CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2010-0070-001

WASTE DISCHARGE REQUIREMENTS
FOR
CALAVERAS COUNTY WATER DISTRICT
COPPER COVE WASTEWATER TREATMENT PLANT
CALAVERAS COUNTY

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

1. The Calaveras County Water District (CCWD), hereafter referred to as Discharger, submitted a Report of Waste Discharge (RWD) in October 2008 for updating existing Waste Discharge Requirements (WDRs) for the Copper Cove Wastewater Treatment Plant (WWTP). The purpose of the update is to increase the permitted discharge flow limit by modifying operations of the existing secondary WWTP facilities. Supplemental information was received on 6 February 2009, and various dates in April and December 2009.

2. The WWTP is located at 5130 Kiva Place, Copper Cove, Calaveras County, in Section 26, T1N, R12E, MDB&M. The Calaveras County Assessor's Parcel Numbers for the WWTP is 055-051-008. The general location is northwest of Tulloch Reservoir, as shown on Attachment A, which is attached hereto and made part of this Order by reference.

3. CCWD owns and operates the WWTP, which includes collection, secondary wastewater treatment and storage, tertiary water treatment facilities, and an on-site land application area (LAA). The WDRs prescribe requirements for the Discharger's collection, secondary treatment and storage facilities, and the LAA. The requirements for the tertiary wastewater treatment and recycled water irrigation reuse for Saddle Creek Golf Course (SCGC) are specified in the existing National Pollutant Discharge Elimination System (NPDES) Order for Calaveras County Water District & Saddle Creek Golf Course L.P., Copper Cove Wastewater Reclamation Facility, Order No. R5-2006-0081, NPDES Permit No. CA0084620 or subsequent Order. To provide the Discharger time to comply with requirements in Order No. R5-2006-0081, a companion Time Schedule Order No. R5-2006-0082 was also adopted by the Central Valley Water Board.

4. For the purposes of this Order, the term "Wastewater Treatment Plant" (WWTP) shall mean the wastewater collection, secondary wastewater treatment and storage facilities, and the LAA.

5. WDRs Order No. 5-00-136, adopted by the Central Valley Water Board on 16 June 2000, prescribes requirements for the Copper Cove WWTP, and allows a monthly average dry weather influent flow (ADWF) of 0.20 million gallons per day (mgd). The Discharger requested to increase the monthly ADWF limit to 0.35 mgd after facility modification.

Existing Facility and Discharge

6. The WWTP was constructed in the early 1970s. It collects, treats and disposes of wastewater from residential and commercial units in the communities of Copper Cove, Conner Estates, Copper Meadows, Saddle Creek and Lake Tulloch. Currently, it has 1,802 connections serving approximately 4,500 people.

7. The total monthly average inflows including Inflow and Infiltration (I&I) to the WWTP for the years 2007 and 2008 range from approximately 0.15 to 0.28 mgd. The WWTP is being modified to increase its capacity to treat an increased flow for future development.

8. The treatment and storage facilities consist of headworks, a flow diverter, aerated treatment Ponds 1 and 2 operated in series, an aerated treatment Pond 4, an effluent storage Pond 6 and the LAA. Pond 3 is out of service and Pond 5 is used for emergencies. Attachment B and C present the site map and the schematic of the facilities, respectively, which are attached hereto and made part of this Order by reference.

9. Wastewater is delivered into the treatment system through the headworks and the flow diversion box to Pond 1 and then Pond 2. Each pond has an approximate surface area of 0.7-acre and an estimated depth of 12 feet with an approximate storage capacity of 5.5 acre-feet. Pond 1 is equipped with two 10-horsepower aerators. Pond 2 is equipped with one 10-horsepower aerator.

10. The effluent from Pond 2 is conveyed to Pond 4, which functions as a settling/polishing pond. Pond 4 has an approximate storage capacity of 9.5 acre-feet. A 5-horsepower aerator was installed in Pond 4 to provide mixing and aeration.

11. From Pond 4, wastewater is conveyed to a disinfection facility where wastewater is disinfected with sodium hypochlorite at 12 mg/L to meet the WDRs effluent coliform limitations prior to being discharged to Pond 6.

12. Pond 6 is an unlined storage reservoir of secondary treated wastewater. It has an estimated surface area of 25 acres and an approximate capacity of 205 acre-feet excluding the two feet of freeboard. The soil conditions beneath the pond are unknown. In addition, the site map shows that a diversion ditch was installed along the north side of Pond 6 to minimize the amount of stormwater runoff entering Pond 6. The collected stormwater in the diversion ditch drains into a natural drainage course nearby.

13. Pond 5 has a capacity of 40 acre-feet. A surface water diversion ditch was installed along the northeast side of Pond 5. The Discharger discovered water at the base of the dam that may have been seepage. During the use of Pond 5 in the winter 2005/2006, the Discharger installed a collection sump at the base of the Pond 5 dam returning seepage and collected water back to Pond 5. Prior to the year 2003, the Discharger used Pond 5 as an effluent storage pond. The Discharger stopped using the pond for storage on a regular basis, but uses it on an emergency basis during wet years (e.g., winter of 2005/2006). Currently, Pond 5 contains stormwater runoff. All water in Pond 5 is pumped back to

Pond 6 for reuse. The RWD indicates that Pond 5 remains available for use in emergency situations when additional storage capacity is required. This Order requires the Discharger to detail the use and maintenance of Pond 5 in its *Operation and Maintenance Plan* (O&M Plan).

14. The secondary treated wastewater from Pond 6 is either further treated to tertiary levels for SCGC irrigation or disposed to the on-site LAA. The tertiary treatment includes microfloc, coagulation-flocculation, two stage filtration and UV disinfection. The tertiary wastewater treatment and recycled water irrigation are regulated under an existing NPDES Permit. The NPDES Permit allows the seasonal reuse of up to 0.95 mgd of tertiary treated wastewater from Copper Cove WWTP for SCGC irrigation.

15. Approximately 35-acre of LAA, located northeast of Pond 6, is used to dispose of secondary treated wastewater when recycled water is not needed. The runoff that occurs within the LAA is returned to Pond 6 by graded slopes of the LAA.

16. The influent entering the WWTP at the headworks has been characterized as shown below. The data are the monthly averages from December 2001 through January 2009.

Constituent	Average
Inflow Rate	0.192 mgd
Biochemical Oxygen Demand	160 mg/L
Total Suspend Solids	167 mg/L

17. The quality of treated wastewater prior to discharge to Pond 6 (effluent) has been characterized based on the monthly averages from December 2001 through January 2009.

Constituent	Units	Average
Biochemical Oxygen Demand	mg/L	7.9
Total Dissolved Solids (TDS)	mg/L	338
Nitrate as Nitrogen	mg/L	7.4
TKN	mg/L	7.5
pH	Std.	7.3

During 2007 and 2008, the effluent monthly average TDS concentration was approximately 400 mg/L. The monthly maximum effluent TDS concentration over the last eight years was 578 mg/L. The previous permitted effluent limit for TDS was a monthly average of 450 mg/L and remains so in this Order. In addition, a daily maximum effluent limitation of 600 mg/L for TDS has been established.

Modifications to the Wastewater System

18. The Discharger plans to modify treatment facilities to increase the storage capacities accommodating the proposed ADWF limit of 0.35 mgd. The changes include installing mechanical headworks, reconfiguring Ponds 1 and 2 from series to parallel, and increasing the Pond 6 dam height by approximately ten feet.

19. A new mechanical screen and screening washer have been installed to remove solids and debris from the raw sewage. In addition, the influent pumping station will consist of a 10-foot diameter wet well with three submersible chopper pumps. Grit, solids, and other dense material will settle and accumulate within the wet well and will be routinely cleaned out and hauled to a permitted landfill facility, such as the Forward Landfill in Stockton. These modifications are expected to significantly reduce the amount of solids conveyed to the downstream treatment ponds.

20. The Discharger proposes to change the operation of Pond 1 and Pond 2 from series to parallel in order to increase the treatment capacity efficiency. The Discharger has installed four 15-horsepower aerators into Pond 1 and four 15-horsepower aerators into Pond 2 to increase biological treatment. Each pond has a detention time of 6 to 12 days.

21. The RWD indicates that the operation of the parallel ponds will require more frequent sludge removal for Ponds 1, 2, and 4 to maintain the function of these units and lessen solids carryover to Pond 6. The Discharger states that when the sludge on the bottom of Ponds 1 or 2 impacts the operation, sludge will be removed. Sludge will be stockpiled on site for dewatering. Once laboratory analyses have demonstrated that the sludge is suitable for alternative daily cover, the residual sludge will be hauled to a permitted landfill facility. This Order requires the Discharger to update the specification of sludge handing in the O&M Plan.

22. The Discharger plans to increase the capacity of Pond 6 by raising the dam height approximately ten feet. Excluding two feet of freeboard, the proposed storage capacity of Pond 6 will be approximately 415 acre-feet, which satisfies the 300 acre-feet storage requirement of an ADWF of 0.35 mgd and 100-year return period annual precipitation. Due to the Pond 6 expansion, the stormwater diversion features near Pond 6 need to be evaluated and improvements to the diversion features will be part of the expansion project. The cost of the Pond 6 expansion is estimated to be $5.6 million. As of August 2008, the Discharger has not determined a specific timeline for this project due to financial hardship.

23. The RWD states that CCWD and the owners of SCGC intend to maximize the use of recycled water for golf course irrigation. The SCGC will be able to replace 168 acre-feet of surface water with recycled water for irrigation annually. The SCGC irrigation demand is estimated between 445 to 630 acre-feet, with an average of 515 acre-feet per year. The estimated recycled water production of the WWTP will be 400 to 415 acre-feet per year after facility modifications. The golf course recycled water demand is expected to exceed the recycled water production. Therefore, the LAA will serve as a backup means of effluent disposal. The SCGC irrigation will be the primary means of reuse and thus effluent

disposal. However, due to SCGC's seasonal recycled water use, the Discharger needs to complete the Pond 6 expansion to provide enough effluent storage when SCGC does not irrigate during the wet season. Based on the existing Pond 6 capacity, the Discharger has to use the LAA for effluent disposal. In addition, the Discharger states that use of the LAA is necessary to draw down Pond 6 to allow for maximum storage capacity of Pond 6 before the winter season.

24. The RWD contains two water balances that demonstrate hydraulic capacity for the wastewater system:

    a. The first water balance, based on the existing condition, includes a monthly average dry weather wastewater inflow rate of 0.23 mgd, a monthly maximum average inflow rate of 0.28 mgd, and annual total wastewater inflow rate of 92.95 million gallons. The water balance requires 205 ac-feet of effluent storage and LAA disposal.

    b. The second water balance, based on the completion of Pond 6 expansion, includes a monthly average dry weather wastewater inflow rate of 0.35 mgd, a monthly maximum average inflow rate of 0.40 mgd, and annual total wastewater inflow rate of 135.45 million gallons. The water balance requires 300 acre-feet of effluent storage and does not require wastewater to be applied on the LAA.

25. The previous WDRs Order No. 5-00-136 contained a dry weather flow limitation of 0.20 mgd. In its self-monitoring reports, the Discharger reported that it exceeded the flow limit in July and August 2006, July and August 2007, and July and August 2008. Based on the water balance described in Finding 24.a, this Order allows a slightly higher dry weather flow limitation and imposes an annual flow limit. The Order does not provide a timeline for making the modifications to increase the capacity as described in Finding 24.b, but does require that the Discharger's Annual Report contains an evaluation of flows and remaining capacity. If the Discharger exceeds the flow limits, then it must provide a time schedule to return to compliance within the next year.

26. The Discharger requested to reuse the disinfected effluent from Pond 6 for nearby construction related activities such as backfill consolidation around non-potable piping, soil compaction, concrete mixing, dust control on roads and streets, and any other similar uses allowed by Title 22 of California Code of Regulations (Title 22 CCR). However, a Title 22 Engineering Report has not been submitted, so this Order does not authorize the reuse of secondary treated wastewater. The facility has the option to fulfill this reuse with its tertiary treated water under its NPDES Order, which allows the application of tertiary treated wastewater for construction related activities.

27. In the future, the Discharger proposes to discharge tertiary treated wastewater instead of the secondary treated wastewater into Pond 6. In addition it plans to use Ultra-Violet (UV) light disinfection instead of sodium hypochlorite, which will reduce the effluent salinity and improve the water quality in Pond 6. However, the Discharger states the existing NPDES Permit that expires on 1 August 2011 needs to be revised and some changes may be necessary for the existing tertiary treatment facilities to accomplish this work.

Wastewater Collection System

28. The sanitary sewer system consists of sewer pipes, manholes, and/or other conveyance system elements that direct raw sewage to the treatment facility. This wastewater collection system has approximately 18.7 miles of sewer pipes and 30 lift stations. The system is combined with pressure and gravity pipes in diameters of 6 to 10 inches with three types of pipe material: polyvinyl chloride, ductile iron and vitrified clay.

29. The Discharger has an I&I monitoring and reduction program for the WWTP service area. I&I flows were estimated based on the January 1997 through December 2007 influent data. The RWD states that the I&I peak monthly average is estimated at 34 gallons per acre-day, which is on the lower end of the typical range from 20 to 3,000 gallons per acre-day for I&I in municipal wastewater collection systems.

30. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the WWTP. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges into these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities and then properly disposed. Sanitary sewer overflow is also defined in State Water Resources Control Board (State Water Board) Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, which can be found at: *http://www.swrcb.ca.gov/board_decisions/adopted_orders/water_quality/wqo06.shtml*

31. Potential causes of sanitary sewer overflows include grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and/or contractor caused blockages.

32. Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, nutrients, oxygen demanding organic compounds, oil and grease, and other wastes. Sanitary sewer overflows can cause temporary exceedence of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area.

33. The Discharger shall take all necessary steps to adequately maintain, operate, and prevent discharges from its sanitary sewer collection system. The Discharger shall obtain coverage and comply with State Water Board Order No. 2006-0003-DWQ and prepare and implement a *Sewer System Management Plan* consistent with that Order.

Site-Specific Conditions

34. The elevation of the WWTP is approximately 750 feet above mean sea level. The annual average precipitation in the vicinity of the WWTP is approximately 21.6 inches; the 100-year return period annual precipitation is 39.0 inches based on the Department of

Water Resources Lake Tulloch Dam weather station No. B30 9062 00. The mean evapotranspiration rate is approximately 53.3 inches per year. All portions of the WWTP are outside the 100-year flood zone.

35. The facility is within the Hydrologic Unit Area No. 535, as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.

36. Surrounding land uses are primarily residential.

37. The WWTP is located on the Mariposa Formation. At most locations, soils are rocky with platy slate fragments of up to two inches. The soil matrix texture is loam, and comprises approximately 50 percent of the soil volume. Based on the soil properties, soil infiltration is expected to be moderately rapid and soil water storage to be small.

38. The LAA is located on slopes that range from 0 to 70 percent.

39. The potable water supply for the Copper Cove service area is the Stanislaus River at Lake Tulloch. Potable water quality data from a single sample collected in 2006 are presented below:

Constituent	2006	Units
Chloride	5	mg/L
Sodium	5.3	mg/L
Electrical Conductivity	99	umhos/cm
pH	7.2	Std.
Total Dissolved Solids	58	mg/L

Groundwater Considerations

40. The depth to groundwater ranges from less than 1 foot to 24 feet below the ground surface. Generally, groundwater flows from northeast to southwest with a gradient of approximately 0.02 feet/foot.

41. In 2001, the Discharger installed three groundwater monitoring wells. The well locations are presented on Attachment B. MW-1 is the upgradient well. MW-2 is downgradient of the wastewater treatment Ponds 2 and 3. MW-3 is downgradient of the effluent storage Pond 6 and LAA. Because of the location of MW-3 within the Pond 6 dam chimney and toe drains, the expansion of Pond 6 will destroy well MW-3. A new replacement well MW-4 was installed in July 2009 approximately 400 feet south and downgradient of MW-3. The Discharger continues to monitor MW-3 until it is destroyed as part of dam modifications and Pond 6 expansion. Groundwater monitoring well and groundwater elevation data are shown below:

Monitoring Well	Monitoring Well Depth (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1 [1]	27.5	15.27	777.68
MW-2 [1]	27.5	5.85	748.57
MW-3 [1]	22.5	10.63	722.36
MW-4 [2]	80.0	24.36	702.03

[1] Groundwater monitoring event conducted in January 2009.
[2] Groundwater monitoring event conducted in July 2009.

42. In September 2007, the Discharger submitted a *Backgound Groundwater Quality Report*. It states that most of the water quality differences between the upgradient well and downgradient wells are the effects of groundwater interactions with low-transmissive bedrock, and are not the result of treatment, storage, and disposal of wastewater at the WWTP. In addition, it states that because of the naturally occurring differences in the chemistry between these wells, using MW-1 as a background well to evaluate impact to the downgradient wells is not appropriate. Further, the report indicates that the lack of pre-wastewater treatment plant data from downgradient monitor wells prevents the calculation of background water quality using historical data. The Discharger's report suggests that the potential impacts to groundwater from the wastewater treatment facility are best evaluated using graphical methods, e.g., time–series charting and other intra-well statistical methods. However, this report does not provide an intra-well statistical result.

    The Discharger's *Backgound Groundwater Quality Report* includes an evaluation of groundwater monitoring data based on time–series charts and states that "*the presence of coliform bacteria at monitor wells MW-2 and MW-3 is a possible impact from facility operations… Native wildlife present particularly at Pond 6 may contribute substantially to coliform bacteria at the ponds. Sodium and chloride began increasing at MW-3 in 2005. The increasing trend of sodium and chloride concentrations at MW-3 may also be an impact to groundwater resulting from the operation of the facility*."

    This Order requires the Discharger to evaluate groundwater quality annually using intra-well statistical analysis methods to determine if the discharge is causing degradation beyond anticipated groundwater quality variation. The intra-well statistical methods should follow those specified in Title 27 CCR, Section 20415(e)(10).

43. Groundwater quality has been characterized by quarterly sampling of monitoring wells. A summary of average groundwater quality is presented in the table below as well as the Water Quality Limit (WQL) for each analyte.

Constituent	Units	WQL	Upgradient MW-1	Downgradient MW-2	Downgradient MW-3
Nitrate as N	mg/L	10 [1]	0.027[2]	0.1[2]	0.084[2]
Total Dissolved Solids	mg/L	450 [3]	432[2]	400[2]	538[2]
Total Kjeldahl Nitrogen	mg/L	NA	0.5[2]	0.5[2]	0.6[2]
Chloride	mg/L	106 [3]	18[4]	34[4]	117[4]
Sodium	mg/L	69 [3]	44[4]	26[4]	69[4]
pH	Std. Units	6.5-8.4[3]	6.9[2]	6.9[2]	6.5[2]

[1] USEPA Primary Maximum Contaminant Level (Primary MCL).
[2] Samples were collected quarterly from March 2001 to January 2009.
[3] Agricultural Water Quality Goals.
[4] Samples were collected annually from March 2001 to October 2007.

44. Monitoring well MW-3 located downgradient of Pond 6 and the current LAA contains some waste constituents at higher concentrations, notably chloride, than the upgradient well MW-1 and MW-2, which is downgradient of the treatment pond area. The data indicate the following general water quality trends:

    a. None of the monitoring wells contained nitrate concentrations that exceed the water quality limit of 10 mg/L.

    b. The downgradient well MW-2 has an average TDS concentration of 400 mg/L, which is less than TDS concentration of 432 mg/L in the upgradient well MW-1. The downgradient well MW-3 has an average TDS concentration of 538 mg/L, which is greater than the TDS concentration in the upgradient well MW-1. This value is greater than the groundwater quality salinity objective TDS concentration for the beneficial use of agriculture of 450 mg/L. The first sampling event of MW-4 in July 2009 indicated TDS concentration of 448 mg/L. However, the effluent average TDS concentration over the last eight years was 338 mg/L, which is lower than all groundwater TDS concentrations. Sampling requirements for Pond 6 will help establish the evapotranspiration rate of TDS within Pond 6. After the NPDES Permit was adopted in August 2006, most water in Pond 6 was reclaimed and delivered to the SCGC for irrigation. The TDS concentration in MW-3 has decreased from the average of 560 mg/L during 2006 through 2007 to an average of 521 mg/L in 2008.

    c. The Discharger's Antidegradation Analysis in the RWD analyzes the higher TDS concentration in well MW-3. It concludes that the treated effluent irrigated on the LAA, with hill slopes surrounding Pond 6, drains over and percolates through the soil as the tailwater returns back to the pond resulting in a partially closed loop. The leached minerals potentially increase the TDS concentration along with other common earth elements within Pond 6. In addition, Pond 6 was historically in danger of over topping

in wet years, which would cause more pond water percolation through moderately rapid runoff soil to the shallow groundwater. Due to these reasons and the adjacent location of well MW-3 to the Pond 6, the average TDS concentration in MW-3 is higher than that of the upgradient well MW-1. The implied erosion of the LAA is a concern and thus the Discharger is required to detail the use and maintenance of the LAA in the O&M Plan.

d. The average sodium concentration in MW-2 (26 mg/L) is less than that in upgradient well MW-1(44 mg/L), while the average sodium concentration in MW-3 (69 mg/L) is greater than that of MW-1. However, these concentrations are not greater than water quality objective of 69 mg/L for sodium that protects the agricultural use of groundwater.

e. Monitoring wells MW-2 and MW-3 have the average chloride concentrations of 34 mg/L and 117 mg/L respectively, which are greater than the average chloride concentration of 18 mg/L in the upgradient well MW-1. The water quality objective is 106 mg/L for chloride to protect the agricultural use of groundwater.

The Discharger uses sodium hypochlorite for disinfection that can increase the groundwater chloride concentration. The data shows demonstrated groundwater impacts for sodium and chloride. This Order requires monitoring sodium and chloride effluent concentrations prior to discharge to Pond 6, and in Pond 6. In addition, this Order requires the Discharger to conduct a salinity evaluation and submit a *Salinity Reduction Workplan.*

f. Groundwater monitoring reports show that some sampling events have total coliform organisms concentration greater than 2.2 MPN/100 mL, which is the Basin Plan's numeric water quality objective for total coliform organisms. During February 2007 to January 2009, the monitoring reports of well MW-3 show that 3 out of 9 test samples have exceedences, while the upgradient well MW-1 does not. For the effluent (prior discharge to Pond 6) monthly medians of total coliform organisms during the last two years, one of 24 data sets is more than 2.2 MPN/100 mL. It seems that the effluent total coliform organism concentrations are lower than that of MW-3. However, the wastewater in the unlined treatment and storage ponds may cause the higher total coliform organisms in the monitoring well MW-3.

Antidegradation Analysis

45. State Water Resources Control Board Resolution No. 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 limited and will provide social and economical benefit to the people of the State;

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

c. The degradation is not expected to 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.

Resolution 68-16 prohibits degradation of groundwater quality as it existed in 1968, or at any time thereafter that groundwater quality was better than in 1968, other than degradation that was previously authorized. An anti-degradation analysis is required for a new discharge location, and/or an increased volume of waste and/or an increased concentration of waste constituents.

46. Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after best practicable source control, treatment, and control is consistent with providing social and economical benefit to the people of the State. The technology, energy, water recycling, and waste management advantages of municipal utility service exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. The Discharger's anti-degradation analysis discusses how economic prosperity of valley and foothill communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason to accommodate growth and groundwater degradation provided terms of the Basin Plan are met.

47. The Discharger has provided a limited anti-degradation analysis. It states SCGC will maximize the use of the recycled water, and land disposal will be used only for emergencies or to drawdown the remaining effluent in the storage reservoir prior to the winter season. This strategy will result in less water applied to the LAA. However, the increased amount of wastewater in the treatment and storage ponds may have impacts on the underlying groundwater, especially due to the Pond 6 expansion. The RWD includes two water balances calculated with the proposed flow limit and the current flow rate. Pond 6 will contain 65 acre-feet additional of wastewater under the proposed flow limit. The higher hydraulic head in the pond increases the risk of groundwater degradation. This Order requires the Discharger to evaluate groundwater quality annually and to verify its anti-degradation assertions.

48. The Discharger has been monitoring groundwater quality at the current WWTP site since 2001. Based on the data available, it is not possible to determine pre-1968 groundwater quality. Therefore this Order requires the Discharger to (1) submit a *Groundwater Statistical Analysis Workplan,* (2) submit an *Annual Groundwater Quality Evaluation Report* to determine if degradation is occurring and if that degradation is consistent with the

Anti-degradation Policy, (3) complete a *Salinity Reduction Workplan*, and (4) implement the BPTC measures identified in the *Salinity Reduction Workplan*.

49. The expansion of the WWTP will accommodate an approximate two percent annual wastewater flow increase over ten years. In addition, this increased flow will meet the reuse demand of SCGC irrigation. Sufficient reasons exist to accommodate this growth as long as the Discharger verifies its anti-degradation analysis and selects and implements BPTC measures within a reasonable timeframe. It is also appropriate to allow some groundwater degradation as long as it is consistent with the Basin Plan and Resolution No. 68-16 because social and economic prosperity of local communities and associated industry is of benefit to the people of California. This Order establishes terms and conditions of discharge to ensure that the discharge does not impact present and anticipated uses of groundwater and includes groundwater limitations that apply water quality objectives established in the Basin Plan to protect beneficial uses of the underlying groundwater. This Order also requires a groundwater quality evaluation annually and determination of the need for salinity reduction, and requires groundwater monitoring to quantify any water quality impacts. Following completion of the work required by the time schedule contained in the Provisions, this Order will be reopened, if necessary, to reconsider effluent limitations and other requirements to comply with Resolution 68-16. Based on the existing record, the discharge is consistent with the anti-degradation provisions of Resolution 68-16.

Best Practicable Treatment and Control Practices

50. The Discharger currently provides treatment and control of the discharge that incorporates:

    a. The new mechanical screen, screening washer, and wet well that will remove solids and debris from the raw sewage;

    b. The two parallel primary treatment ponds, one settling pond, one sodium hypochlorite disinfection facility, one effluent storage reservoir, and the LAA;

    c. Alarms to prevent system bypass or overflow;

    d. Tertiary treatment for a portion of its total permitted capacity;

    e. An O&M Plan; and

    f. Certified operators to assure proper operation and maintenance.

Basin Plan, Beneficial Uses, and Regulatory Considerations

51. 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 Board. Pursuant to

Section 13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.

52. Surface water drainage is to an unnamed tributary of Little Johns Creek, which flows into the Stanislaus River in the section between Goodwin Dam and the San Joaquin River. The beneficial uses of Stanislaus River are municipal and domestic supply; agricultural supply; industrial process and service supply; hydropower generation; water contact recreation; non-contact water recreation; warm and cold freshwater habitat; migration of aquatic organism; spawning, reproduction, and /or early development and wildlife habitat.

53. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

54. The Basin Plan encourages water recycling.

55. The Basin Plan establishes numerical and narrative water quality objectives for surface water and groundwater within the basin. Numerical and narrative water quality objectives are maximum (i.e., least stringent) limits directly applicable to the protection of designated beneficial uses of the water. Controllable water quality factors are not allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. Controllable factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State are subject to the authority of the State or Regional Board, and that may be reasonably controlled. In addition, the water quality objectives do not require improvement over naturally occurring background concentrations.

56. The Basin Plan includes a water quality objective for Chemical Constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 CCR: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449, and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that 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.

57. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS, sodium, and chloride), nutrients and coliform organisms, as discussed below:

    a. As noted, the historic effluent TDS averages are less than the groundwater quality salinity objective TDS concentration for the beneficial use of agriculture of 450 mg/L.

However, groundwater monitoring data, especially the data from well MW-3 indicates exceedences of TDS for this use. To protect the beneficial use of groundwater, it is appropriate to adopt the effluent TDS concentration of 450 mg/L as the monthly average limitation and the effluent TDS concentration of 600 mg/L as the daily maximum limitation. The maximum effluent TDS limitation accommodates the maximum effluent TDS over the last eight years. It is appropriate to adopt a numerical groundwater limitation of 450 mg/L for TDS to protect the beneficial use of groundwater.

b. For nutrients such as nitrate, the potential for unreasonable degradation depends not only on the quality of the treated effluent, but the ability of the vadose zone below the effluent storage/disposal ponds to provide an environment conducive to nitrification and denitrification to convert the effluent nitrogen to nitrate and the nitrate to nitrogen gas before it reaches the water table. Effluent and groundwater monitoring data for the wastewater treatment plant site do not indicate unreasonable degradation due to nitrate and the plants grown at the LAA should remove most of the nitrogen in the applied wastewater. However, groundwater is shallow at the wastewater treatment plant, so there is some threat that the discharge could cause a violation of the MCL for nitrate, which is 10 mg/L as nitrogen. It is therefore appropriate to adopt a numerical groundwater limitation of 10 mg/L for nitrate as nitrogen to protect the municipal and domestic use of groundwater.

c. For coliform organisms, the potential for exceedence of the Basin Plan's numeric water quality objective depends on the ability of vadose zone soils below the treatment plant and effluent storage ponds and saturated soils within the shallow water-bearing zone to provide adequate filtration. Groundwater monitoring data for the wastewater treatment plant indicates that the soils beneath the treatment and storage ponds may not provide sufficient filtration. However, sampling will continue to provide site-specific data to determine the threat. This Order requires that the Discharger continue to disinfect treated effluent. Disinfection would reduce the potential threat, but the use of sodium hypochlorite will also increase the salinity of the effluent and create trihalomethanes, neither of which is desirable. Additionally, disinfection does not prevent coliform impacts at the treatment plant site because treatment takes place in unlined ponds prior to disinfection. Depending on the outcome of the groundwater data analysis, it may be necessary to provide less permeable liners for the treatment ponds and/or change the method of disinfection. It is therefore appropriate to adopt a numerical groundwater limitation of 2.2 MPN/100mL for total coliform organisms to protect the municipal and domestic use of groundwater. It is also appropriate to adopt numerical groundwater limitations of 69 mg/L and 106 mg/L for sodium and chloride, respectively.

58. The Basin Plan contains narrative water quality objectives for Chemical Constituents, Tastes and Odors, and Toxicity. The 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. The Chemical Constituents objective requires that

groundwater "shall not contain chemical constituents in concentrations that adversely affect beneficial uses." The Tastes and Odors objective requires that groundwater "shall not contain taste-or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Chapter IV, Implementation, of the Basin Plan contains the "Policy for Application of Water Quality Objectives." This Policy specifies, in part, that numerical receiving water limitations will be established in Board orders which will, at a minimum, meet all applicable water quality objectives, that where compliance with narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives, and that compliance with narrative water quality objectives may be evaluated considering numerical criteria and guidelines developed and/or published by other agencies and organizations.

Other Regulatory Considerations

59. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order No. 2006-0003-DWQ (General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the Order. The Discharger's collection system exceeds one mile in length, therefore the General Order is applicable.

60. The United States Environmental Protection Agency (U.S. EPA) has promulgated biosolids reuse regulations in 40 Code of Federal Regulation (CFR) 503, Standard for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria.

    The Central Valley Water Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Central Valley Water Board is not the implementing agency for 40 CFR 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the U.S. EPA.

61. The State Board adopted Water Quality Order No. 97-03 DWQ (NPDES General Permit No.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. The wastewater treatment plant has a design capacity of less than 1.0 mgd, and therefore the Discharger is not required to obtain coverage under NPDES General Permit No. CAS000001.

62. On 18 November 2009 Calaveras County Water District adopted an Environmental Impact Report (EIR) for Pond 6 expansion in accordance with the California Environment Quality Act (CEQA). With mitigation, less than significant impacts on water quality were identified in the EIR. Mitigation measures include obtaining coverage under the State Board *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit). The Discharger must enroll and comply with the Construction General Permit.

63. Section 13267(b) of the CWC provides that: "*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, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state 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 No. R5-2010-0070 are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

64. 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 CWC Section 13801, apply to all monitoring wells.

65. The action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the CEQA, in accordance with Title 14 CCR, Section 15301.

66. Pursuant to CWC 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.

Title 27 Exemption

67. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27 CCR Section 20380. Title 27 conditionally exempts certain activities from its provisions. To qualify for an exemption, the activity must meet, and continue to meet, specified preconditions. Title 27 contains several conditional exemptions that are relevant to the discharge. These include exemptions for domestic sewage, wastewater and reuse. Title 27, at section 20090, exempts these activities so long as the activity meets, and continues to meet, all preconditions listed:

    (a) Sewage – Discharges of domestic sewage or treated effluent which are regulated by WDRs, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from

wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

(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 regional water quality control board has issued WDRs, 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.

(h) Reuse – Recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division.

68. The discharge authorized herein and the treatment and storage facilities associated with the discharge, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, CCR.

a. **Treatment Ponds 1, 2 and 4.** The wastewater treatment ponds are exempt from Title 27 pursuant to Section 20090(a) because they are treatment ponds associated with a municipal domestic wastewater treatment plant.

b. **Emergency Storage Pond 5, Secondary Effluent Storage Pond 6 and LAA.** Pond 5 and Pond 6 are unlined ponds; therefore, wastewater contained in the Ponds potentially percolates to the underlying groundwater. Pond 5 wastewater is pumped into Pond 6 and from Pond 6 the wastewater requires additional treatment before its reuse on the SCGC. The LAA is used to dispose of excess treated wastewater that either cannot be reused at the SCGC or that accumulates in Pond 6 prior to the rainy season. Ponds 5 and 6 and the LAA are exempt from Title 27 pursuant to Section 20090 (a) and (b).

The LAA and Ponds 5 and 6 are exempt from Title 27 pursuant to Section 20090 (a) because they are associated with municipal wastewater treatment plants. The LAA and Ponds 5 and 6 are exempt from Title 27 pursuant to Section 20090 (b) based on the following: (1) Central Valley Water Board has issued WDRs; (2) The applicability of this exemption depends on whether the discharge is in compliance with the Basin Plan. Groundwater monitoring downgradient of Pond 6 shows degradation for chloride and an increase in TDS. The Order requires this assertion to be verified by conducting an annual groundwater quality statistical evaluation for each well and

submitting a report to determine if degradation is occurring and if that degradation is consistent with the Anti-degradation Policy. These reports will be used to determine whether additional treatment and/or improved containment are needed to ensure compliance with the Basin Plan and new WDRs are necessary. Because compliance with the Basin Plan cannot be determined immediately, this Order includes a compliance schedule for completion of those tasks. (3) Based on effluent monitoring data presented, treated effluent discharged to the effluent storage ponds does not need to be managed as hazardous waste. Pond 5 and Pond 6 are not exempt from Title 27 pursuant to Section 20090 (h) because the secondary treated wastewater stored in the ponds requires additional treatment before its reuse on the SCGC. The LAA is not exempt from Title 27 pursuant to Section 20090 (h) because their use is for wastewater disposal and there is no reuse.

c. **The SCGC.** The reuse of treated wastewater at the SCGC has regulatory coverage under an NPDES permit and that permit contains the appropriate Title 27 exemption for this activity. The golf course reuse may qualify for an exemption under Title 27 pursuant to Section 20090(h).

69. While the WWTP is exempt from Title 27, the data analysis methods of Title 27 are appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order, particularly the intra-well statistical method.

Public Notice

70. 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.

71. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

72. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Order No. 5-00-136 is rescinded, and pursuant to Sections 13263 and 13267 of the California Water Code, the Calaveras County Water District, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods 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. Bypass or overflow of untreated or partially treated waste is prohibited.

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

4. Discharge of waste classified as “hazardous” under Title 23 CCR Chapter 15, Section 2521, or “designated,” as defined in Section 13173 of CWC is prohibited.

5. Surfacing of treated wastewater outside and downgradient of the reservoir or ponds is prohibited.

B. Discharge Specifications

1. The influent ~~wastewater~~ flow rate shall not exceed any of the following limits:

Title	Effective Dates	Units	Flow Limit
Dry Weather Flow Rate	July, August, September	Million gallons/day as a monthly average	0.23
Monthly Maximum Flow Rate	Other than July, August, September	Million gallons/day as a monthly average	0.28
Annual Total Flow Rate	All year	Million gallons/year[1]	92.95

[1]Calculated as an annual total, January through December.

2. Upon Executive Officer approval of the report described in Provision G.1.d. of this Order, the monthly average dry weather influent flow shall not exceed any of the following limits:

Title	Effective Dates	Units	Flow Limit
Dry Weather Flow Rate	July, August, September	Million gallons/day as a monthly average	0.35
Monthly Maximum Flow Rate	Other than July, August, September	Million gallons/day as a monthly average	0.40
Annual Total Flow Rate	All year	Million gallons/year[1]	135.45

[1] Calculated as an annual total, January through December.

3. The Discharger and SCGC shall maximize the use of recycled water for the golf course irrigation. After the completion of Pond 6 expansion, the on-site land application will serve as a backup means of effluent disposal, such as before the winter season to maintain the maximum storage capacity of Pond 6. The SCGC irrigation will be the primary means of reuse and thus effluent disposal.

4. Neither the treatment nor the discharge of wastewater shall cause a nuisance or condition of pollution as defined by the CWC Section 13050.

5. Public contact with wastewater shall be precluded or controlled through such means as fences, signs, or acceptable alternatives.

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

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

8. As a means of discerning compliance with Discharge Specification B.7, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

9. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.

10. All wastewater treatment and storage ponds shall be managed to prevent breeding of mosquitoes. Example management strategies include,

    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.

11. The facility shall have sufficient treatment, storage, and disposal capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter months. 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.

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

13. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment levees 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 as measured vertically from the water surface to the lowest point of overflow.

14. On or about **15 October** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications B.11 and B.13.

15. Pond 5 may be used to store wastewater under emergency conditions only. If used, all seepage shall be collected at the base of the dam and returned to Pond 5.

C. Land Application Area Specifications

1. Application of effluent shall comply with the following setback requirements:

Setback Definition[1]	Minimum Irrigation Setback (feet)
Edge of LAA to property boundary	50
Edge of LAA to public road	50
Edge of LAA to irrigation well	100
Edge of LAA to domestic well	100
Edge of LAA to manmade or natural surface water drainage course [2] or spring	50

[1] As defined by the wetted area produced during irrigation.
[2] Excluding ditches used exclusively for tailwater return.

2. The volume of treated wastewater applied to the LAA on any single day shall not exceed reasonable agronomic rates based on the vegetation grown, pre-discharge soil moisture conditions, and weather conditions.

3. The discharge of treated wastewater to the LAA shall be at reasonable agronomic rates designed to maximize uptake and breakdown of waste constituents in the root zone and minimize the percolation of waste constituents below the root zone.

4. Irrigation runoff (e.g., tailwater) shall be completely contained within the designated LAA and shall not enter any surface water drainage course.

5. Irrigation of effluent shall not be performed within 24 hours of a forecasted storm, during a storm, within 24 hours after any measurable precipitation event, or when the ground is saturated.

6. Spray irrigation of effluent is prohibited when wind velocities exceed 30 mph.

7. The LAA shall be managed to prevent breeding of mosquitoes. In particular:

   a. There shall be no standing water 72 hours after irrigation ceases;

   b. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store effluent.

D. Solids/Sludge Disposal Specifications

1. Sludge means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the facility. Biosolids refers to sludge that has undergone sufficient treatment and testing to qualify for reuse pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land recycling.

2. Sludge and solid waste shall be removed from screens, sumps, and ponds as needed to ensure optimal plant operation.

3. Treatment and storage of sludge generated by the WWTP shall be confined to its property, and shall be conducted in a manner that precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the Groundwater Limitations of this Order.

4. Any storage of residual sludge, solid waste, and biosolids at the facility shall be temporary, and the waste shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the Groundwater Limitations of this Order.

5. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27 CCR Division 2. Removal for further treatment, disposal, or reuse at disposal sites operated in accordance with valid waste discharge requirements issued by a California Water Board will satisfy this specification.

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

E. Effluent Limitations

1. Effluent prior to discharge to the LAA~~effluent storage Pond 6~~ shall not exceed the following limits:

Constituent	Units	Monthly Average	Daily Maximum
BOD_5 [1]	mg/L	30	80
Total Nitrogen	mg/L	10	--
Fixed~~Total~~ Dissolved Solids	mg/L	450	600
~~Sodium~~	~~mg/L~~	~~69~~	~~--~~
~~Chloride~~	~~mg/L~~	~~106~~	~~--~~

[1] 5-day biochemical oxygen demand at 20° C.

2. Prior to discharge to the LAA~~Pond 6~~, effluent shall not exceed the following limits for total coliform organisms:

   a. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed.

   b. The number of total coliform bacteria shall not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.

3. No wastewater contained in any pond shall have a pH of less than 6.5 or greater than 10.0.

F. Groundwater Limitations

1. Release of waste constituents from any portion of the WWTP and LAA shall not cause groundwater to:

   a. Contain constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater:

Constituent	Units	Limitation
~~Chloride~~	~~mg/L~~	~~106~~
~~Boron~~	~~mg/L~~	~~0.7~~
~~Iron~~	~~mg/L~~	~~0.3~~
~~Manganese~~	~~mg/L~~	~~0.05~~

Constituent	Units	Limitation
~~Sodium~~	~~mg/L~~	~~69~~
Total Dissolved Solids	mg/L	450
Nitrate (as N)	mg/L	10
~~Bromoform~~	~~µg/L~~	~~4~~
~~Bromodichloromethane~~	~~µg/L~~	~~0.27~~
~~Chloroform~~	~~µg/L~~	~~1.1~~
~~Dibromochloromethane~~	~~µg/L~~	~~0.37~~
Total Coliform Organisms	MPN/100 mL	<2.2

b. Exhibit a pH of less than 6.5 or greater than 8.4 pH units.

c. Impart taste, odor, toxicity, or color that creates nuisance or impairs any beneficial use.

2. Groundwater monitoring intra-well statistics shall follow the Title 27 CCR, Section 20415(e)(10).

G. Provisions

1. All of the following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described in Provision G.3.

   a. At least **90 days** before the destruction of well MW-3 as part of the Pond 6 dam expansion, the Discharger shall submit a *Groundwater Monitoring Well Destruction Plan* for this well. The workplan shall be prepared in accordance with the DWR Well Standard noted in Finding No.64.

   b. By **30 August 2011**, the Discharger shall submit a *Salinity Reduction Workplan*. At a minimum, this report shall (1) compare the sodium and chloride concentrations for effluent prior to and after discharge to Pond 6 with that of the groundwater water quality evaluation in upgradient and downgradient monitoring wells, (2) identify the source of high sodium and chloride concentrations in the downgradient monitoring wells, and (3) develop and implement a plan to install BPTC measures. The Discharger is required to develop and implement the BPTC measures and the resulting reduction to groundwater degradation will be reported in the *Annual Groundwater Quality Evaluation Report.*

   c. At least **90 days** before the completion of the Pond 6 expansion, the Discharger shall submit an updated O&M Plan for the WWTP. A copy of the O&M Plan shall

be kept at the facility for reference by operating personnel. Key personnel shall be familiar with its contents. The O&M Plan shall provide the following:

i. Operation and Control of Wastewater Treatment - A description of the wastewater treatment equipment; operational controls; treatment requirements/effluent limitations; flow diagrams including valve/gate locations; operation of the treatment systems during start-up, normal operation, by-pass, shut-down, and draining procedures; potential operational problems including a troubleshooting guide; and operation and maintenance procedures for the ponds and LAA.

ii. Sludge Handling - A description of the sludge handling equipment, operational controls, control tests and observations related to process control, potential operational problems including a troubleshooting guide, and disposal procedures; a description of the location for sludge dewatering and temporary storage that meet the Specific D.3 to preclude infiltration.

iii. Operation and Control of Recycled Water Distribution System – A description of the recycled water distribution system, operational controls, flow diagrams including valve/gate locations; potential operational problems including a troubleshooting guide and backflow and cross-connection controls.

iv. Personnel – Recommended staffing requirements, staff qualifications, training requirements and schedule, and operator certification requirements.

v. Maintenance – Maintenance procedures, equipment record system, scheduling and use of the maintenance record system, inventory system, special tools, warranty provisions and expiration dates, maintenance cost and budgeting system, maintenance schedule of all equipment.

vi. Emergency Response – A description of the vulnerability analysis including emergencies such as power outage, severe weather, or flooding. An equipment and telephone list for emergency personnel and equipment vendors. Coordination procedures with fire, police, and health department personnel, and an emergency operating plan.

vii. Safety – A general discussion of the hazards of collection systems, mechanical equipment, explosion, pathogens, oxygen deficiencies, chemical and electrical hazards, etc.

viii. Appendices – Shall include flow diagrams, valve/gate locations, copy of WDRs, miscellaneous form samples, manufacturers' manuals, and a list of reference materials.

d. Within **60 days** of completion of Pond 6 expansion and after completion of the groundwater updated anti-degradation analysis**,** the Discharger shall submit a

Completion Report for Executive Officer approval of an influent flow limit increase. The report should be submitted **at least 150 days** before the Discharger wishes to increase the flow rate. The report shall:

i. Include an updated anti-degradation analysis that verifies the assertions made for limited degradation due to the increased flow;

ii. Provide a scaled site map showing the new boundary of Pond 6 and the locations of all other onsite facilities and monitoring wells;

iii. Describe all work completed, including the construction of the new headwork structure and other modifications;

iv. Present as-built drawings depicting the location;

v. Detail construction specifications;

vi. Specify the type of diversion features around Pond 6 that have been installed and provide drawings showing the location of the diversion features;

vii. Update the water balance and demonstrate that Pond 6 has the capacity for the proposed flow limit.

e. By **30 October 2010**, the Discharger shall submit, for Executive Officer approval, an intra-well *Groundwater Statistical Analysis Workplan* that details the methodology to determine naturally occurring groundwater quality variation for each well and each constituent listed in the Groundwater Limitation section of this Order. Determination of groundwater quality variation shall be made using the methods described in Title 27 CCR, Section 20415(e)(10). The Discharger shall implement the statistical analysis methods in the *Annual Groundwater Quality Evaluation Report* and determine if degradation is occurring and if that degradation is consistent with the Anti-degradation Policy. For each monitoring parameter/constituent, the report shall compare the calculated background concentration with the limitations set forth in Groundwater Limitations of this Order. The report shall identify constituents of concern, and evaluate the impacts of WWTP operation and modifications to groundwater quality.

2. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain waste constituents in concentrations statistically greater than Water Quality Objectives or background water quality then, within **120 days** of the request of the Executive Officer, the Discharger shall submit a *BPTC Evaluation Workplan* that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent listed in the Groundwater Limitations of this Order. The workplan shall contain a preliminary evaluation of each component of the WWTP and effluent disposal system

and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.

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 comply with Monitoring and Reporting Program No. R5-2010-0070, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

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 use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with discharge limits specified in this order.

7. The Discharger shall provide certified wastewater treatment facility operators in accordance with Title 23 CCR, Division 3, Chapter 26.

8. 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.

9. Upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow, the Discharger shall take any necessary remedial action to (a) control or limit the volume of sewage discharged, (b) terminate the sewage discharge as rapidly as possible, and (c) recover as much as possible of the sewage discharged (including wash down water) for proper disposal. The Discharger shall implement all applicable remedial actions including, but not limited to, the following:

   a. Interception and rerouting of sewage flows around the sewage line failure.

   b. Vacuum truck recovery of sanitary sewer overflows and wash down water.

c. Use of portable aerators where complete recovery of the sanitary sewer overflows are not practicable and where severe oxygen depletion is expected in surface waters.

d. Cleanup of sewage-related debris at the overflow site.

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

12. The Discharger shall submit to the Central Valley Water Board on or before each compliance report due date, the specified document 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.

13. In the event of any change in control or ownership of the facility or wastewater disposal areas, 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 this office. 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 California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

14. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.

15. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. 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 recession of this Order.

16. A copy of this Order 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.

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

PAMELA C. CREEDON, Executive Officer

Amended by Order R5-2018-XXXX on _April 2018
Amended LFU 1/2/18