CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-0133

WASTE DISCHARGE REQUIREMENTS
FOR
CALAVERAS COUNTY WATER DISTRICT
LA CONTENTA WASTEWATER TREATMENT FACILITY
CALAVERAS COUNTY

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

1. On 1 April 2013, Calaveras County Water District (hereafter "Discharger") submitted a Report of Waste Discharge (RWD) to update Waste Discharge Requirements (WDRs) for the La Contenta Wastewater Treatment Facility (WWTF).

2. The Discharger owns and operates the WWTF and is responsible for compliance with the WDRs.

3. The WWTF is located at 1525 Campbell Court in Valley Spring, in Section 24, T4N, R10E, MDB&M and Section 25, T4N, R10E, MDB&M. Assessor's Parcel Numbers are 46-001-141 and 073-042-097 for the wastewater treatment facilities and the Upper Pond, and 73-042-106, -107, -128 and -130 for the Lower Pond. The WWTF location is shown on Attachment A, which is attached hereto and made part of this Order by reference.

4. WDRs Order R5-2002-0222, adopted by the Central Valley Water Board on 6 December 2002, prescribes requirements for the WWTF and the use of recycled water at the La Contenta Golf Course (the Golf Course). The Golf Course is owned and operated by La Contenta Investors. WDRs Order R5-2002-0222 allows a monthly average dry weather influent flow (ADWF) of 0.15 million gallons per day (MGD). The Discharger requested to increase the ADWF limit to 0.20 MGD.

5. Since WDRs Order R5-2002-0222 was adopted, some improvements and changes have been made to this facility, including:

   a. The storage capacity of one effluent storage pond (the Lower Pond) was increased from 23 to 172 acre-foot (ac-ft) in 2005;

   b. The chorine disinfection system was replaced with an ultra violet (UV) light disinfection system in 2009;

   c. An additional sand filter was installed; and

   d. The use of recycled water at the Golf Course is now regulated under State Water Resources Control Board Order 2009-0006-DWQ, *General Waste Discharge Requirements for Landscape Irrigation Uses of Recycled Water*.

   Therefore, Order R5-2002-0222 no longer reflects the current facility operations and will be rescinded and replaced with this Order.

6. Because the wastewater reclamation on the Golf Course is currently regulated under the State Water Board's Order 2009-0006-DWQ, this Order only prescribes requirements for the WWTF and the production and conveyance of recycled water to the Golf Course.

Existing Facility and Discharge

7. The WWTF, built in 1991, provides tertiary treatment for the wastewater generated from the New Hogan/La Contenta area, including the La Contenta subdivision, the Golf Course, and the surrounding residential and commercial development. The service area has 1,080 equivalent dwelling units, including 930 single family residential units, one multi-family residential unit, and 51 commercial establishments. The following table summarizes recent influent flow rates.

Influent Flow Rates

Flow Rate	2011	2012
ADWF (MGD) [1]	0.14	0.13
Annual Average (MGD)	0.17	0.15
Annual Total (MG) [2]	62.1	55.2

[1] As determined by the total flow for the months of July through September, inclusive, divided by 92 days.

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

8. The WWTF consists of a mechanical bar screen, an activated sludge treatment unit (a 500,000-gallon concrete aeration basin, a clarifier, and a sludge return system), a coagulant feed system, sand filters, a UV light disinfection system, a sludge lagoon, a sludge belt press, a dry sludge storage area, and two unlined storage ponds (Upper pond and Lower Pond). The facility site map is shown on Attachment B, which is attached hereto and made part of this Order by reference.

9. Raw wastewater is mechanically screened and then conveyed to the activated sludge treatment unit. After the wastewater flows out the clarifier, polymer coagulant is added to the wastewater before the wastewater enters into the sand filters. Filtered effluent is disinfected by the UV system and is stored in the Lower Pond prior conveyance to the 70-acre Golf Course for recycling during the irrigation season. The sand filters are backwashed continuously with filtered wastewater and the filter backwash water is returned to the headworks. The Upper Pond serves as backup storage when the Lower Pond is full or when effluent quality does not meet Title 22 recycled water standards. All effluent in the Upper Pond is subsequently returned to the headworks.
The wastewater treatment process schematic is shown on Attachment C, which is attached hereto and made part of this Order by reference.

10. The design treatment capacity of the existing facility is summarized below:

Facility	Design Capacity
Activated Sludge Treatment Unit	0.4 MGD ADWF/1.0 MGD Peak Flow
Tertiary Filtration	1.44 MGD Peak Flow
UV Disinfection	0.576 MGD Peak Flow

11. Design data for the storage ponds are summarized in the following table.

Pond	Surface Area [1] (acres)	Depth (feet)	Volume [1] (acre-feet)
Upper Pond	4.5	max 35 /average 15	49
Lower Pond	14.5	average 13	172

[1] Measured at two feet of freeboard.

12. The UV disinfection system consists of four banks of lights, with three banks scheduled for online operation and one bank provided as backup. The UV disinfection system has a design UV dose of 100 mJ/cm^2 and a design UV transmittance of 55 percent.

13. Waste activated sludge is pumped to a 125,000-gallon concrete sludge lagoon for stabilization and storage prior to dewatering by the sludge belt press. The dewatered sludge is stored in the uncovered dry sludge storage area on site in order to meet the requirements for Class B biosolids, and then removed for off-site disposal. Supernatant liquid from the drying process is pumped back to the headworks.

14. The WWTF is controlled by a Supervisory Control and Data Acquisition system. Alarms alert operators of any issues related to treatment processes, water levels, electrical failures, or other issues that may cause an interruption or potential bypass of the treatment system.

15. Prior to December 2012, treated wastewater was delivered via an 8-inch pipeline from the Lower Pond to the wet well at the Golf Course's irrigation pump station. The pipeline limited recycled water delivering to 900 gallons per minutes (gpm). Therefore, the Golf Course's peak irrigation demand of 1,800 gpm was typically met by supplementation with raw water. In May 2011, the Discharger modified the piping to the Golf Course to feed recycled water directly into a gravity ditch upstream of Pond 7 at the Golf Course. This modification allows the Golf Course to meet its water needs with 100% recycled water from Pond 7 during the irrigation season, thus reducing raw water demand. The Discharger proposed to export up to 240 ac-ft of recycled water to the Golf Course each year. The historic water use for the Golf Course is summarized below.

Year	Raw Water (ac-ft)	Recycled Water (ac-ft)	Total Irrigation Demand (ac-ft)
2001	178	37	216
2002	197	55	252
2003	161	114	276
2004	208	118	326
2005	155	108	263
2006	109	144	254
2007	138	146	283
2008	142	184	326
2009	111	191	301
2010	63	178	241
Average	146	128	274
Proposed	43	240	283

16. The Golf Course's annual irrigation demand is approximately 92 MG (283 ac-ft). Based on the export of 78 MG (240 ac-ft) per year of recycled water to the golf course, the water balance in the RWD demonstrates that the WWTF has the following storage and disposal capacity:

Influent Flow Measurement	Flow Limit
Total Annual Flow [1]	89 MG
Average Dry Weather Flow [2]	0.2 MGD

[1] As determined by the total flow for the calendar year.
[2] As determined by the total flow for the months of July through September, inclusive, divided by 92 days.

17. The influent and effluent analytical results for January 2010 through December 2012 are summarized below. The influent samples were collected at the headworks and the effluent samples were collected after UV disinfection and before discharge into the storage ponds.

Influent and Effluent Constituent Concentrations

	Influent			Effluent		
Constituent	Min.	Max.	Ave.	Min.	Max.	Ave.
BOD (mg/L)	11	312	127	<1	23	2
TDS (mg/L)	--	--	--	140	509	412
Total coliform organisms (MPN/100 mL)	--	--	--	<2	220	2 (median)
Nitrate nitrogen (mg/L)	--	--	--	10	36	21
TKN (mg/L)	--	--	--	<1	11	1

BOD=Biochemical oxygen demand; TDS=Total dissolved solids; TKN=Total Kjeldahl nitrogen

Site-Specific Conditions

18. The potable water supply for the New Hogan/La Contenta area comes from the Calaveras River below Hogan Dam. Based on Consumer Confidence Reports in 2011 and 2012, the chemical character of the community water supply is summarized below.

Annual Water Supply Analytical Results

Parameter	Units	2011	2012	Average
Total dissolved solids	mg/L	108	115	112
Electrical conductivity	umhos/cm	169	181	175
Chloride	mg/L	6.7	7.1	6.9
Sodium	mg/L	7.3	7.8	7.6
Sulfate	mg/L	14	11	12.5
Iron	µg/L	ND	ND	--
Manganese	µg/L	ND	11	--
Total hardness	mg/L	88	75	81.5

19. The site elevations range from 650 to 800 feet mean sea level. All areas of the WWTF are outside of the 100-year flood zone.

20. The RWD states that the Upper Pond is underlain by the Tertiary Valley Springs Formation consisting of Mesozoic volcanic and metavocanic rock based on general geologic mapping. The Upper Pond is situated very closely to the Modesto Riverbank Formation consisting of more recent Quaternary sediments of fine grained, and arkosic alluvium derived from river deposits from the interior of the Sierra Nevada. The WWTF site was previously mined for a clay deposit. The Lower Pond is underlain by the Jurassic Salt Springs Formation consisting of Marine Sedimentary and Metasedimentary rock.

21. Annual precipitation in the vicinity averages approximately 21 inches, the 100-year total annual precipitation is approximately 39 inches, and the reference evapotranspiration rate is approximately 53 inches per year.

22. Surrounding land uses are predominantly residential, commercial, and undeveloped properties.

Groundwater Conditions

23. The Discharger has been monitoring groundwater quarterly since September 2004. There are six groundwater monitoring wells at the WWTF site, including three wells (UR-1, UR-2, UR-3) at the Upper Pond, three wells (LR-1, LR-2, and LR-3) at the Lower

Pond, as shown on Attachment B. The following table presents a summary of the monitoring well construction details.

Monitoring Well ID	Well Depth (feet, bgs)	Screened Interval (feet, bgs)	Top of Casing Elevation (feet, msl)	Range of Depth to Water (feet) [1]	Groundwater Average Elevation (feet, msl) [1]
UR-1	66.5	51.5 to 66.5	738.41	14.8 to 38.7	707
UR-2	42	32 to 42	719.08	3.9 to 11.8	712
UR-3	40	30 to 40	718.33	2.1 to 12.7	710
LR-1	30	20 to 30	710.23	3.9 to14.3	701
LR-2	86	66 to 86	700.81	23.3 to 61.1	670
LR-3	30	20 to 30	659.97	4.9 to 9.0	653

[1.] Data were collected during October 2004 through October 2012.

24. The depth to groundwater at the site varies from 2 to 61 feet below ground surface. This is due in part to the hillside topography of the site. Regionally, groundwater flows to the southwest. Since 2004, the groundwater gradient at the Upper Pond has ranged from 0.003 to 0.015 feet/foot and the gradient at the Lower Pond has ranged from 0.02 to 0.05 feet/foot.

25. Groundwater quality has been characterized by quarterly sampling of monitoring wells from October 2004 through October 2012. A summary of groundwater monitoring data for select constituents is presented in the table below.

Average Groundwater Concentration (except as noted)

	Upper Pond			Lower Pond			
Constituent	UR-1	UR-2	UR-3	Up gradient LR-1	Down gradient LR-2	Down gradient LR-3	Water Quality Objective
TDS (mg/L)	401	559	502	399	489	828	450 [1]-1,500 [2]
EC (umhos/cm)	501	844	792	606	753	1,196	900 [3]
Sodium (mg/L)	55	31	30	25	72	75	69 [1]
Chloride (mg/L)	90	49	65	14	19	69	106 [1]
Iron (µg /L)	1,323 [6]	26 [7]	40	350	438	573 [8]	300 [3]
Manganese (µg /L)	555	24 [7]	32	164	103	490	50 [3]
Nitrate nitrogen (mg/L)	5.4	3.5	1.4	1.8	0.03	0.18	10 [4]
TKN (mg/L)	0.8	<1	<1	<1	0.5	0.6	--
Total coliform organisms, median (MPN/100 mL)	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	2.2 [5]

TDS=Total dissolved solids; EC=Electrical conductivity; TKN=Total Kjeldahl nitrogen

1. Agricultural Water Quality Goal.
2. Short-Term Secondary Maximum Contaminant Level.
3. Secondary Maximum Contaminant Level.
4. Primary Maximum Contaminant Level.
5. Basin Plan numeric water quality objective.

6. The October 2007 sample in UR-1 resulted in a iron concentration of 38,000 µg /L, which appears to be an outlier; therefore it was not included in the average.
7. The December 2005 sample in UR-2 resulted in iron and manganese concentrations of 6,470 and 460 µg /L, respectively, which appear to be outliers; therefore they were not included in the averages.
8. The July 2009 sample in LR-3 resulted in a iron concentration of 7,590 µg /L, which appears to be an outlier; therefore it was not included in the average.

26. A discussion of groundwater conditions at the WWTF site is presented below:

a. Upper Pond Monitoring Wells. Based on review of the UR-1, UR-2 and UR-3 boring logs, geologic cross sections and the historical monitoring data, none of the three wells represent background groundwater quality. Although UR-2 and UR-3 have higher groundwater elevations than UR-1, UR-1 is screened in a different formation (Teriary Valley Springs Formation) than UR-2 and UR-3, which are screened in fractured slate.

The groundwater quality in these wells is highly spatially variable. UR-1 has a much higher average iron concentration (1,323 µg /L) than UR-2 and UR-3 (26 µg /L and 40 µg /L, respectively). The average manganese concentration in UR-1 is also much greater than the manganese concentrations in UR-2 and UR-3. The iron and manganese in shallow groundwater might be attributable to the presence of degradable organic matter in the pond, which depletes oxygen and creates reducing conditions that favor dissolution of iron from the native soil minerals. However, the Upper Pond is used to store tertiary effluent with low BOD concentrations, which poses a low threat of causing reducing conditions. Although higher iron and manganese concentrations in UR-1 appear to be strongly correlated with periods of relatively low dissolved oxygen (DO) in the Upper Pond, the pond average DO at the surface was 8.7 mg/L from January 2009 through December 2012.

b. Lower Pond Monitoring Wells. LR-1 is upgradient of the Lower Pond and LR-2 and LR-3 are downgradient based on groundwater elevations. All three wells are screened in fractured slate.

The groundwater quality in Lower Pond wells is less spatially variable than the Upper Pond wells. The average iron and manganese concentrations in LR-1, LR-2 and LR-3 exceed the secondary Maximum Contamination Levels (MCLs). The Lower Pond is also used to store disinfected tertiary effluent with very low BOD and TSS concentrations, which poses a low threat of causing reducing conditions. Although the higher iron and manganese concentrations in LR-3 appear to be correlated with periods of relatively low DO in the Lower Pond, the pond average DO at the surface was 10 mg/L from January 2009 through December 2012.

LR-2 and LR-3 have higher concentrations of salinity constituents than LR-1. Ordinarily, this would indicate degradation from the discharge. However, the current effluent TDS average is 412 mg/L and the TDS average is 828 mg/L in LR-3, which does not seem likely to be the result of discharge. Additionally, the average manganese and nitrate concentrations in the upgradient well LR-1 are higher than

that in the downgradient well LR-2. Therefore, with regard to iron and manganese, the pollution may be naturally occurring. However, because of the complex hydrogeology of the site, it may not be feasible to define background groundwater quality. With regard to nitrate and salinity, if the discharge has caused degradation, it has not caused exceedance of a water quality objective and is not likely to do so in the future.

Basin Plan, Beneficial Uses, and Regulatory Considerations

27. 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 section13263(a), waste discharge requirements must implement the Basin Plan.

28. Local drainage is to Cosgrove Creek, a tributary of the Calaveras River. The beneficial uses of Calaveras River are municipal and domestic supply; agricultural supply for irrigation and stock watering; industrial process and service supply; contact and noncontact recreation; warm and cold freshwater habitat; warm and cold water migration; warm and cold water spawning; and wildlife habitat.

29. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

30. 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.

31. 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 MPN groundwater.

32. 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.

33. 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.

34. 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.

35. 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

36. 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 high-quality water 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.

37. Degradation of groundwater by some of the typical waste constituents associated with discharges from a municipal wastewater utility, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. 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 the limited groundwater degradation that may occur pursuant to this Order.

38. The Discharger has been monitoring groundwater quality at the site since 2004. Based on the data available, it is not possible to determine pre-1968 groundwater quality.

Therefore, determination of compliance with Resolution 68-16 for this facility is based on groundwater quality data since 2004.

39. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS, iron, manganese), nutrients, and coliform organisms, as discussed:

    a. Total Dissolved Solids. The Secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The current effluent TDS average of 412 mg/L is less than the recommended Secondary MCL of 500 mg/L. The highest groundwater TDS average of 828 mg/L occurred in LR-3. The elevated TDS concentrations in groundwater may not be the result of the discharge and are more likely naturally occurring. It is expected that the future effluent TDS concentrations will continue to be less than the recommended Secondary MCL of 500 mg/L and that the discharge will not cause exceedance of the Water Quality Objective for TDS. Therefore, this Order does not contain an effluent TDS limit. This Order does not allow the discharge cause in groundwater or contribute to an exceedance of the Water Quality Objective for TDS.

    b. Iron/ Manganese. The secondary MCLs for dissolved iron and manganese are 300 µg/L and 50 µg/L, respectively. The groundwater average iron concentrations ranged from 26 to 1,323 µg/L and the average manganese concentrations ranged from 24 to 555 µg/L. The groundwater iron and manganese concentrations in some wells have exceeded the secondary MCLs. Because of the complex hydrogeology of the site, it may not be feasible to define background groundwater quality. High iron and manganese concentrations in groundwater may be naturally occurring, but may also be contributed to by the discharge. The current monitoring program does not require analysis of iron and manganese in the effluent. However, based on the high quality of source water, domestic water use, and the WWTF operation, the effluent is not expected to contain high iron and manganese concentrations. The iron and manganese in shallow groundwater might be attributable to the presence of degradable organic matter in the ponds, which depletes oxygen and creates reducing conditions that favor dissolution of iron from the native soil minerals. However, the ponds are used to store tertiary effluent with very low BOD concentrations, which poses a low threat of causing reducing conditions. Although the higher iron and manganese concentrations in some wells appear to be correlated with periods of relatively low pond DO, the average DO concentrations in the Upper and Lower Ponds from January 2009 through December 2012 were high as 8.7 mg/L and 10 mg/L, respectively. Therefore, with regard to iron and manganese, the groundwater pollution appears to be naturally occurring.

    c. Nitrate. For nutrients such as nitrate, the potential for degradation depends not only on the quality of the treated effluent, but on the ability of the vadose zone below the effluent storage ponds to provide an environment conducive to nitrification and denitrification, which converts the effluent nitrogen to nitrate and the nitrate to nitrogen gas before it reaches the water table. The groundwater average nitrate nitrogen concentrations in all monitoring wells are less than the primary MCL of 10 mg/L for nitrate nitrogen, which is the Basin Plan's Water Quality Objective. The current effluent average nitrate nitrogen

concentration of 21 mg/L is greater than the primary MCL for nitrate nitrogen. There is some threat degradation for nitrate at the WWTF site. It is appropriate to set an effluent limit of 22 mg/L for total nitrogen as an annual average to prevent further groundwater degradation. The Discharger is able to comply with this limit. This Order sets a groundwater limit of 10 mg/L for nitrate as nitrogen.

d. Total Coliform Organisms. For coliform organisms, the potential for exceedance of the Basin Plan's numeric water quality objective depends on the quality of the discharge and ability of vadose zone soils below the effluent storage ponds and saturated soils within the shallow water bearing zone to provide adequate filtration. The median concentrations of total coliform organisms in the effluent and all wells are less than the Basin Plan's numeric water quality objective of 2.2 MPN/100 mL for total coliform organisms. The disinfected tertiary effluent poses low threat to groundwater quality with respect to total coliform organisms. However, groundwater is shallow at the site. To protect groundwater, it is appropriate to set a groundwater limitation for coliform organisms at the Basin Plan numeric water quality objective. The current effluent limitation of 2.2 MPN/100 mL will be continued in compliance with the California Department of Public Health (CDPH) water recycling regulations.

40. This Order establishes effluent and groundwater limitations for the WWTF 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.

41. This WWTF provides treatment and control of the discharge that incorporates:

a. Tertiary treatment in fully contained structures;

b. UV light disinfection;

c. A Supervisory Control and Data Acquisition System to monitor the WWTF remotely;

d. Concrete sludge drying beds and biosolids storage;

e. Off-site recycling of treated effluent for beneficial re-use; and

f. Certified operators to assure proper operation and maintenance.

42. The treatment and control measures described in Finding 41 are considered BPTC for this small community. This Order establishes limitations that ensure the protection of present and anticipated future beneficial uses, and that are consistent with the Basin Plan and the policies contained therein. The limited degradation that may occur as a result of this discharge is consistent with the maximum benefit to the people of the state as described in Finding 36. Therefore, this Order is consistent with Resolution 68-16. Should groundwater monitoring data reveal degradation beyond that anticipated in this Order, the Discharger may be required to evaluate and implement additional treatment or control measures.

Water Recycling Regulatory Considerations

43. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms. The California Department of Public Health, which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, section 60301 et seq. for the use of recycled water.

44. A 1988 Memorandum of Agreement (MOA) between CDPH and the State Water Board on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California. This Order implements the applicable portions of the Title 22 water recycling regulation in accordance with the MOA.

45. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, *Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gases.

46. On 23 April 2009, the Central Valley Water Board adopted Resolution R5-2009-0028, *In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plant*. Resolution R5-2009-0028 encourages water recycling, water conservation, and regionalization of wastewater treatment facilities. It requires the municipal wastewater treatment agencies to document:

    a. Efforts to promote new or expanded wastewater recycling opportunities and programs;
    b. Water conservation measures; and
    c. Regional wastewater management opportunities and solutions (e.g., regionalization).

    The distribution of disinfected tertiary recycled water by the Discharger is consistent with the intent of State Board Resolution 2009-0011 and Central Valley Water Board Resolution R5-2009-0028.

47. In May 2012, the Discharger submitted a Title 22 Engineering Report dated July 2002 to State Water Board in order to obtain regulatory coverage under General Order 2009-0006-DWQ for water recycling of disinfected tertiary recycled water at the La Contenta Golf Course. On 13 August and 23 October 2012, the CDPH provided comments on the Title 22 Engineering Report. The CDPH's October 2012 letter provided comments as conditions to be incorporated into the Notice of Applicability. The following comments apply to operation, maintenance and monitoring of the WWTF to ensure compliance with applicable portions of Title 22:

1) The Discharger must notify CDPH of any future changes in filtration or disinfection processes.
2) To verify performance of the UV system, an on-site spot-check bioassay was conducted. The onsite validation performed in 2012 indicates underperformance, by a factor of 0.765; therefore, to achieve the required UV dose of 100 mJ/cm^2 proper adjustments must be made in the operation of the UV disinfection system.
3) The Central Valley Water Board should issue a revised WDRs, including specific requirements that address all applicable Title 22 Water Recycling Criteria.
4) Within one month, the Discharger must submit an updated Operations & Maintenance Plan specific to the UV disinfection system.
5) Submit to CDPH district office copies of the monthly monitoring reports submitted to the Regional Water Quality Control Board.

In November 2012, the Discharger submitted a Title 22 Engineering Report Amendment to address CDPH's comments. On 20 May 2013, the CDPH concluded that the Discharger has completed all the tasks listed in the CDPH's October 2012 letter and the Title 22 Engineering Report is approved.

Other Regulatory Considerations

48. 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 designed to protect human health and ensure that water is safe for domestic use.

49. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B as defined below:

    a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."

    b. Category B complexity, defined as: "Any Discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units."

50. 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:
>
> (a) Sewage - Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, 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.

51. 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. The treatment system and effluent storage ponds are exempt pursuant to Title 27, section 20090(a) because they are treatment and storage facilities associated with a municipal domestic wastewater treatment plant.

52. Although the WWTF is exempt from Title 27, the statistical data analysis methods of Title 27, section 20415(e) are appropriate for determining whether the discharge complies with Groundwater Limitations specified in this Order.

53. 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. The wastewater treatment facility has a design capacity of less than 1.0 MGD. The Discharger is therefore not required to obtain coverage under NPDES General Permit CAS000001.

54. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order 2006-0003-DWQ (the 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 WWTF includes more than one mile of sewer lines and is regulated under General Order 2006-0003-DWQ.

55. 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 R5-2013-0133 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.

56. 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.

57. On 24 January 2007, Calaveras County Water District adopted a Negative Declaration (Resolution No. 2007-08) for construction of an ultraviolet disinfection system at the WWTF.

58. The Negative Declaration evaluated the potential impacts to groundwater quality and found that compliance with WDRs will ensure that impacts to water quality would be less than significant. Compliance with this Order will mitigate or avoid significant impacts to water quality.

59. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 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.

60. 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 EPA.

61. 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

62. 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.

63. 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.

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

IT IS HEREBY ORDERED that Order R5-2002-0222 is rescinded except for purposes of enforcement, and pursuant to Sections 13263 and 13267 of the California Water Code, the Calaveras County Water District, its 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:

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. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.

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

5. Discharge of toxic substances into the wastewater treatment system such that biological treatment mechanisms are disrupted is prohibited.

6. Discharge of wastewater from the Upper Pond to the Lower Pond is prohibited.

B. Flow Limitations

1. **Effectively immediately**, influent flows to the WWTF shall not exceed the following limits:

Influent Flow Measurement	Flow Limit
Total Annual Influent Flow [1]	89 MG
Average Dry Weather Flow [2]	0.20 MGD

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

[2] As determined by the total flow for the months of July through September, inclusive, divided by 92 days.

C. Effluent Limitations

1. Treated effluent shall not exceed the following limits:

Constituent	Units	Monthly Average Limit [2]	Monthly Maximum Limit	Annual Average Limit
BOD_5 [1]	mg/L	40	80	--
Total Nitrogen as N	mg/L	--	--	22

[1] 5-day biochemical oxygen demand at 20˚C.
[2] Based on the average of all monitoring results for the calendar month.

2. Effluent discharged to the Lower Pond and the recycled water Use Area shall not exceed the following limits for total coliform organisms:

   a. The 7-day median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters.

   b. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 7-day calendar period.

   For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the last seven bacteriological results. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 sampling events (i.e., Tuesday, Monday, Saturday, Friday, Thursday, and Wednesday of the previous week) are used to calculate the 7-day median.

3. The turbidity of the filtered effluent prior to disinfection (upstream of the UV system) shall not exceed 2 NTU as a daily average; shall not exceed 5 NTU more than 5 percent of the time during a 24 hour period; and shall not exceed 10 NTU at any time.

   Compliance with these requirements shall be determined based on samples obtained at the appropriate effluent sampling locations shown on Attachment C.

D. 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 permitted waste treatment/containment structures 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. Public contact with wastewater shall be prevented through such means as fences, signs, or acceptable alternatives.

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

9. As a means of discerning compliance with Discharge Specification E.8., 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 Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

10. 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.

11. The 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.

12. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications E.10 and E.11.

13. 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.

14. 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.

15. Wastewater contained in any pond shall not have a pH less than 6.0 or greater than 9.0.

E. Groundwater Limitations

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

1. Exceed a total coliform organism level of 2.2 MPN/100mL.

2. For constituents identified in Title 22, exceed or contribute to an exceedance of the Primary and Secondary MCLs established therein.

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

F. Water Recycling Specifications

1. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to an Engineering Report prepared pursuant to Title 22, section 60323 and approved by the California Department of Public Health.

2. The recycled water shall be at least disinfected tertiary recycled water as defined in Title 22, section 60301.230.

3. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. All recycled water distribution system piping shall be purple pipe or adequately wrapped with purple tape.

4. Recycled water controllers, valves, similar appurtenances, and above-ground irrigation appurtenances shall be affixed with recycled water warning signs, and shall be equipped with removable handles or locking mechanisms to prevent public access or tampering.

5. Quick couplers, if used, shall be different than those used in potable water systems.

6. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device.

7. There shall be at least a ten-foot horizontal and a one-foot vertical separation between all pipelines transporting recycled water and those transporting domestic supply, and the domestic supply pipeline shall located above the recycled water pipeline.

8. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water or auxiliary water source system.

9. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations, title 17, sections 7602(a) and 7603(a).

10. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with California Health and Safety Code section 4049.54.

11. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance Title 17, section 7605.

G. Ultraviolet Disinfection System Operating Specifications

1. The Discharger shall operate the UV disinfection system to provide a minimum UV dose per channel of 100 milijoules per square centimeter (mJ/cm^2) at peak daily flow, and shall maintain an adequate dose for disinfection at all times.

2. The UV transmittance (at 254 nanometers) in the wastewater exiting the UV disinfection system shall not fall below 55 percent of maximum at any time.

3. The quartz sleeves and cleaning system components shall be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

4. The lamp sleeves shall be cleaned periodically as necessary to comply with these requirements.

5. Lamps shall be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records shall be maintained.

6. The Discharger shall provide continuous, reliable monitoring of flow, UV transmittance, UV power, and turbidity.

H. Solids Disposal Specifications

Sludge, as used in this document, 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 WWTF. Biosolids refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations.

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

2. Any handling and storage of residual sludge, solid waste, and biosolids at the WWTF shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.

4. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water board or the State Water Board except in cases where a local (e.g., county) program has been authorized by a regional water board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality Order 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be covered by Order 2004-12-DWQ, the

Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

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

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

G. Provisions:

1. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain waste constituents in concentrations statistically greater than the groundwater limitations of this Order then, within **120 Days**, 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. The workplan shall contain a preliminary evaluation of each component of the WWTF 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 after receipt of comments on the workplan.

2. 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 last 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**.

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

4. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.

5. The Discharger shall comply with Monitoring and Reporting Program R5-2013-0133, 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.

6. 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)."

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

8. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also 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.

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

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

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

12. 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."

13. The Discharger shall comply with the requirements of the Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems (Water Quality Order 2006-0003), the Revised General WDRs Monitoring and Reporting Program (Water Quality Order 2008-0002-EXEC), and any subsequent revisions thereto. Water Quality Order 2006-0003 and Order 2008-0002-EXEC require the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.

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

15. 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.

16. In the event of any change in control or ownership of the WWTF, 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.

17. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. The Executive Officer will submit transfer requests to the Central Valley Water Board so that the Board may consider transferring the ownership of this Order at one of its regularly scheduled meetings.

18. 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.

19. 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 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 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 4 October 2013.

Original signed by Ken Landau for

PAMELA C. CREEDON, Executive Officer

lfu: 8/29/2013

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2013-0133

FOR
CALAVERAS COUNTY WATER DISTRICT
LA CONTENTA WASTEWATER TREATMENT FACILITY
CALAVERAS COUNTY

This Monitoring and Reporting Program (MRP) presents requirements for monitoring of wastewater influent, effluent, storage pond, groundwater and water supply. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

Central Valley Water Board staff shall approve specific sampling locations prior to any sampling activities. All samples shall be representative of the volume and nature of the discharge. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field testing instruments (such as those used to test pH, wind speed, precipitation and electrical conductivity) may be used provided that:

1 The operator is trained in proper use and maintenance of the instruments;

2 The instruments are calibrated prior to each monitoring event;

3 The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency;

4 Field calibration reports are submitted as described in the "Reporting" section of this MRP.

INFLUENT MONITORING

Samples of influent wastewater shall be collected at approximately the same time as effluent samples and should be representative of the influent flow to the treatment plant. At a minimum, influent monitoring shall consist of the following:

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow	mgd	Meter Observation	Daily	Monthly
BOD_5 at 20° C	mg/L	Grab	Monthly	Monthly

EFFLUENT MONITORING

Effluent samples shall be collected at the locations shown on Attachment C. Effluent monitoring shall include the following:

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
Turbidity [1]	NTU	Meter	Continuous [3]	Monthly
Total Coliform Organisms [2,4]	MPN/100 mL	Grab	Daily [5]	Monthly
BOD_5 [2]	mg/L	Grab	Weekly	Monthly
Total Dissolved Solids [2]	mg/L	Grab	Monthly	Monthly
Total Nitrogen [6]	mg/L	Grab	Monthly	Monthly
pH [2]	Standard	Grab	Monthly	Monthly

[1] Samples shall be obtained upstream of the UV system as shown on Attachment C.
[2] Samples shall be obtained after UV disinfection and before discharge into the Lower Pond as shown on Attachment C.
[3] For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
[4] Using a minimum of 15 tubes or three dilutions.
[5] Monday through Saturday.
[6] Samples shall be collected in both the Lower and Upper Ponds as shown on Attachment C.

ULTRAVIOLET LIGHT (UV) DISINFECTION SYSTEM MONITORING

The UV disinfection system shall be monitored as specified below:

Parameter	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Flow	mgd	Meter	Continuous [1]	Monthly
Number of UV Banks in Operation	Number	Observation	Continuous [1]	Monthly
UV Transmittance	Percent (%)	Meter	Continuous [1]	Monthly
UV Power Setting	Percent (%)	Meter	Continuous [1]	Monthly
UV Dose [2]	mJ/cm^2	Calculated	Continuous [1]	Monthly

[1] For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
[2] Report daily minimum UV dose, daily average UV dose, and weekly average UV dose. For the daily minimum UV dose, also report associated number of banks, gallons per minute per lamp, and UV transmittance used in the calculation. If effluent discharge has received less than the minimum UV dose, report the duration and dose calculation variables associated with each incident.

STORAGE POND MONITORING

Each of the effluent storage ponds shall be monitored as specified below:

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
Dissolved Oxygen [1]	mg/L	Grab	Weekly	Monthly
pH	pH units	Grab	Weekly	Monthly
Freeboard	0.1 feet	Observation	Weekly	Monthly
Berm Seepage [2]	NA	Observation	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Algae	--	Observation	Weekly	Monthly

[1] Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet.

[2] Pond containment berms and the dams shall be observed for signs of seepage or surfacing water along the exterior toe. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids.

GROUNDWATER MONITORING

Groundwater samples shall be collected from existing groundwater monitoring wells UR-1, UR-2, UR-3, LR-1, LR-2 and LR-3 and any well subsequently installed under direction of the Central Valley Water Board. The compliance wells are UR-1, UR-2, UR-3, LR-2 and LR-3.

Prior to any sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 feet. Sample collection and laboratory analysis shall follow standard EPA procedures. Each groundwater monitoring well shall be monitored at least for the following:

Constituents	Units	Sample Type	Sampling and Reporting Frequency
Groundwater Elevation [1]	± 0.01 feet	Measured	Semi-annually [2]
Depth to groundwater	± 0.01 feet	Measured	Semi-annually [2]
Gradient	feet/feet	Calculated	Semi-annually [2]
Gradient Direction	degrees	Calculated	Semi-annually [2]
Total Coliform Organisms	MPN/100 mL	Grab	Semi-annually [2]
Total Dissolved Solids	mg/L	Grab	Semi-annually [2]
Nitrate as Nitrogen	mg/L	Grab	Semi-annually [2]

[1] Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

[2] Samples shall be collected in the first and third quarters of each year.

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following:

Constituent	Units	Sampling and Reporting Frequency
Electrical Conductivity [1]	µmhos/cm	Annually
Total Dissolved Solids	mg/L	Annually
pH	pH units	Annually
Standard Minerals [2]	mg/L	Annually

[1] If the source water is from more than one well, the EC shall be reported as a weighted average and include copies of supporting calculations.

[2] Standard Minerals shall include, at a minimum, the following elements/compounds: barium, boron, calcium, chloride, iron, magnesium, manganese, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness.

SLUDGE AND/OR BIOSOLIDS MONITORING

Sludge and/or biosolids monitoring shall be conducted as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4) at the following frequency, depending on volume of sludge generated and removed from the wastewater treatment system:

Volume Generated (dry metric tons/year)	Frequency
0 to 290	Annually
290 to 1,500	Quarterly
1,500 to 15,000	Bimonthly (six samples per year)
Greater than 15,000	Monthly

Sludge and/or biosolids samples shall be analyzed to determine the total concentration in mg/Kg for the following constituents:

Arsenic	Lead	Nickel
Cadmium	Mercury	Selenium
Copper	Molybdenum	Zinc
Total Nitrogen	Total Solids	

Sludge and/or biosolids monitoring records shall be retained for a minimum of five years in accordance with 40 CFR, Part 503.17. A log shall be kept of sludge quantities generated and of handling, application, and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis to report sludge monitoring.

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogen reduction levels by one of the methods listed in 40 CFR, Part 503.32, and shall

maintain records of the operational parameters used to comply with the Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent, effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Monthly total and average daily influent flows;
2. Results of influent, effluent, UV disinfection, and storage pond monitoring, including calculation of the 7-day median total coliform results for each day of the month;
3. The duration and volume of wastewater diverted to the Upper Pond for each event;
4. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
5. If requested by staff, copies of laboratory analytical report(s); and
6. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Semi-Annual Groundwater Monitoring Reports

Semi-annual monitoring reports shall be submitted to the Central Valley Water Board by the **1st day of August** (for the first six months of the year) and the **1st day of February** (for the last six months of the year). The Semi-Annual Monitoring Reports shall include the following:

1. Results of groundwater monitoring for all monitoring and sampling events during the last six months;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. Summary data tables and graphs of historical and current water table elevations and analytical results;
5. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
6. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

An Annual Report shall be submitted to the Regional Board by **1 February** each year. The Annual Report shall include the following:

1. The results from annual monitoring of water supply;
2. Average dry weather influent flow for the year, and total annual influent flow for the year; and a comparison of these results to the influent flow limitations of this Order;
3. A digital database (Microsoft Excel) containing historic groundwater and effluent data;
4. An evaluation of the performance of the WWTF, including discussion of capacity issues, infiltration and inflow rates, nuisance conditions, and a forecast of the flows anticipated in the next year;
5. The results of sludge and/or biosolids monitoring for the calendar year, including:
   a. The amount of sludge generated that year and the amount accumulated on site at the end of the calendar year (in dry tons).
   b. For biosolids, documentation of pathogen reduction methods and vector attraction reduction methods employed, as required in 40 CFR Parts 503.17 and 503.27.
   c. A description of disposal methods, including the following information. If more than one method was used, include the amount of sludge disposed of by each

method in dry tons.

i. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.

ii. For off-site land application, include: the name and location of the site, and the Order number of any WDRs that regulate it.

iii. For incineration, include: the name and location of the incineration facility.

iv. For off-site composting, include: the name and location of the facility, and the Order number of any WDRs that regulate it.

6. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs; and

7. An evaluation of the groundwater quality beneath the site and determination of whether any groundwater limitations were exceeded in any compliance well at any time during the calendar year. This shall be determined by comparing the annual average concentration for each monitored constituent in each compliance well during the calendar year to the groundwater limitations.

A transmittal letter shall accompany each self-monitoring report. The letter shall include a discussion of all violations of the WDRs or this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to Section B.3 of the Standard Provisions and General Reporting Requirements, the transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: Original signed by Ken Landau for
PAMELA C. CREEDON, Executive Officer

4 October 2013
(Date)

LF: 8/13/13

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2013-0133
CALAVERAS COUNTY WATER DISTRICT
LA CONTENTA WASTEWATER TREATMENT FACILITY
CALAVERAS COUNTY

Background

The La Contenta Wastewater Treatment Facility (WWTF), built in 1991, provides tertiary treatment for the wastewater generated from the New Hogan/La Contenta area, which has 1,080 equivalent dwelling units. The WWTF location is shown on Attachment A.

The WWTF consists of a mechanical bar screen, an activated sludge treatment unit (a 500,000-gallon concrete aeration basin, a clarifier, and a sludge return system), a coagulant feed system, sand filters, a UV light disinfection system, a sludge lagoon, a sludge belt press, a dry sludge storage area, and two unlined storage ponds (Upper pond and Lower pond). The treated wastewater is stored in the lower pond prior to conveyance to the 70-acre La Contenta Golf Course (the Golf Course) for recycling during the irrigation season. The facility site map and the wastewater treatment process schematic are shown on Attachment B and C, respectively.

WDRs Order R5-2002-0222, adopted by the Central Valley Water Board on 6 December 2002, prescribes requirements for the WWTF and the use of recycled water at the La Contenta Golf Course (the Golf Course). The Golf Course is owned and operated by La Contenta Investors. WDRs Order R5-2002-0222 allows a monthly average dry weather influent flow (ADWF) of 0.15 million gallons per day (MGD). The Discharger requested to increase the ADWF limit to 0.20 MGD.

Since WDRs Order R5-2002-0222 was adopted, some improvements and changes have been made to this facility, including:

a. The storage capacity of one effluent storage pond (the Lower Pond) was increased from 23 to 172 acre-foot (ac-ft) in 2005;

b. The chorine disinfection system was replaced with an ultra violet (UV) light disinfection system in 2009;

c. An additional sand filter was installed; and

d. The use of recycled water at the Golf Course is now regulated under State Water Resources Control Board Order 2009-0006-DWQ, *General Waste Discharge Requirements for Landscape Irrigation Uses of Recycled Water*.

Therefore, Order R5-2002-0222 no longer reflects the current facility operations and will be rescinded and replaced with this Order.

Discharge Prohibitions, Specifications and Provisions

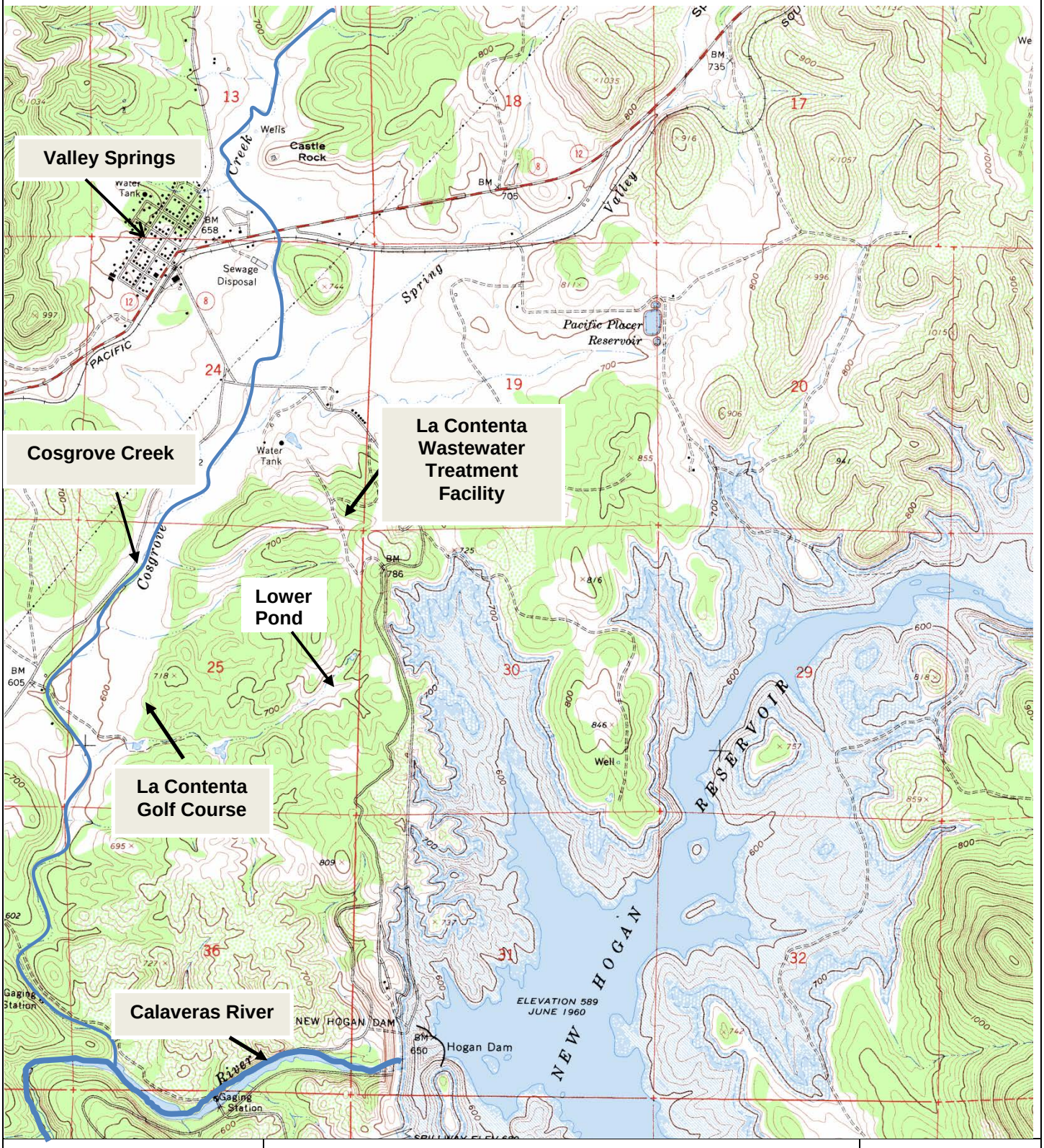
The water balance in the RWD demonstrates that the WWTF has the following storage and disposal capacity:

Influent Flow Measurement	Flow Limit
Total Annual Flow [1]	89 MG
Average Dry Weather Flow [2]	0.20 MGD

[1] As determined by the total flow for the calendar year.
[2] As determined by the total flow for the months of July through September, inclusive, divided by 92 days.

The Monitoring and Reporting Program is designed to verify compliance with flow limits, effluent limitations, and operational requirements of the WDRs.

LF:7/10/13



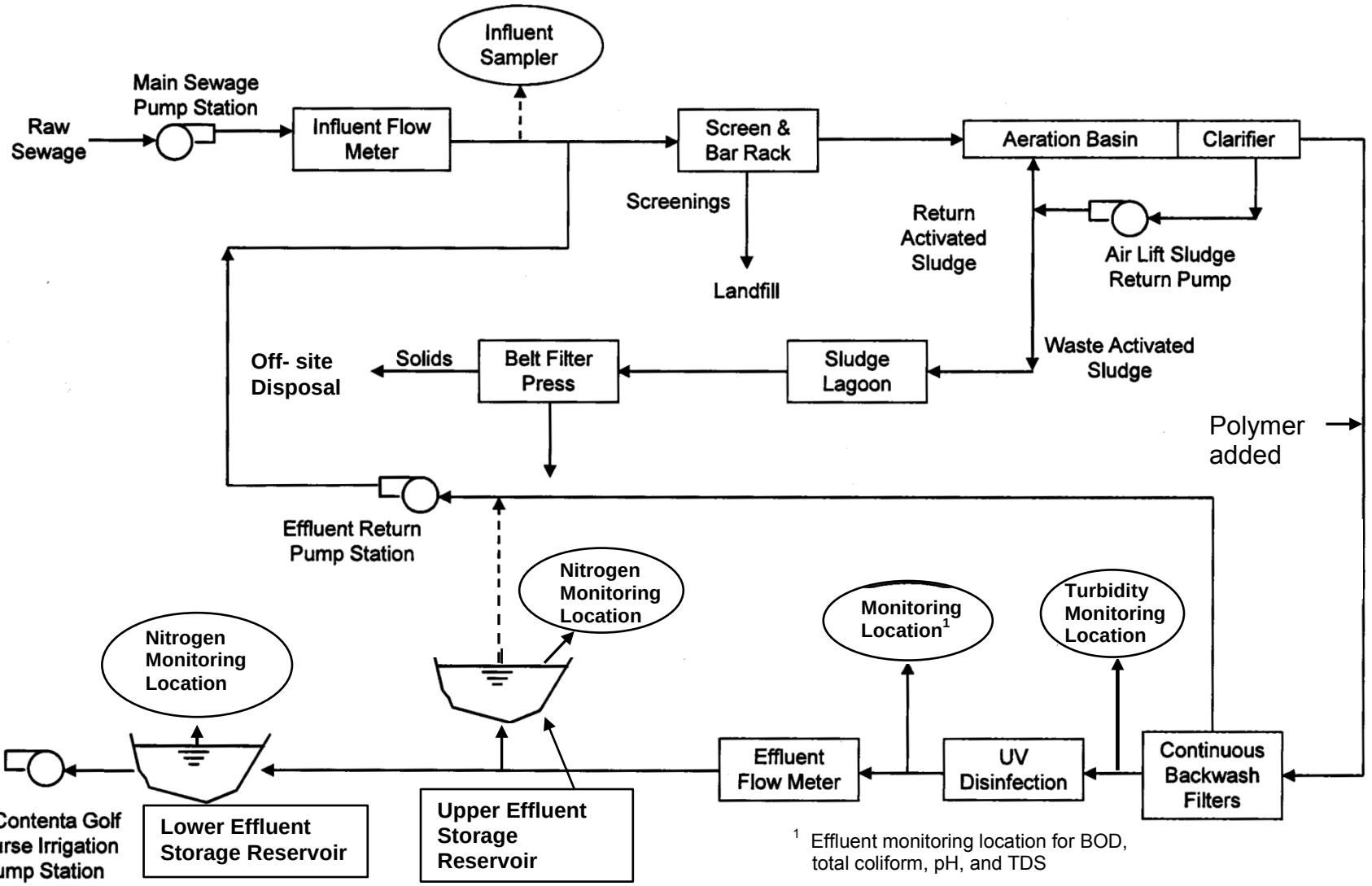
Drawing Reference:
USGS 7.5' Quadrangle
Valley Springs, CA

SITE LOCATION MAP
CALAVERAS COUNTY WATER DISTRICT
LA CONTENTA WWTF
CALAVERAS COUNTY

N
W E
S

Approx. Scale:
1" = 2590'

Drawing Reference: Calaveras County Water District La Contenta WWTF Report of Waste Discharge April 2013	**SITE PLAN** CALAVERAS COUNTY WATER DISTRICT LA CONTENTA WWTF CALAVERAS COUNTY	Scale as Noted



Drawing Reference: Calaveras County Water District La Contenta WWTF Report of Waste Discharge April 2013	**PROCESS SCHEMATIC** CALAVERAS COUNTY WATER DISTRICT LA CONTENTA WWTF CALAVERAS COUNTY	