

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Fresno Office
1685 "E" Street
Fresno, CA 93706-2007

Sacramento Office (Main)
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

Redding Office
364 Knollcrest Drive #205
Redding, CA 96002

[Regional Board Website](https://www.waterboards.ca.gov/centralvalley) (<https://www.waterboards.ca.gov/centralvalley>)

TENTATIVE WASTE DISCHARGE REQUIREMENTS ORDER
R5-2021-####



ORDER INFORMATION

Order Type: Waste Discharge Requirements (WDRs)
Status: Tentative
Program: Non-15 Discharge to Land
Region 5 Office: Sacramento (Rancho Cordova)
Discharger: South San Joaquin Irrigation District
Facility: Nick C. DeGroot Water Treatment Plant
Address: 5855 Dodds Road, Oakdale, 95361
County: Stanislaus
Parcel No.: 002-001-075
CIWQS Place ID: 783271
Prior Order(s): R5-2014-0026, MRP R5-2014-0026 Rev. 2

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 DD Month Year.

PATRICK PULUPA, Executive Officer

REGIONAL BOARD INFORMATION

Sacramento Office (Main)

Rancho Cordova, CA 95670-6114

11020 Sun Center Drive #200

Telephone: (916) 464-3291

Fresno Office

1685 "E" Street

Fresno, CA 93706-2007

Telephone: (559) 445-5116

Redding Office

364 Knollcrest Drive #205

Redding, CA 96002

Telephone: (530) 224-4845

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

(<https://www.waterboards.ca.gov/centralvalley>)

TABLE OF CONTENTS

Tentative Waste Discharge Requirements Order R5-2021-####	1
Table Index	iii
Glossary	iv
Findings.....	1
Existing Facility and Discharge.....	1
Planned Changes to the Facility and Discharge.....	5
Site-Specific Conditions.....	6
Groundwater Conditions.....	7
Basin Plan Implementation.....	7
Antidegradation Analysis	9
California Environmental Quality Act	11
Other Regulatory Matters	11
Reporting Requirements.....	12
Procedural Matters	13
Requirements.....	13
Enforcement.....	19
Administrative review	19
List of Attachments.....	19
Information Sheet.....	20

TABLE INDEX

Table 1	Characterization of Raw Water, 2013.....	2
Table 2	Chemicals Used in Drinking Water Production.....	2
Table 3	System Cleaning Chemicals.....	3
Table 4	Effluent Quality (2017 through 2020).....	3
Table 5	Sources and Annual Amounts to Wastewater Ponds, 2017 to 2020	4
Table 6	Percolation / Evaporation Ponds	4
Table 7	Annual Flow-Weighted Average Concentrations	10

GLOSSARY

µmhos/cm	micro mhos per centimeter
µg/L	micrograms per liter
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 the Sacramento River and San Joaquin River Basins
bgs	below ground surface
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.
CIMIS	California Irrigation Management Information System
CIWQS	California Integrated Water Quality System
CV-SALTS	Central Valley Salinity Long-Term Sustainability
CWC	California Water Code
DDW	State Water Resources Control Board, Division of Drinking Water
EC	electrical conductivity at 25 °C
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
ft	feet
gpd/sf	gallons per day per square foot
gpm	gallons per minute
gpy	gallons per year
MCL(s)	maximum contaminant level(s)
MDB&M	Mount Diablo Base and Meridian
MDL	method detection limit
mg/L	milligrams per liter
MRP	Monitoring and Reporting Program
MUN	municipal and domestic supply (Basin Plan beneficial use designation)
ND	no data
OAL	Office of Administrative Law

RWD	Report of Waste Discharge
s.u.	standard units (for pH)
SERC	(California) State Emergency Response Commission
sf	square foot or square feet
TDS	total dissolved solids
Unified Guidance	Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (EPA, 2009)
USC	United States Code
WQO(s)	water quality objective(s)

FINDINGS

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

1. On 08 February 2021 the South San Joaquin Irrigation District (SSJID) submitted a Report of Waste Discharge (RWD) to apply for revised Waste Discharge Requirements (WDR) to increase permitted wastewater flow and for reuse of treated wastewater from the existing publicly owned water treatment facility known as the Nick C. DeGroot Water Treatment Plant (WTP).
2. The WTP, built in 2005, is located at 5855 Dodds Road, Oakdale, in Stanislaus County, north of Dodds Road and west of 26 Mile Rd. and Woodward Reservoir (Section 4, Township 1S, Range 10E, MDB&M). The location is depicted on Attachment A (Site Location Map), included herein. The WTP occupies approximately 43.2 acres as shown on Attachment B. All facilities and land application areas are owned by the Discharger. Assessor's parcel number (APN) for the facility is 002-001-075.
3. The Discharger owns and operates the WTP and is responsible for compliance with these WDRs.
4. The California Integrated Water Quality System (CIWQS) place identifier number for the WWTP is 783271.
5. Central Valley Water Board WDRs Order R5-2014-0026, adopted on 07 February 2014, prescribes requirements for wastewater discharges to land. Revision 2 of MRP R5-2014-0026, issued on 11 May 2016, prescribes monitoring and reporting requirements for the discharge. The RWD proposes to increase the WTP's discharge rate from 1 million gallons (MG) annually to 6 MG annually, as part of the facility's expansion to provide additional treated water to consumers. Included in the RWD is a proposal to apply a portion of the discharge for on-site landscaping irrigation. This Order prescribes requirements for wastewater discharges to land, including the proposed changes to the WTP's discharge rates and water reuse, therefore, Order R5-2014-0026 will be rescinded and replaced with this Order.

Existing Facility and Discharge

6. The WTP provides high quality potable water for municipal use, treating approximately 40 MG per day (MGD) of fresh water from Woodward Reservoir. Raw supply water from Woodward Reservoir used in the water treatment facility is good quality water as reported in Table 1 from a sampling event in 2013. All concentrations are below applicable drinking water maximum concentration limits (MCLs).

Table 1 Characterization of Raw Water, 2013

Constituent or parameter	Units	Concentration	MCL	Reference basis
Chloride	mg/L	1.0	250	Secondary MCL
Sodium	mg/L	2.0	69	Agricultural Water Quality Goal
Electrical conductivity (EC)	µmhos/cm	29	700	Agricultural Water Quality Goal
Iron, total	µg/L	70	300	Secondary MCL
Manganese, total	µg/L	no data	50	Secondary MCL
Aluminum, total	µg/L	60	1000	Primary MCL

7. Using the treatment chemicals listed in Table 2, raw water is treated by pre-chlorination, coagulation, flocculation and dissolved-air flotation to separate suspended solids. Then the water goes through chemical stabilization, ultrafiltration, and chlorine disinfection, then is sent to storage for distribution. Treated water is distributed as drinking water to the cities of Tracy, Lathrop and Manteca. Attachment C presents a simplified block flow diagram of the process.

Table 2 Chemicals Used in Drinking Water Production

Process chemical name
Chlorine
Aluminum chlorohydrate
Sodium hydroxide
Carbon dioxide
Lime (limestone)

8. Limestone used in the treatment process can lead to elevated manganese and aluminum loading of the filters. This inorganic material is dislodged by regular cleanings.
9. Solids from the process are discharged to concrete-lined drying beds. Water decanted from the drying beds is recycled back through the treatment process. Dried solids are sampled, characterized, and transported off-site for disposal at a licensed facility. Each concrete-lined drying bed is approximately one acre in surface area. The current sludge generation rate for off-site disposal is approximately 400 cubic yards (560 tons) annually.

10. Wastewater is generated from cleaning of the ultrafiltration membrane system and from process upsets.
11. There are currently eight ultrafiltration membrane trains. Each train requires cleaning at least quarterly. The cleaning process includes two steps: one to remove organic foulants and one to remove inorganic foulants. Each step of the cleaning process generates wastewater. Wastewater from cleaning organic foulants is recycled within the WTP through dedicated piping; however, wastewater from cleaning inorganic fouling cannot currently be recycled. Chemicals used for both types of cleaning operations are listed in Table 3.

Table 3 System Cleaning Chemicals

Organic Foulant Removal	Inorganic Foulant Removal
Sodium hypochlorite	Citric acid
Sodium bisulfite	Muriatic acid
Sodium hydroxide	Sodium hydroxide

12. Inorganic foulants are removed from the ultrafiltration system by soaking the membrane fibers with a low pH solution, and then flushing the system with a neutralizing solution.
13. The ultrafiltration membrane system cleaning as designed generates approximately 240,000 gallons of inorganic foulant wastewater quarterly. Over time, as the filters age, fouling rates increase and more frequent cleanings are required, increasing the wastewater generation rate.
14. Wastewater generated by the inorganic foulant cleanings is routed to a dedicated concrete-lined settling bed (DB-1 as shown in Attachment B). The wastewater is held in the bed until metals concentrations are below the discharge concentration limits, which typically takes approximately 30 to 60 days. A discharge sample is taken from the settling bed prior to discharge to one of two onsite unlined ponds for disposal via percolation and evaporation. Effluent quality data based on 32 sample results in monitoring reports from 2017 through 2020 are presented in Table 4. The maximum values are unusual one-time peaks whereas the minimum values occur often, as reflected in the averaged values. ND indicates non-detect. The detection limit for reporting purposes (DLR) is the lowest reliably detectable concentration, listed in Table 4 for reference.

Table 4 Effluent Quality (2017 through 2020)

Constituent or parameter	Units	Average	Range	DLR
Chloride	mg/L	250	2 - 860	1
Sodium	mg/L	380	3 - 1000	1

Constituent or parameter	Units	Average	Range	DLR
Total dissolved solids (TDS)	mg/L	1050	50 - 3200	5
Manganese, dissolved	µg/L	140	ND - 420	10
Aluminum, dissolved	µg/L	100	ND - 410	50

15. Process upset wastewater flows include emergency overflows from various process equipment in the drinking water purification process, including but not limited to clean in place (CIP) tank(s), line flushing, treated water reservoir and stabilization basins. Process upset wastewater is typically high-quality potable water. Process upset water flow volumes are variable as shown in Table 5. Where the source flow occurred just once from 2015 through 2020 the average is listed as not applicable (n/a). All of these flows are directed to the percolation/evaporation ponds for disposal. Units are gallons per year (gpy).

Table 5 Sources and Annual Amounts to Wastewater Ponds, 2017 to 2020

Source	Average (gpy)	Minimum (gpy)	Maximum (gpy)
Planned wastewater discharge from DB-1	705,000	391,000	979,000
Potable water (from maintenance operations)	n/a	0	12,000
Stabilization Basin overflow	34,000	0	75,000
Total combined flows	646,700	391,000	996,000

16. Two percolation/evaporation (Perc/Evap) ponds are in the northeastern portion of the property. Pond details are in Table 6. Based on the water balance included in the RWD, the two ponds have sufficient capacity to contain expected wastewater flows in addition to stormwater runoff from a 100-year return total rainfall year. Periodic ripping of the pond bottoms restores reduced percolation rates.

Table 6 Percolation / Evaporation Ponds

Pond name	Volume (gallons)	Perc/Evap capacity (gallons/month)	Surface area, approximate maximum (square feet)
Pond 1	707,000	250,000	23,000
Pond 2	1,819,000	2,500,000	40,000

17. The ponds have a combined operating area of approximately 1.31 acres (57,064 square feet (sf)) and an operating depth of approximately six feet (ft) with two ft

- of freeboard. The operating storage volume is therefore approximately 1.97 MG, which exceeds the storage capacity needed for the quarterly wastewater. Therefore, the Perc/Evap ponds provide sufficient disposal capacity.
18. The ponds are also used for the following potential emergency water treatment system bypass/overflow conditions:
 - a. If the flow rate of raw water into the treatment plant cannot be controlled or shut off, the excess water overflows into Pond 1 for percolation and evaporation.
 - b. In the event that the water level sensors in the recycle pump station wet well fail, the recycle pump station pumps fail, or excessive residual drying bed supernatant is decanted, the recycle pump station well will overflow by gravity through an overflow pipe to the percolation/evaporation ponds at an approximate rate of 400 gpm to 800 gpm until the water level in the wet well drops to approximately 18 feet in depth.
 - c. Treated water for off-site distribution is stored in two 3 MG aboveground tanks. This storage system has an overflow basin with a storage capacity of 1.2 MG. In case of impending overflow, high quality potable water from the overflow basin is then routed to the percolation/evaporation ponds.
 19. It is unlikely that system bypass or overflows will occur because alarm systems in place should provide adequate warning prior to such an instance. It is also unlikely that system overflows would occur simultaneously or concurrent with quarterly ultrafiltration system cleaning because the cleaning process is a manually controlled operation.
 20. Because all storm water is retained on-site, the facility is not regulated under the statewide General WDRs for Discharges of Storm Water Associated with Industrial Activities (NPDES Permit CAS000001).
 21. Domestic wastewater generated at the facility is treated via an on-site septic system, regulated by Stanislaus County.

Planned Changes to the Facility and Discharge

22. The Discharger plans to expand the facility over the next five years to increase drinking water production from 40 MGD to 60 MGD to add the capability to deliver drinking water to additional communities (possibly Escalon and Ripon). The increased treatment flow rate will result in a need for more frequent filter cleanouts and a resultant increase in wastewater production.
23. The Discharger plans to modify the berm separating Pond 1 from Pond 2 to allow for hydraulic connection between the two ponds. The modification will allow flow from one pond into the other at some depth below the required minimum freeboard level.

24. The Discharger proposes to use wastewater to replace some or all of the current raw water used for landscape irrigation on the WTP site and to add additional landscaping that will require irrigation. The total available land application area (LAA) is 20.2 acres.
25. The Discharger proposes to install a wastewater settling tank to replace the use of DB-1 for solids settling. This will free up DB-1 to be used, like the other drying beds, for regular production-related solids drying. The proposed future wastewater settling tank is expected to be a vessel rather than the current concrete-lined bed. The wastewater settling tank is anticipated to allow for better solids settling, resulting in improved effluent quality.

Site-Specific Conditions

26. Surrounding land uses are primarily agricultural with seasonal crops and recently planted orchards. The Robert O. Schulz Solar Farm is adjacent to the west of the facility along Dodds Road, and large-scale dairy operations exist to the southeast and southwest. SSJID's Main Canal borders the facility on the north and flows to the west.
27. Topography of the site and surrounding area is generally level with an approximate elevation of 175 feet above mean sea level (MSL). The site was graded in 2004 for construction of the WTP. Aside from the SSJID Main Canal, the nearest surface water is Woodward Reservoir, located approximately ½-mile to the east of the WTP facility. Surface water from the facility does not flow off-site or into the Main Canal. The site grades are relatively uniform, sloping toward the northeast.
28. Vegetation on site consists of but is not limited to lawns, shrubs, trees (evergreen and deciduous), and pasture grasses.
29. Percolation rate testing in the ponds in 2020 resulted in observed percolation rate of 0.339 gallons per day per square foot (gpd/sf) in Pond 1 and 1.962 gpd/sf in Pond 2, where Pond 2 had been recently ripped.
30. The WTP is located in Federal Emergency Management Agency (FEMA) Flood Zone C, which is outside the currently defined FEMA 100-year flood zone. Flood Zone C is defined as having minimal potential for flood hazards.
31. The average annual precipitation near the facility is approximately 12 inches and the 100-year precipitation is approximately 26 inches. The reference average evapotranspiration rate for the area is approximately 55 inches per year according to California Irrigation Management Information System (CIMIS) Oakdale Station #194.
32. Based on information from US Department of Agriculture (USDA) soil series maps as reported in the RWD, the majority of the site is classified as a San Joaquin sandy loam, with the northeast portion of the site classified as a Redding

gravelly loam. These soil types are characterized as having moderately high permeability and being well-drained.

33. As reported in the RWD, a 12-inch diameter domestic supply well was installed in 2003 in the southeast portion of the site. The well completion report indicated subsurface soils primarily consists of clay with interbedded sand intervals to the total boring depth of 320 feet, approximately 38 feet into a significant clay layer. The well was completed at 263 feet bgs. A four-foot gravel layer was encountered from four to eight feet bgs and a clay and shale layer was observed between 68 and 92 feet bgs; with groundwater initially encountered in a sand interval below this zone (88 ft bgs). Significant sand intervals (10 feet thick or greater) were encountered from 117 to 127 and 135 to 158 feet bgs. Overall, the boring log indicates that 83% of the soil between eight feet and 320 feet bgs was clay-dominated, with sand intervals diminishing significantly below 150-foot bgs.

Groundwater Conditions

34. There are no groundwater monitoring wells on site. Based on information reported in the RWD, the most recently determined depth to groundwater is approximately 114 ft bgs as measured in the domestic water supply well in the southeast corner of the site in 2020. In 2003 the depth to first encountered groundwater was reported to be 88 ft bgs. Groundwater levels in the area have been dropping at a rate of 0.5 to 1.0 ft or more per year.
35. The horizontal hydraulic gradient across the site is approximately 0.003 ft/ft to the northwest. Groundwater recharge is presumed to be primarily from Woodward Reservoir, with the recharge being of high quality (TDS <160 mg/L).

Basin Plan Implementation

36. In accordance with California Water Code (Water Code) section 13263, the WDRs prescribed in this Order implement the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses of water, establishes water quality objectives (WQOs) to protect such uses, and incorporates by reference State Water Board plans and policies.

Beneficial Uses of Water

37. Local drainage is to Lone Tree Creek, which eventually drains to the San Joaquin River. The existing beneficial uses of which, per the Basin Plan, are agricultural supply (AGR); industrial process, service supply, and power (PRO, IND, and POW, respectively); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM) and cold freshwater habitat (COLD); migration of cold-water aquatic organisms (MIGR); spawning, reproduction, and/or early development in warm and cold freshwater (SPWN); and wildlife habitat (WILD). The Basin Plan lists municipal and domestic water supply (MUN) as a potential beneficial use.

38. Beneficial uses of underlying groundwater as set forth in the Basin Plan are MUN, AGR, IND, and PRO.

Numeric WQOs

39. 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.
40. For MUN-designated waters the numeric WQOs for chemical constituents incorporate the MCLs established for drinking water per title 22 of the California Code of Regulations (Title 22), sections 64431, 64444, and 64449. However, 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.

Narrative WQOs

41. The Basin Plan toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses.
42. Quantifying a narrative water quality objective 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.

CV-SALTS Programs

43. 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. The Basin Plan amendments were conditionally approved by the State Water Board on 16 October 2019 (Resolution 2019-0057) and by the Office of Administrative Law (OAL) on 15 January 2020 (OAL Matter No. 2019-1203-03).
- a. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the new nitrate program either individually or collectively with other dischargers. For the Nitrate Control Program, the Facility is located within Groundwater Basin 5-022.01 (San Joaquin Valley Eastern San Joaquin Sub-basin), a Priority 2 Basin. Notices to Comply for Priority 2 Basins will be issued by 2024.

- b. For salinity, dischargers that are unable to comply with stringent salinity requirements will instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. Dischargers received a Notice to Comply with instructions and obligations for the Salt Control Program within one year of 17 January 2020, the effective date of the amendments. The Discharger has chosen to pursue Option 2 (Alternative Option for Salt Permitting) and has been assigned CV-SALTS identification number 2899.
44. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs to ensure the goals of the Salt and Nitrate Control Programs are met. This order may be amended or modified to incorporate newly applicable requirements. More information regarding this regulatory planning process can be found on the Central Valley Water Board's [CV-SALTS website](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity) (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity).

Antidegradation Analysis

45. State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters of the State*, (Antidegradation Policy) prohibits degradation of groundwater unless it has been shown that such degradation:
 - a. Is consistent with the maximum benefit to the people of the State of California;
 - b. Will not unreasonably affect present and anticipated future beneficial uses of water,
 - c. Will not result in water quality less than that prescribed in State Water Board and Central Valley Water Board policies, including violation of one or more WQOs; and
 - d. Is minimized through application of best practicable treatment or control (BPTC).
46. The WTP site was not developed until 2004. No recorded groundwater quality evaluations were done at that time or more recently. Based on the lack of shallow groundwater data, it is not possible to determine pre-1968 groundwater quality.
47. Groundwater in the area is separated from the surface by soils that will impede the flow of minerals from the surface. Percolating water will be subject to soil treatment by biological processes, cation exchange, adsorption, and dilution from rainfall. Deeper soil profiles have large assimilative capacity at this site due to depth to groundwater and the high cation exchange capacity from clay-rich geologic deposits.
48. Constituents in the Discharger's effluent with potential to degrade groundwater and/or affect existing beneficial uses are as follows:

- a. Salinity (as measured by TDS);
- b. Aluminum, dissolved; and
- c. Manganese, dissolved.

49. Values presented in Table 7 are flow-weighted average total effluent constituent concentrations for each year from 2017 to 2020. A brief discussion of each constituent follows.

Table 7 Annual Flow-Weighted Average Concentrations

Constituent	Units	2017	2018	2019	2020
TDS	mg/L	521	839	1258	1566
Aluminum, dissolved	µg/L	62	89	89	173
Manganese, dissolved	µg/L	87	94	40	352

- a. **TDS:** Although effluent salts (chloride, sodium and TDS) are elevated above the ag. water quality goals, due to the deep vadose zone, cation exchange in the fine-grained soils, and the sorption capacity of the soils limiting the mobility of dissolved solids, it is unlikely that these constituents pose a threat to the local groundwater. However, chloride, sodium, and TDS will be monitored in the effluent. In addition, this Order requires the Discharger to comply with the CV-SALTS Salinity Control Program.
- b. **Aluminum:** The increase in effluent aluminum concentration in 2020 may be due to a change in the quality of limestone used in the treatment process. Due to the deep vadose zone, cation exchange in the fine-grained soils, and the sorption capacity of the soils limiting the mobility of dissolved metals, it is unlikely that this constituent pose a threat to groundwater at the Discharger’s facility. However, aluminum will be monitored in the effluent.
- c. **Manganese:** Manganese is present in the drinking water treatment process because of its presence in the limestone matrix. The Discharger is a relatively small drinking water treatment facility and is dependent on the limestone supplier’s choice of limestone sourcing; the Discharger is unable to set a manganese content limitation for its limestone. The increase in 2020 is likely due to the Discharger’s limestone being sourced from a different quarry than in the preceding years. Due to the deep vadose zone, cation exchange in the fine-grained soils, and the sorption capacity of the soils limiting the mobility of dissolved metals, it is unlikely that this constituent poses a threat to groundwater at the Discharger’s facility. However, manganese will be monitored in the effluent.

50. The Discharger provides the following treatment and control measures.

- a. Replacement of high iron- and aluminum-content treatment chemicals with compounds that are more effective and less likely to build up on filter surfaces.
 - b. Recycling the organic foulant cleaning wastewater.
 - c. Performing the inorganic foulant cleaning with the mildest chemicals that can deliver the required effectiveness.
 - d. Implementing the use of a settling step to allow solids to settle out of the inorganic foulant cleaning wastewater prior to discharging the wastewater to land.
51. Implementation of the above-listed measures is deemed BPTC for discharges of waste authorized under this Order consistent with the Antidegradation Policy.
52. The clean drinking water produced by the Discharger from this facility, along with the economic prosperity of Central Valley communities and associated industry is of maximum benefit to the people of the State and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.

California Environmental Quality Act

53. The issuance of this Order, which prescribes requirements 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 (CEQA Guidelines). The discharges authorized under this Order are substantially within parameters established under prior WDRs, particularly with respect to character of discharges.

Other Regulatory Matters

54. 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 may promote the policy by requiring discharges to meet limits which are designed to protect human health and ensure that groundwater is safe for domestic use.
55. This Order is issued in part pursuant to Water Code section 13263, subdivision (a), which provides 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 ... 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 reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of [Water Code] Section 13241.

56. This Order implements the Central Valley Water Board's Basin Plan, which designates beneficial uses for surface water and groundwater and establishes WQOs necessary to preserve such beneficial uses. (Wat. Code, § 13241 et seq.) Designated beneficial uses of surface water and groundwater are discussed in Finding 37 and Finding 38, respectively.
57. For the purposes of the California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of 3-C, where:
 - a. Threat Category "3" reflects waste discharges that are unlikely to impair beneficial uses of the receiving water, cause short-term water quality objective violations, cause secondary drinking water standard violations, or cause nuisances.
 - b. Complexity Category "C" includes any discharger not included in Category A or B 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.
58. This Order, which prescribes WDRs for discharges of process wash water from a municipal water treatment plant 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, subds. (a)-(b).)
59. Pursuant to Water Code section 13263, subdivision (g), the ability to discharge waste is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Reporting Requirements

60. This Order is also issued in part pursuant to Water Code section 13267, subdivision (b)(1), which provides that:

[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 within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional

board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

61. The technical reports required under this Order, as well as those required under the separately issued MRP, are necessary to ensure compliance with prescribed WDRs. Additionally, the burdens associated with such reports are reasonable relative to the need for their submission.
62. Failure to comply with the reporting requirements under this Order and the MRP may result in enforcement action pursuant to Water Code section 13268.

Procedural Matters

63. All local agencies with regulatory jurisdiction over land-use, solid waste disposal, air pollution and public health protection have approved the use of the Facility's site for the discharge of waste to land as provided for herein.
64. 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; Title 27, § 21730.)
65. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.
66. 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 and 13267, that the South San Joaquin Irrigation District, its agents, employees, and successors shall comply with the following.

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses, including irrigation ditches outside of control of the Discharger, is prohibited.
2. Discharge of waste classified as "hazardous", as defined in Title 22, section 66261.1 et seq., is prohibited.
3. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
4. 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. Such change may require submittal of a report of waste discharge to fully communicate the change before the change is implemented.

5. Discharge of toxic substances into any wastewater treatment system, percolation pond, or landscaped area such that biological treatment mechanisms are disrupted is prohibited.
6. Discharge of toxic substances into landscaping areas is prohibited.
7. Application of residual solids to the land is prohibited.
8. Discharge of domestic wastewater to the process wastewater treatment system or any surface water is prohibited.
9. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.

B. Discharge Limitations

1. Total wastewater discharge to the combination of percolation/evaporation ponds and land application areas shall not exceed **6 million gallons per year**.

C. Wastewater Discharge Specifications

1. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by CWC section 13050.
2. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
3. The discharge shall remain within the permitted containment structures and LAAs at all times.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.

D. Groundwater Limitations

Release of waste constituents from any portion of the facility shall not cause groundwater to:

1. Contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.

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

E. Pond Monitoring and Specifications

1. Objectionable odors shall not be perceivable beyond the limits of the WTP property at an intensity that creates or threatens to create nuisance conditions.
2. All percolation/evaporation ponds and open containment structures shall be managed to prevent breeding of mosquitoes.
3. Newly constructed or rehabilitated berms (excluding internal berms that separate ponds) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
4. 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.
5. Percolation/evaporation ponds shall have sufficient capacity to accommodate allowable discharge flow and design seasonal precipitation 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.
6. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Specification E.5.
7. Storage of residual solids on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited

F. Land Application Area Specifications

1. The Discharger shall ensure that all irrigation water is applied with reasonable uniformity across the land application areas, consistent with good landscape irrigation practices. The Discharger shall implement changes to the irrigation system and/or operational practices as needed to ensure compliance with this requirement.

2. Land application of wastewater shall be managed to minimize erosion.
3. Irrigation water shall not be applied to landscaping areas if standing water is observed.
4. Vegetation, which may include trees, shrubs, native grasses, and/or ornamental landscaping, shall be grown in the land application areas.
5. Adequate measures shall be taken to prevent the breeding of mosquitoes and other vectors of health significance, and the creation of off-site odors.
6. Landscaping areas shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall immediately temporarily stop wastewater use and implement corrective actions to ensure compliance with this Order.

G. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision G.6:
 - a. By **01 November 2022** the Discharger shall submit a *Salinity Management Plan for Discharges to Land* summarizing salinity minimization measures that have been implemented, and measures that will be implemented to maintain or reduce the salinity in the discharge to the extent feasible. The *Salinity Management Plan for Discharges to Land* shall include salinity source reduction goals and a time schedule to implement the identified measures to meet those goals, and may fully reference the Discharger's CV-SALTS Salinity Control Program.
2. If the Discharger proposes to make any significant change to its systems which may impact discharge water quality, the Discharger shall notify the Executive Officer and submit a Report of Waste Discharge describing the proposed change(s), justification(s), and potential impact(s) to water quality. The Executive Officer will evaluate the proposed change with respect to the requirements of this Order.
3. In accordance with California 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.

4. 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.
5. As the date of adoption of this Order the Discharger shall comply with **Monitoring and Reporting Program (MRP) R5-2021-XXXX** 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.
6. The Discharger shall comply with the Standard Provisions which are attached hereto and fully incorporated herein by reference.
7. 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.
8. 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.
9. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

10. 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.
11. 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).
12. 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 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.
13. In the event of any change in control or ownership of the WTP, 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.
14. 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.
15. If the discharge to land permitted under this Order ceases, and these WDRs are no longer necessary, the Discharger must contact the Central Valley Water Board's Compliance and Enforcement Unit to discuss wastewater treatment system closure requirements prior to rescission of this Order.
16. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

17. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

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 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) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will be provided upon request.

LIST OF ATTACHMENTS

Attachment A – Site Location Map

Attachment B – Site Map

Attachment C – WTP Process Flow Diagram

Information Sheet


Standard Provisions and Reporting Requirements (Standard Provisions)

Monitoring and Reporting Program R5-2021-XXXX

ATTACHMENT A

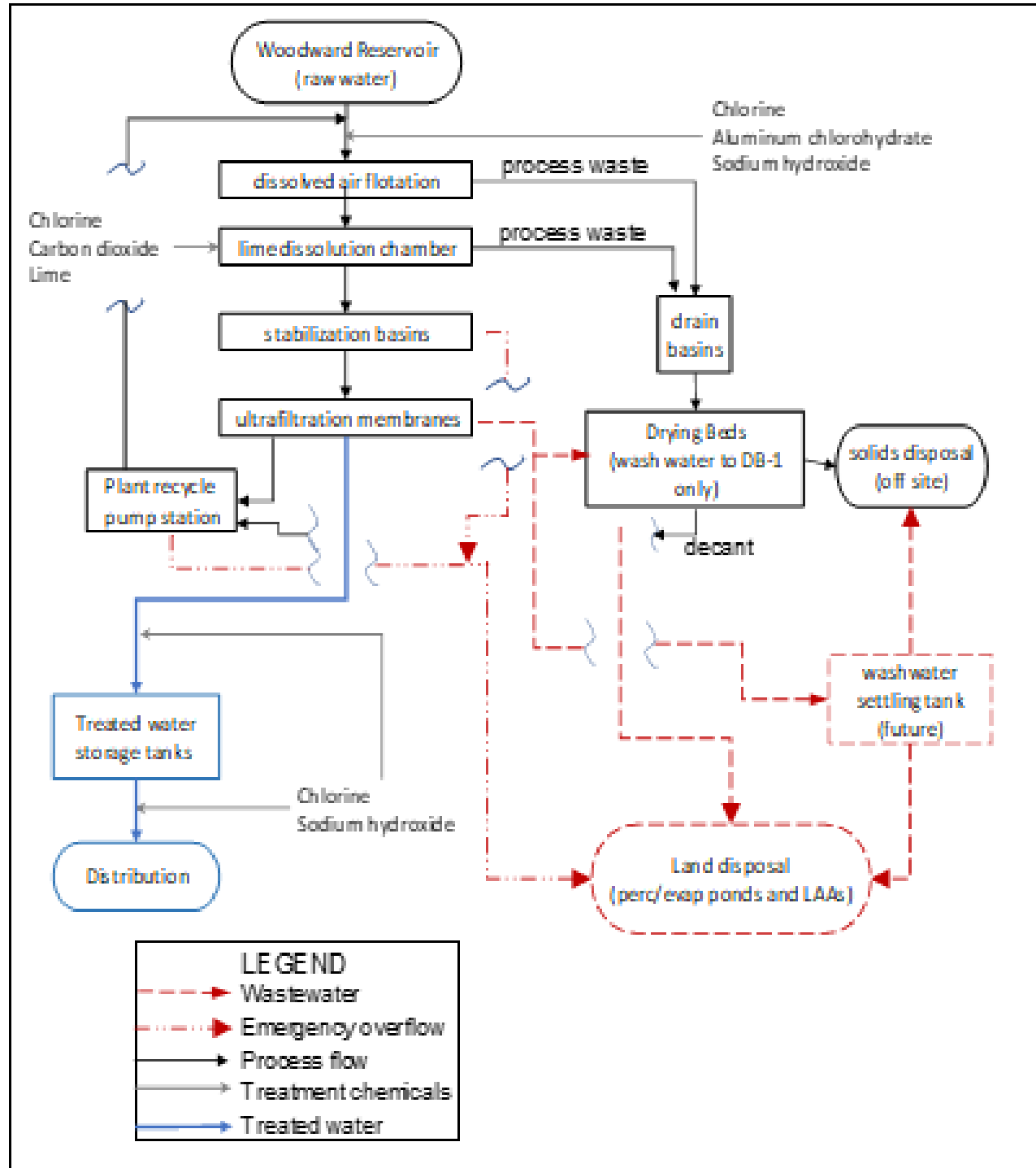


Source:
RWD Figure 2,
Condor Earth


Approximate Scale:
1 inch = 0.25 mile

SITE LOCATION MAP
SSJID Nick C. DeGroot WTP
Stanislaus County

ATTACHMENT C



Source:
 RWD Figure 3, Condor Earth

Process Flow Diagram
 SSJID Nick C. DeGroot WTP
 Stanislaus County

INFORMATION SHEET

Background

The South San Joaquin Irrigation District (SSJID) owns and operates the Nick C. DeGroot Water Treatment Plant (WTP) which provides clean drinking water to the communities of Tracy, Lathrop and Manteca. The WTP operates year-round, treating raw water from Woodward Reservoir to produce 40 million gallons per day (MGD) of potable water.

The WTP has been regulated by Waste Discharge Requirements Order R5-2014-0026, adopted by the Central Valley Water Board on 07 February 2014. The Discharger has requested a flow increase; therefore, Order R5-2014-0026 with MRP R5-2014-0026 Rev 2 will be rescinded and replaced with this Order.

Wastewater Generation and Disposal

Process wastewater is generated when the WTP cleans its ultrafiltration units to remove inorganic foulants. Originally only quarterly cleanings were required, but as the filter media ages more frequent cleanings are required, resulting in a greater wastewater volume.

Additionally the Discharger is anticipating an expansion of the WTP to increase daily production to 60 MGD, which higher throughput is expected to necessitate more frequent filter media cleanings, generating additional wastewater volume.

Currently wastewater is disposed of only in percolation / evaporation ponds, along with maintenance and emergency releases of potable or in-process water, which is of higher quality than raw water. Although the perc / evap ponds have the capacity to handle the increased flow, the Discharger has proposed adding landscape irrigation as a beneficial reuse of wastewater to replace some or all of the raw water currently being used for landscape irrigation on the WTP site.

Groundwater Considerations and Antidegradation

No monitoring wells have been installed on site due to the quality of the wastewater and depth to groundwater. Groundwater conditions are discussed in Findings 34 and 35 of the Order.

The WTP is within Groundwater Basin 5-022.01, the San Joaquin Valley Eastern San Joaquin Sub-basin, a Priority 2 Basin for the CV-SALTS Nitrate Control Program. Notices to Comply for Priority 2 Basins will be issued by 2024. With respect to the CV-SALTS Salt Control Program, the Discharger has chosen to pursue Option 2 (Alternative Option for Salt Permitting).

Antidegradation analysis and conclusions are discussed in Findings 45 through 52 of the Order.

Discharge Limitations

The previous WDRs had no effluent limitations, but the previous MRP had trigger limits on the effluent. Due to the WTP's improvement in its process and cleaning operations and wastewater handling, the quality of its wastewater has generally improved over time, and because the sorption capacity of the soils was previously not considered and there has been no groundwater sampling to track impacts of discharge, this Order and the revised MRP have no specific numeric trigger setpoints or limitations on the wastewater. However the Discharger is required to continue to monitor TDS, dissolved aluminum, and dissolved manganese in the discharge.

Currently permitted annual wastewater discharge is 1 million gallons (MG); this Order limits total annual wastewater discharge to 6 MG. Potable water is included in this limitation if it is discharged to the ponds, due to capacity issues, however any fully treated potable water discharged to land on site within 300 feet of the SSJID Canal, a surface water body, is reported to the DDW.

This Order requires the discharge to submit the following report:

- *Salinity Management Plan for Discharges to Land*

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 flow, quality, pond, and LAA monitoring requirements. This monitoring is necessary to characterize the discharge and evaluate compliance with the requirements and specifications in the Order.

Legal Effect of Rescission of Prior WDRs on Existing Violations

The 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.

Reopener

The conditions of discharge in the proposed 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. If applicable laws or regulations change, or once new information is obtained that will change the overall discharge and or its potential to impact groundwater, it may be appropriate to reopen the Order.