CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR
SOUTH SAN JOAQUIN IRRIGATION DISTRICT
NICK C. DEGROOT WATER TREATMENT PLANT
STANISLAUS COUNTY

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

1. On 30 April 2012, the South San Joaquin Irrigation District (SSJID) submitted a Report of Waste Discharge (RWD) to apply for Waste Discharge Requirements (WDRs) for the existing Nick C. DeGroot Water Treatment Plant (WTP or facility) near Oakdale, California. Additional information to complete the RWD was received on 29 April, 14 June, 1 July, and 14 August 2013.

2. SSJID (hereafter "Discharger") owns and operates the facility, and is responsible for compliance with the WDRs. The WTP was built in 2005 and provides drinking water to the communities of Tracy, Manteca, Lathrop, and Escalon.

3. The facility has not previously been regulated under WDRs or a waiver of WDRs. Since 2005, wastewater generated during the quarterly cleaning of ultrafiltration membranes has been transported off-site for disposal. The Discharger proposes to begin discharging this quarterly equipment cleaning wastewater into two unlined storm water basins located on the northeast portion of the facility.

4. The facility is located at 5855 Dodds Road, Oakdale in Stanislaus County (Section 4, T1S, R10E (MDB&M). The facility occupies Stanislaus County Assessor's Parcel No. 002-001-075, which consists of approximately 43.22 acres of land used for water treatment operations. A topographic map of the site is shown on Attachment A, which is attached hereto and made part of this Order by reference.

Existing Facility

5. The WTP facility treats approximately 40 million gallons per day (MGD) of fresh water from Woodward Reservoir by pre-chlorination; coagulation and dissolved air flotation for removal of solids and dissolved material; chemical stabilization to minimize internal pipe corrosion; ultrafiltration; and chlorine disinfection. The treated water is distributed as drinking water to the cities of Tracy, Lathrop and Manteca. A site plan is presented as Attachment B, which is attached hereto and made part of the Order by reference.

6. The following table summarizes characterization data for raw water from Woodward Reservoir collected on 24 April 2013.

Constituent/ Parameter	Units	Analytical Results	Potentially Applicable Water Quality Objectives
Aluminum	µg/L	60	200 [1]
Arsenic	µg/L	<2.0	10 [2]
Chloride	µg/L	1.0	106 [3] - 600 [4]
Iron	µg/L	70	300 [1]
Nitrate as Nitrogen	mg/L	<0.4	10 [2]
Sodium	mg/L	2.0	69 [3]
Sulfate	mg/L	<2.0	250 [1]
Specific Conductance	µmhos/cm	59	900 [1]
pH	Std. Units	7.2	6.5 [1] – 8.5 [3]

[1] Secondary Maximum Contaminant Level
[2] Primary Maximum Contaminant Level
[3] Lowest Agricultural Water Quality Goal
[4] Upper Secondary Maximum Contaminant Level

7. Raw water is initially coagulated with aluminum chlorohydrate, passed through flocculation, and then flows into a dissolved air flotation (DAF) unit to separate suspended solids. The water then flows through a lime dissolution chamber to precipitate salts, and then is routed to two 317,000 gallon concrete-lined stabilization basins. Pre-treated water then flows through an ultrafiltration system, in which suspended solids and solutes of higher molecular weight are screened out. The filtered water is then chlorinated and directed to storage for later distribution. Attachment C, which is attached hereto and made part of the Order by reference, presents a simplified process schematic.

8. Solids from the DAF and lime dissolution are discharged to one of four concrete-lined drying beds. Water decanted from the drying beds is then recycled back through the treatment process while dried sludge is transported off-site to a permitted disposal facility. Each concrete-lined drying bed is one acre in size. The current sludge generation rate for off-site disposal is approximately 400 cubic yards (560 tons) annually.

Proposed Discharge

9. There are currently eight ultrafiltration membrane trains and each requires quarterly cleaning. 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; however, wastewater from cleaning inorganic fouling cannot be recycled.

10. Ultrafiltration membrane system cleaning currently generates approximately 240,000 gallons of inorganic foulant wastewater quarterly. Currently, this wastewater is either hauled off-site to a permitted disposal facility or discharged to

concrete-lined sludge drying beds when excess storage capacity is available. The Discharger proposes to discharge this wastewater to percolation/evaporation ponds for disposal, as discussed below.

11. The inorganic foulants are removed from the ultrafiltration system by soaking the membrane fibers with a low pH solution of citric acid and muriatic acid, and then flushing the system with a neutralizing solution of sodium hydroxide. The WTP was originally designed to return this wastewater to the treatment process, but it has been determined that the residual citrate adversely affects the primary pretreatment coagulation process by sequestering the coagulant and preventing floc formation.

12. In late 2012, the Discharger discontinued the use of ferric chloride as a flocculent and began using aluminum chlorohydrate (ACH) to promote the coagulation of solids during water treatment. The following table summarizes analytical results of inorganic foulant wastewater sampling conducted prior to and after coagulant conversion from ferric chloride to ACH.

Constituent/ Parameter	Units	Wastewater		Potentially Applicable Water Quality Objectives
		28 January 2013 [1]	6 August 2013 [2]	
Aluminum	µg/L	--	2,710	200 [3]
Chloride	mg/L	58	107	106 [4] - 600 [5]
Iron	µg/L	4,890 [6]	270 [7]	300 [3]
Manganese	µg/L	2,400 [6]	1,530 [7]	50 [3]
Sodium	mg/L	33 [6]	266 [6]	69 [4]
Sulfate	µg/L	<2.0	--	250 [3]
Nitrate as Nitrogen	mg/L	<0.1	--	10 [8]
Total Dissolved Solids	mg/L	--	940	450 [4] – 1,500 [5]
Specific conductance	µmhos/cm	402	--	900 [3]
pH	Std. Units	7.4	7.29 [8]	6.5 [3] – 8.5 [4]
Organic Parameters				
Acetone	µg/L	750	279	--
Chloroform	µg/L	3.7	34.1	80 [9]
Haloacetic Acids (HAAs)	µg/L	7.0	98	60 [9]
Trihalomethanes (THMs)	µg/L	3.7	--	80 [9]

[1] Wastewater generated during the use of ferric chloride
[2] Wastewater generated after conversion to the use of aluminum chlorohydrate
[3] Secondary Maximum Contaminant Level
[4] Lowest Agricultural Water Quality Goal
[5] Upper Secondary Maximum Contaminant Level
[6] Total concentration (unfiltered)
[7] Dissolved concentration (filtered)

[8] Field measurement
[9] Primary Maximum Contaminant Level
-- Parameter not analyzed or no numerical Water Quality Objective

13. The facility has two unlined detention basins at the northeastern portion of the property, which are used for percolation/evaporation. Detention Basin #1 has a capacity of 1.5 million gallons and is used for storm water retention. Detention Basin #2 has a capacity of 441,000 gallons and is currently plumbed to provide temporary storage for emergency water treatment system bypass/overflows. The RWD proposes to convert the detention basins to include ultrafiltration system cleaning wastewater disposal in addition to their current uses. Based on the water balance included in the RWD, the two percolation/evaporation detention ponds have sufficient capacity to contain expected wastewater flows in addition to storm water runoff during the 100-year 365-day precipitation event.

14. The two unlined percolation/evaporation basins 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 is diverted through gravity overflow into Detention Basin #2 via the recycle pump station at a rate of 3,500 to 25,000 gallons per minute (gpm) for percolation/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 million gallons. In case of impending overflow, treated water from the overflow basin is then routed to the percolation/evaporation ponds.

    It is unlikely that system bypass or overflows will occur because the 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.

15. The two percolation/evaporation basins have a combined operating area of approximately 57,064 square feet (1.31 acres) and an operating depth of approximately six feet with two feet of freeboard. The operating storage volume is therefore approximately 1.97 million gallons, which exceeds the storage capacity needed for the quarterly wastewater. Based on a saturated percolation rate of 50 gallons per square foot per day, it would take approximately 7.4 hours for the

quarterly wastewater volume of 240,000 gallons to completely infiltrate. Therefore, the proposed percolation/evaporation ponds provide sufficient disposal capacity.

16. 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).

Site-Specific Conditions

17. 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 also exist to the southeast and southwest. SSJID's Main Canal borders the facility on the north and flows to the west.

18. Topography of the site and surrounding area is generally level with an approximate elevation of 175 feet above mean sea level (MSL). 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.

19. The average annual precipitation near the facility is approximately 13.33 inches and the 100-year precipitation is 23.7 inches. The reference evapotranspiration rate for the area is approximately 53.5 inches per year.

20. According to the RWD, the site is located in Flood Zone C, which is outside the currently-defined Federal Emergency Management Agency (FEMA) 100-year flood zone. Flood Zone C is defined as having minimal potential for flood hazards.

Groundwater Conditions

21. The Discharger does not monitor groundwater and has not investigated the occurrence or quality of shallow groundwater at the site. Based on available information discussed below, the depth to shallow groundwater ranges from approximately 80 to 100 feet below ground surface (bgs) in the area, but the direction of groundwater flow and gradient are unknown1.

22. A water supply well was installed during the initial development of the WTP in June 2003. The drilling log for the on-site well indicates that near-surface soils consist of interbedded clayey sand and gravel underlain by more defined intervals of clay and sand. This lithologic sequence is typical of the alluvial nature of the west flank of the

[1] The Integrated Water Resources Information System of the Department of Water Resources includes water level data for an agricultural well located approximately 1,800 feet northwest of the WTP facility (Well number 01S10E08L001M). The well was registered as being installed in 1944 and was last monitored in 2011. Depth to groundwater in the well has ranged from approximately 73 to 91 feet bgs since 2000.

Sierra foothills. Based on percolation testing conducted in 2011, the estimated percolation rate is approximately 17 minutes per inch, or 50 gallons per square foot per day.

23. The on-site water supply well was drilled to a depth of 320 feet bgs and was completed with screened PVC casing from 243 to 263 feet bgs. The measured depth to water in the well at the time of its installation was approximately 88 feet bgs. The 12-inch diameter supply well is not currently in use; but was sampled on 28 January 2013. The analytical data are summarized below.

Constituent	Units	Analytical Result	Protective Water Quality Limit
Chloride	mg/L	<1.0	106 [1] – 600 [2]
Sodium	mg/L	13	69 [1]
Nitrate as Nitrogen	mg/L	<1.0	10 [2]
Sulfate	mg/L	<2.0	250 [4]
Boron	mg/L	<0.1	0.7 [1]
TDS	mg/L	160	450 [1] – 1,500 [2]
Total Iron	µg/L	<50	300 [4]
Total Manganese	µg/L	<10	50 [4]
Chromium VI	µg/L	0.04	100 [1]
pH	SU	7.8	6.5 [4] – 8.5 [1]
Specific Conductance	µmhos/cm	162	900 [4]
Organic Parameters [5]	Below Laboratory Reporting Limits		

[1] Lowest Agricultural Water Quality Goal
[2] Upper Secondary Maximum Contaminant Level
[3] Primary Maximum Contaminant Level
[4] Secondary Maximum Contaminant Level
[5] Laboratory Methods EPA 551.1, EPA 552.2, EPA 624, EPA 625

Basin Plan, Beneficial Uses, and Regulatory Considerations

24. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

25. The facility is located in the Valley Home Hydrologic Area of the San Joaquin Valley Floor Hydraulic unit (535.20). Local drainage is to Lone Tree Creek, which eventually drains to the San Joaquin River. The Basin Plan designates the San Joaquin River as supporting the beneficial uses of municipal and domestic supply;

agricultural supply; industrial process supply; hydropower generation; water contact recreation; non-contact recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.

26. The Basin Plan designates the underlying groundwater as supporting the beneficial uses of municipal and domestic supply (MUN), agricultural supply (AGR), industrial process supply, and industrial service supply (collectively, IND).

27. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.

28. The Basin Plan's numeric water quality objective 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.

29. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (hereafter Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

30. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.

31. 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 in order to implement the narrative objective.

32. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as Water Quality for Agriculture by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 µmhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 µmhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

Antidegradation Analysis

33. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:

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

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

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

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

34. Limited degradation of groundwater by some of the typical waste constituents associated with water treatment processes, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. Facility operations provide high quality water for municipal and agricultural use. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing limited groundwater degradation that may occur pursuant to this Order.

35. The Discharger has not monitored shallow groundwater quality at the site other than sampling the unused on-site well in January 2013, as noted in Finding 23. Based on the lack of shallow groundwater data, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this facility must be based on the assumption that current water quality in the on-site supply well is representative of shallow background groundwater quality.

36. Constituents that have the potential to degrade groundwater are iron, manganese, aluminum, sodium, chloride, and TDS. The detected concentrations of these constituents in wastewater and groundwater are summarized below:

Constituent	Units	Wastewater [1]	"Background" Groundwater [2]	Potential Water Quality Objective
Dissolved Manganese	µg/L	1,530	<10	50 [3]
Dissolved Aluminum	µg/L	2,710	--	200 [3]
Dissolved Iron	µg/L	270	<50 [4]	300 [3]
Sodium	mg/L	266	13	69 [5]
Chloride	mg/L	107	<1.0	106 [5] – 600 [6]

Constituent	Units	Wastewater [1]	"Background" Groundwater [2]	Potential Water Quality Objective
TDS	mg/L	940	160	450 [5] – 1,500 [6]

[1] Wastewater sample analysis, August 2013
[2] On-site well sampling results, January 2013
[3] Secondary Maximum Contaminant Level
[4] Total concentration (unfiltered)
[5] Lowest Agricultural Water Quality Goal
[6] Upper Secondary Maximum Contaminant Level.

a. **Manganese.** Dissolved manganese concentrations in the wastewater currently exceed the water quality objective and could degrade groundwater quality. The Discharger believes that the presence of manganese is due to impurities in the quicklime used in the water treatment process and/or possibly from the previous use of ferric chloride in cleaning the ultrafiltration membrane trains. The Discharger is currently evaluating alternatives to reduce manganese concentrations in the wastewater. This Order sets effluent trigger concentrations designed to minimize the potential for groundwater degradation. If dissolved manganese concentrations in the wastewater do not decline to levels at or below the trigger concentration within one year after adoption of this Order (i.e., after four additional quarterly ultrafiltration system cleanings), groundwater monitoring may be required unless the Discharger submits a technical report describing proposed improvements that will reduce manganese concentrations in the effluent or demonstrates that the effluent concentrations do not pose a threat to underlying groundwater.

b. **Aluminum.** Dissolved aluminum concentrations in the wastewater currently exceed the water quality objective and could degrade groundwater quality. The presence of aluminum in the wastewater is likely related to the use of aluminum chlorohydrate as a coagulant. Although shallow groundwater is in excess of fifty feet bgs and aluminum is considered to have low mobility through soil, there are no baseline groundwater data for the facility for aluminum. This Order sets effluent trigger concentrations designed to minimize the potential for groundwater degradation. If dissolved aluminum concentrations in the wastewater do not decline to levels at or below the trigger concentration within one year after adoption of this Order (i.e., after four additional quarterly ultrafiltration system cleanings), groundwater monitoring may be required unless the Discharger submits a technical report describing proposed improvements that will reduce aluminum concentrations in the effluent or demonstrates that the current effluent concentrations do not pose a threat to underlying groundwater.

c. **Iron**. Dissolved iron concentrations in the wastewater do not currently exceed the water quality objective. As noted in previous findings, the use of ferric chloride was discontinued in late 2012, and iron concentrations in wastewater have since decreased. The downward trend of iron concentrations is likely the result of residual iron being flushed from the ultrafiltration membranes. The discharge poses a threat of degradation but is not expected to cause an exceedance of the water quality objective. An effluent limit is not necessary at this time; however this Order requires monitoring of iron in the wastewater.

d. **Sodium**. Wastewater sodium concentrations are greater than background groundwater quality, and the discharge could therefore cause degradation. However, based on the depth of the vadose zone and the propensity for most soils to adsorb sodium, the discharge is not likely to cause exceedance of the water quality objective.

e. **Chloride**. Wastewater chloride concentrations are greater than background groundwater quality, and the discharge could therefore cause degradation. However, based on concentration of the waste, the discharge is not likely to cause exceedance of the water quality objective.

f. **Total Dissolved Solids.** Wastewater TDS concentrations are greater than background groundwater quality, and the discharge could therefore cause degradation. However, based on concentration of the waste, the discharge is not likely to cause exceedance of the water quality objective.

37. The nature of the waste, site-specific conditions and available groundwater quality data indicate that the discharge may cause degradation, but will not cause exceedance of a water quality objective. The Discharger employs a state-of-the-art water treatment system that minimizes the presence of water treatment chemicals in the treated water. The waste products from the water treatment process would be difficult and costly to remove altogether. For this discharge, potential best practicable treatment or control measures include:

    a. Maximizing the purity of the chemical reagents used in the water treatment process;

    b. Optimizing chemical usage rates; and

    c. Using the wastewater in combination with a higher quality water to irrigate landscaping or crops.

    This Order requires the Discharger to monitor wastewater quality and take action to implement better treatment or control if concentrations of dissolved manganese or aluminum do not reduce to specified trigger concentrations within a reasonable time period, so the degradation is allowable under Resolution 68-16.

38. This Order establishes groundwater limitations that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. Although this Order does not require groundwater monitoring, it does include requirements for continued monitoring of the discharge. If the results of monitoring reveal a previously undetected threat to water quality or indicate a change in waste character such that the discharge poses a threat to water quality, the Executive Officer may require groundwater monitoring and/or the Regional Water Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution No. 68-16. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution No. 68-16.

39. Based on the forgoing, the Discharger's current efforts appear to constitute best practicable treatment or control. This Order requires compliance with discharge requirements designed to minimize the potential for groundwater degradation; evaluation and implementation of additional measures as needed; and sets numeric trigger concentrations for wastewater effluent. If wastewater does not meet any trigger concentration, this Order requires that the Discharger either demonstrate that continuing the discharge will not result in exceedance of the groundwater limitation or implement additional treatment or control to ensure compliance with the groundwater limitation.

Other Regulatory Considerations

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

41. Based on the threat and complexity of the discharge, the facility is determined to be classified as 3C as defined below:

    a. Category 3 threat to water quality: "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses."

    b. Category C complexity, defined as: "Any discharge for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code. Included would be discharges having no waste treatment systems or that must comply with best management practices, discharges having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal."

42. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste.

However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

> The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:
>
> (b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:
>
> (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
>
> (2) the discharge is in compliance with the applicable water quality control plan; and
>
> (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

43. The discharge authorized herein, and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:

    a. Discharges of wastewater to the percolation/evaporation ponds are exempt pursuant to Title 27, section 20090(b) because they are discharge of wastewater to land and:

        i. The Central Valley Water Board is issuing WDRs.

        ii. The discharge will be in compliance with the Basin Plan, and;

        iii. Wastewater discharged to the percolation/evaporation ponds does not need to be managed as hazardous waste.

44. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. Because all industrial storm water collected at the site will be retained on-site, the Discharger is not required to obtain coverage under General Permit No. CAS000001.

45. Water Code section 13267(b) states:

> In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region … shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the

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

The technical reports required by this Order and the attached Monitoring and Reporting Program <order number> are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

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

47. The action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with the California Code of Regulations, title 14, section 15301.

48. A Notice of Exemption (NOE) was certified by the Stanislaus County Planning Commission on 30 July 2013, in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The NOE described the project as the discharge of approximately 0.96 MG of wastewater annually (240,000 gallons quarterly) to two unlined storm water detention basins for evaporation and percolation.

49. As the discharge of neutralized recovery clean discharges to one or more existing on-site overflow basins, depending on capacity needs

50. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

51. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

52. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.

53. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that pursuant to Water Code sections 13263 and 13267, the South San Joaquin Irrigation District, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

Note: Other prohibitions, conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.

3. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

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

B. Flow Limitations

1. **Effectively immediately**, wastewater flows to the percolation/evaporation basins shall not exceed the following limits:

Flow Measurement	Flow Limit
Total Annual Flow [1]	1,000,000 Gallons

[1] As determined by the total flow for the calendar year.

C. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.

2. The discharge shall not cause degradation of any water supply.

3. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

4. The discharge shall remain within the percolation/evaporation ponds at all times.

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

6. 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.

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

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

9. **On or about 1 October of each year**, available capacity shall at least equal the volume necessary to comply with Discharge Specifications C.7 and C.8.

10. 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.

11. 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.

12. Wastewater contained in the percolation/evaporation ponds shall not have a pH less than 6.0 or greater than 8.5.

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 constituents in concentrations that cause nuisance or adversely affect beneficial uses.

E. Solids Disposal Specifications

Sludge, as used in this document, means the solid matter removed from water treatment, settling, and storage vessels or ponds.

1. Sludge shall be removed from ponds, and clarifiers as needed to ensure optimal operation and adequate storage capacity.

2. Any handling and storage of sludge shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

3. If removed from the site, sludge shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for land disposal at facilities (i.e., landfills, composting facilities, and soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.

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

F. Provisions

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

2. 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 workplan 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.

3. 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.

4. The Discharger shall comply with Monitoring and Reporting Program <order number>, which is part of this Order, 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.

5. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."

6. 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.

7. 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 includes 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.

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

9. 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.

10. 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."

11. 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.

12. 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.

13. 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 CWC. 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.

14. 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

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

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 or with the WDRs 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.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on __

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PAMELA C. CREEDON, Executive Officer