosive structural damage to treatment system;

c. Solid or viscous wastes in amounts which cause obstruction or other interference with proper operation of the pond treatment system;

d. Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and/or loss of treatment efficiency;

e. Heat in amounts that inhibit or disrupt biological activity in the treatment works;

f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through; and

g. Any trucked or hauled wastewater or septage, except at points predesignated by the Discharger and subject to the above conditions.

17. The Discharger shall implement the legal authorities, programs, and control necessary to ensure that industrial discharges do not introduce pollutants into the wastewater collection system that, either alone or in conjunction with a discharge or discharges from other sources:

a. Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or Inhibit, or disrupt any treatment process or treatment system operations and either cause a violation of this Order or prevent sludge disposal.

18. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

G. Groundwater Limitations

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

1. Constituent concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, excluding the saline 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 any beneficial use.

H. Solids Disposal Specifications

1. Sludge[2] and solid waste[3] shall be removed from sumps, ponds, and weirs as needed to ensure optimal Facility operation.

2. Onsite handling and storage of residual sludge,[4] solid waste, and biosolids[5] shall be temporary (6 months or less); 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.

3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Central Valley Water Board and consistent with California Code of Regulations, title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid WDRs issued by a regional water quality control board will satisfy this specification.

4. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 Code of Federal Regulations part 503, which are subject to enforcement by the U.S. EPA, not the Central Valley Water Board. If, during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.

5. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

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[2] For the purposes of this section, "**sludge**" means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes.

[3] For the purposes of this section, "**solid waste**" includes grit and screenings generated during preliminary treatment at the Facility.

[4] For the purposes of this section, "**residual sludge**" means sludge that will not be subject to further treatment at the Facility.

[5] For the purposes of this section, "**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.

I. Provisions

The following reports shall be prepared as described in Provisions 8 and submitted in accordance with the specified deadlines:

1. **By 1 February 2026**, the Discharger shall submit a **Capacity Study** to evaluate the Facility's ability to meet future needs. The Capacity Study should include an evaluation of pond storage capacity, types of waste accepted, and consider additional treatment alternatives. The storage capacity study should include a water balance supporting the design annual receiving limit of 9.3 MG or a proposed alternative receiving limit. The water balance must include scenarios for both mean average precipitation conditions and 100-year annual return conditions, divided into monthly volumes based on the mean precipitation volumes. The Capacity Study should evaluate costs and potential benefits of proposed alternatives.

2. By **1 June 2026** the Discharger shall submit a **Wastewater Quality Evaluation** for the pond treatment system to evaluate the high pH observed in unlined ponds, potential stratification within the ponds, and the effect of FOG waste on the effectiveness of treatment for COCs. Changes in pH, oxidation/reduction potential, and DO with depth may affect pond treatment mechanisms and the fate and transport of metals. If pH observations continue to exceed 10 standard units, this study should include discussion of potential treatment alternatives.

3. By **1 November 2026**, the Discharger shall submit a **Work Plan for Shallow Groundwater Investigation** to identify the areal extent of the shallow aquifer which has shown elevated pH, EC, TDS, and chloride concentrations. This Work Plan should include proposed locations for additional shallow groundwater monitoring wells to expand the groundwater monitoring network.

4. By six months following the approval of the Shallow Groundwater Investigation workplan, the Discharger shall submit a **Groundwater Monitoring Well Installation Report** for any new groundwater monitoring wells constructed to comply with Provision G.3. The report shall be prepared in accordance with, and include the items listed in, the second section of Attachment C: "Monitoring Well Workplan and Monitoring Well Installation Report Guidance", which is attached hereto and made part of this Order by reference. The report shall describe the installation and development of all new monitoring wells and explain any deviation from the approved workplan.

5. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain any waste constituents in concentrations statistically greater than WQOs, immediate measures to resolve the pollution should be implemented by the Discharger to limit further degradation to groundwater. The Discharger shall submit an Action Workplan that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the Facility's waste treatment and disposal system for each waste constituent that exceeds a Groundwater Limitation. The Workplan shall contain a preliminary evaluation of each component of the wastewater treatment and disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable and shall not exceed one year.

6. 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).

7. Each January, the Discharger shall evaluate whether its waste flow has been increasing or is projected to increase and shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any evaluation or projection shows that the capacity of any part of the facilities may be exceeded within four years, the discharger shall notify the Central Valley Water Board by 31 January.

8. 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.

9. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer and incorporate comments the Executive Officer may have 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.

10. The Discharger shall comply with the MRP and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.

11. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

12. 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.

13. The Discharger shall use the best practicable cost-effective control technique(s), including proper operation and maintenance, to comply with this Order.

14. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.

15. As described in the SPRRs, 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.

16. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response

Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."

17. 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, used to justify the capacity authorized herein and ensure 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 ensure full compliance with this Order.

18. 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.

19. 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 and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. 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.

20. In order to secure rescission of 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 coordinate appropriate wastewater treatment, storage, and conveyance closure requirements.

21. A copy of this Order including the MRP, Information Sheet, Attachments, and SPRRs, shall be kept 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 other enforcement actions. 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 Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; 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 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions are available on the Internet (at the address below) and will be provided upon request.
(http://www.waterboards.ca.gov/public_notices/petitions/water_quality).

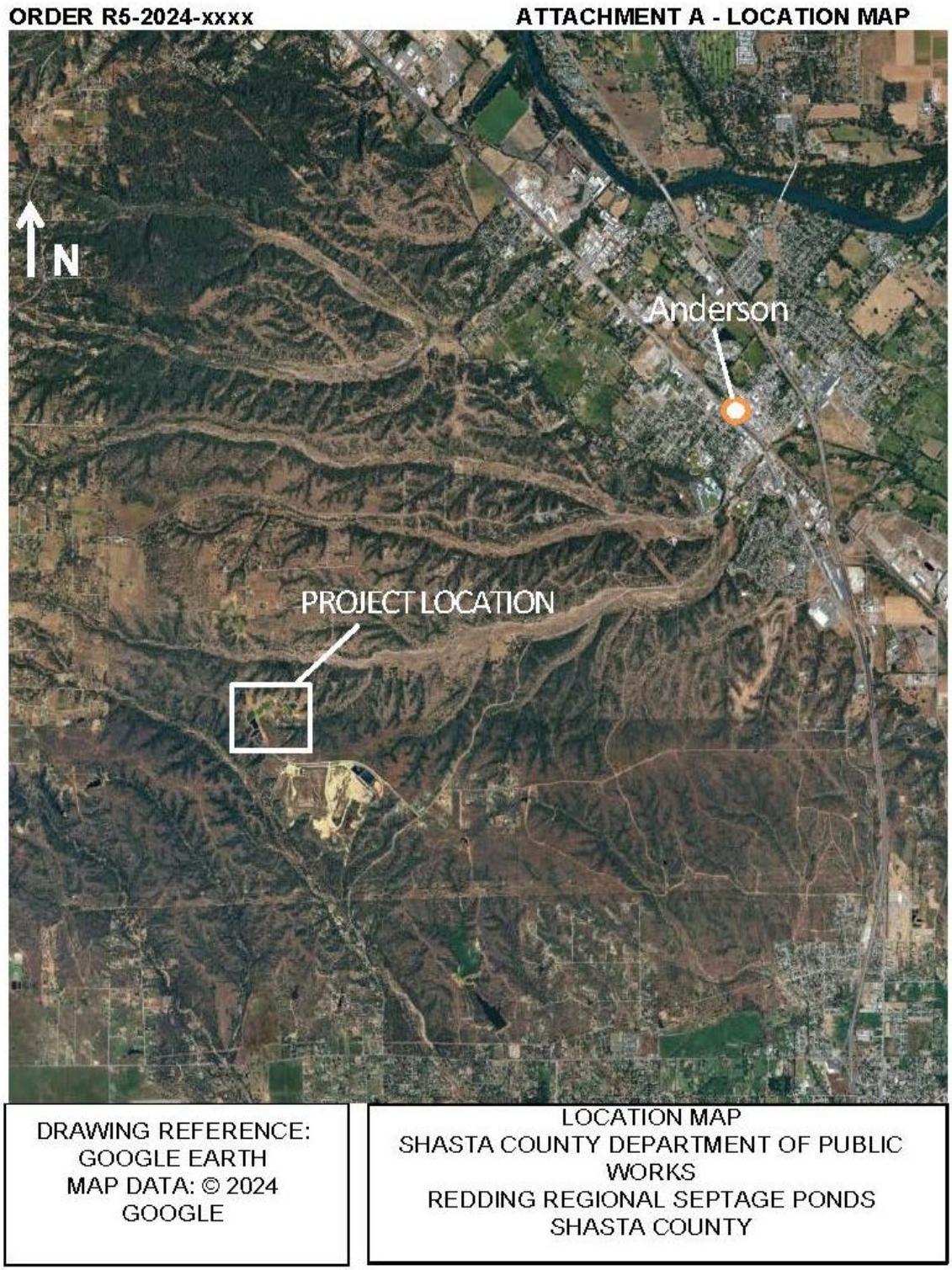
ATTACHMENTS

Attachment A—SITE LOCATION MAP
Attachment B—FACILITY MAP
Attachment C—Requirements for Monitoring Well Installation Workplans And Monitoring Well Installation Reports

Information Sheet

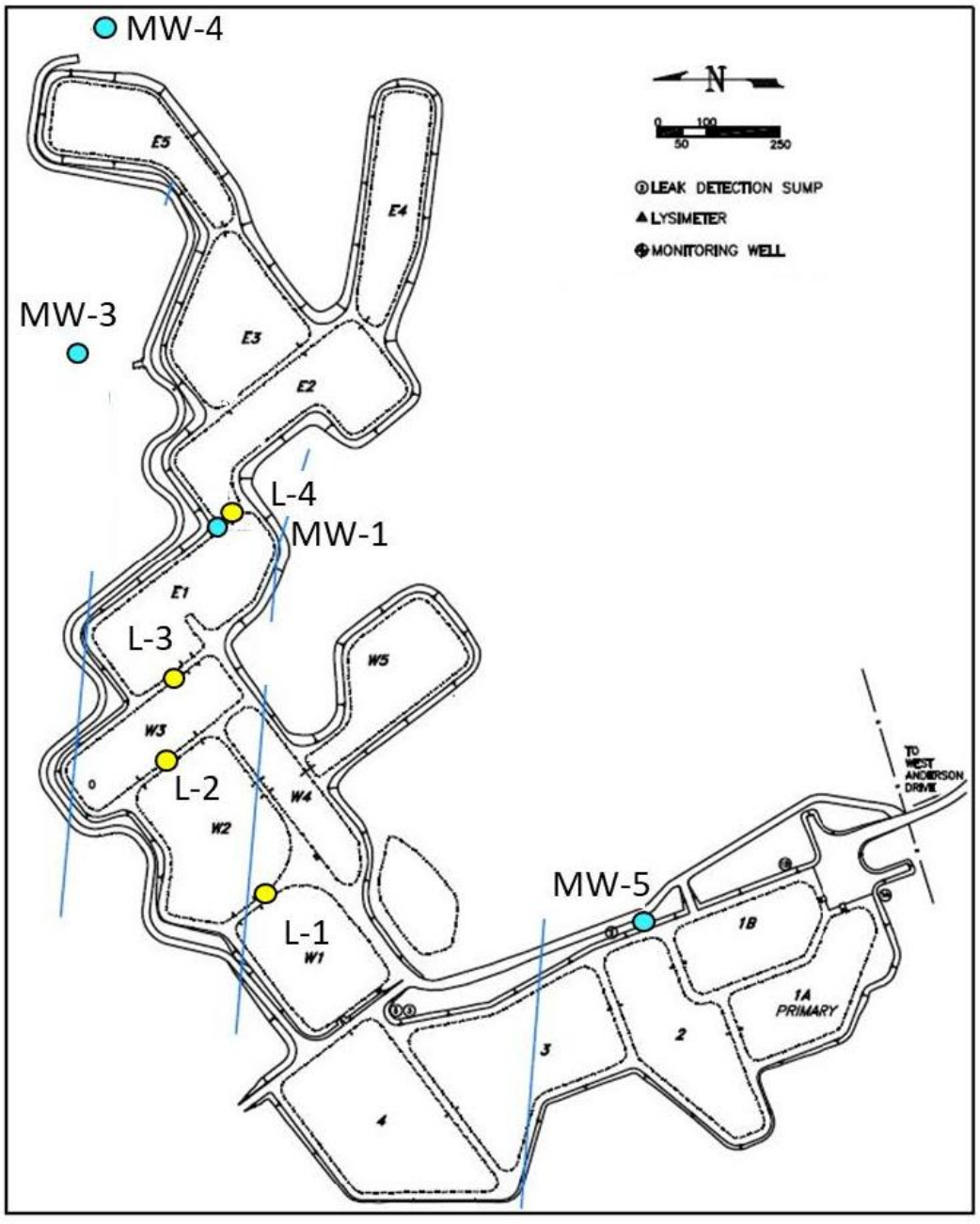
Monitoring and Reporting Program R5-2025-XXXX

ATTACHMENT A—SITE LOCATION MAP



ATTACHMENT B—FACILITY MAP

ORDER R5-2024-xxxx **ATTACHMENT B – FACILITY MAP**



DRAWING REFERENCE: 2020 SEMI-ANNUAL MONITORING REPORT	FACILITY MAP SHASTA COUNTY DEPARTMENT OF PUBLIC WORKS REDDING REGIONAL SEPTAGE PONDS SHASTA COUNTY

ATTACHMENT C—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 which 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:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- 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:

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

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

- Diagram of proposed well construction details

- Borehole diameter
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)
- Anticipated depth of well, length of well casing, and length and position of perforated interval
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Anticipated screen slot size and filter pack

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

- Method of development to be used (i.e., surge, bail, pump, etc.)
- Parameters to be monitored during development and record keeping technique
- Method of determining when development is complete
- Disposal of development water

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

- Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
- Datum for survey measurements
- List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)
- Schedule for Completion of Work

Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP shall be included as an appendix to the workplan and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

- Provide a detailed written description of standard operating procedures for the following:
- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
- General sampling techniques
- Record keeping during sampling (include copies of record keeping logs to be used)
- QA/QC samples
- Chain of Custody
- 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:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells
- Number of monitoring wells installed and copies of County Well Construction Permits
- Topographic map showing facility location, roads, surface water bodies
- 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):

- On-site supervision of drilling and well installation activities
- Drilling contractor and driller’s name
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals and logging methods
- 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:

- Date(s) and method of development
- How well development completion was determined
- Volume of water purged from well and method of development water disposal
- 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):

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