CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-0022-001

WASTE DISCHARGE REQUIREMENTS

FOR
CITY OF IONE AND
GREENROCK RANCH LANDS, LLC
IONE WASTEWATER TREATMENT FACILITY
AMADOR COUNTY

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

1. On 28 September 2012, the City of Ione (the "City") submitted a Report of Waste Discharge (RWD) to update existing Waste Discharge Requirements (WDRs) for the City of Ione Wastewater Treatment Facility (WWTF). Additional information was submitted in November and December 2012. A RWD Addendum describing the proposed use of recycled water for construction purposes was submitted on 1 April 2013.

2. The City owns and operates the WWTF and land application areas (LAAs). Greenrock Ranch Lands, LLC owns and will operate additional LAAs at Greenrock Ranch. The City and Greenrock Ranch Lands, LLC are hereafter jointly referred to as "Dischargers" and are responsible for compliance with these WDRs.

3. The WWTF is located at 1600 West Marlette Street in the City of Ione (Section 26, T6N, R9E, MDB&M), as shown on Attachment A, which is attached hereto and made part of this Order by reference. The Greenrock Ranch LAAs are near the WWTF, as shown on Attachments B and C, which are attached hereto and made part of this Order by reference. Assessor's Parcel Numbers for the WWTF and LAAs are tabulated below.

Name	**Owner**	**Parcel Number(s)**
Ponds 1 through 8	City of Ione	0051 3002 3000, 0051 3004 2000, 0051 3004 3000, 0051 3004 5000, 0051 3004 8000
WWTF Field	City of Ione	0051 3004 5000
Town Field	Greenrock Ranch Lands, LLC	0051 3005 2000
COWRP Field	City of Ione	0053 2000 3501
Greenrock LAA	Greenrock Ranch Lands, LLC	0051 0001 0000

4. WDRs Order 95-125, adopted by the Central Valley Water Board on 26 May 1995, prescribes requirements for the WWTF. Order 95-125 allows an average dry weather flow (ADWF) of up to 1.2 million gallons per day (MGD). The Central Valley Water Board issued Cease and Desist Orders (CDOs) to the City in 2003 and 2011 to address violations of Order 95-125. The Executive Officer also issued an Administrative Civil Liability Complaint (ACLC) in 2012 after the City failed to comply with the 2011 CDO. The City proposes to modify the WWTF in order to comply with the 2011 CDO and to meet demands for future development.

Existing Facility and Discharge

5. The City has an estimated population of 3,815 with a total of 1,525 Equivalent Dwelling Units (EDUs). The WWTF treats domestic wastewater from the City. The WWTF also receives filter backwash water from a water treatment plant operated by Amador Water Agency (AWA) and tertiary filter backwash water from Castle Oaks Water Reclamation Plant (COWRP)[1]. In addition, the WWTF accepts Amador Regional Sanitation Agency's (ARSA) secondary effluent from Preston Reservoir [2] for disposal in the WWTF's percolation/evaporation ponds.

6. The WWTF consists of seven ponds covering approximately 28 acres, as shown on Attachment B. Ponds 1 through 4 provide secondary treatment via aeration and settling, and Ponds 5 through 7 provide disposal of un-disinfected effluent via percolation and evaporation. The ponds are constructed in alluvial deposits overlaying a clay formation. There are no engineered liners in Ponds 1 through 4. The WWTF is adjacent to Sutter Creek, with the closest pond approximately 100 feet from the creek.

7. The RWD provided the following design data for the existing ponds:

Pond	Depth (feet) [1]	Surface Area (acres)	Volume (MG)[1]	Pond Bottom Elevation (feet, msl) [2]
1	6.1	1.62	3.1	269.9
2	5.9	1.39	2.5	270.1
3	5.7	1.14	2.0	270.3
4	5.5	2.15	3.7	270.5
5	12	4.9	17	264.7

[1] COWRP is also owned and operated by the City of Ione. The COWRP and associated golf course water recycling are regulated under WDRs Order 93-240.

[2] Preston Reservoir is an effluent storage reservoir owned and operated by the Amador Regional Sanitation Agency (ARSA). Whenever possible, this effluent receives tertiary treatment at the COWRP, and the effluent is recycled to irrigate the Castle Oaks Golf Course. Secondary effluent from the Preston Reservoir is only discharged to the Ione WWTF percolation/evaporation ponds to the extent that the golf course cannot accept more recycled water.

Pond	Depth (feet) [1]	Surface Area (acres)	Volume (MG)[1]	Pond Bottom Elevation (feet, msl) [2]
6	8.0	3.7	9	268.7
7	7.0	4.5	10	265.7

1. Based on two feet of freeboard.
2. Based on a recent survey. The RWD states that the pond bottom elevations are somewhat higher than those that were previously reported based on elevations illustrated in a March 2007 drawing.

8. The following table summarizes recent influent flow rates, including domestic wastewater from the City, filter backwash flows from COWRP and the AWA water treatment plant. The ARSA disposal flows to the percolation ponds are metered separately and are not included in the influent flows.

	Influent Flow Rate
Year	Average Dry Weather Flow (ADWF) [1] (MGD)
2007	0.349
2008	0.339
2009	0.317
2010	0.388
2011	0.447

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

9. The following table summarizes recent flow rates from all sources.

Flow Component	Average Flow (MGD)
City of Ione [1]	0.203
AWA backwash flows	0.071
COWRP backwash flows [2]	0.141
ARSA secondary effluent	0.116

1. During months of May through October, from 2009 through 2011.
2. During months of May through October, from 2007 through 2011.

10. Recent influent and effluent analytical results are summarized below.

	Influent (average)		Effluent (average)						
Year	BOD (mg/L)	TSS (mg/L)	BOD (mg/L)	TDS (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Nitrate-N (mg/L)	TKN (mg/L)	EC (umhos/cm)
2010	263	243	35	241	38.6	35.6	0.5	21.4	438
2011	221	229	31	229	34.6	31.1	5.2	11.8	398
2012 [1]	292	267	35	232	35.3	32.0	1.1	27.0	481
Average	259	246	33.7	234	36.2	32.9	2.3	20.1	439

BOD=Biochemical Oxygen Demand; TSS=Total Suspended Solid; TDS=Total Dissolved Solid; TKN=Total Kjeldahl Nitrogen; EC=Electrical Conductivity

1. The data for 2012 were collected from January through March.

Enforcement History

11. In 2003, the Central Valley Water Board issued CDO R5-2003-0108 (the "2003 CDO"), which was intended to bring the facility into compliance with the WDRs. The 2003 CDO addressed three underlying compliance issues: groundwater pollution due to the disposal of wastewater, seepage of wastewater into Sutter Creek, and the construction and use of an unpermitted effluent disposal pond. The 2003 CDO required that the City comply with a schedule to submit: a) a *Facility Guidance Document* designed to address the seepage; b) a *Final Wastewater Master Plan;* and c) a RWD.

12. The City submitted its first RWD in November 2005, and submitted revisions in June 2006, March 2010, and September 2010. However, the RWD submittals did not address the underlying compliance issues, and therefore, these submittals did not comply with the 2003 CDO.

13. Because the City did not comply with the 2003 CDO, the Central Valley Water Board issued CDO R5-2011-0019 (the "2011 CDO") on 8 April 2011. The 2011 CDO addressed the following compliance issues: groundwater pollution with iron and manganese; seepage of polluted groundwater into Sutter Creek; inadequate capacity for the permitted flow limits; and the construction and use of two unpermitted effluent disposal ponds (Ponds 6 and 7). The Central Valley Water Board found that although iron and manganese are not present in the WWTF effluent at high concentrations, the presence of degradable organic matter in the wastewater depletes oxygen and creates reducing conditions in the groundwater mound beneath the WWTF ponds. Reducing conditions promote dissolution of iron and manganese which are naturally present in the soil beneath the ponds, causing degradation of groundwater, and the degraded groundwater seeps into Sutter Creek.

14. Although WDRs Order 95-125 allows an average dry weather flow of up to 1.2 MGD, the 2011 CDO restricts flows into the treatment facility and disposal ponds based on a June 2009 Master Plan and March 2010 RWD. The 2011 CDO contains the following interim flow limits:

    a. Influent flows to the wastewater treatment plant shall not exceed 0.55 MGD as a monthly average dry weather flow; and

    b. Total effluent flows to the percolation/evaporation ponds shall not exceed 0.75 MGD as a monthly average flow for any calendar month.

15. The 2011 CDO also requires that the City construct facility improvements that will effectively stop the mobilization and discharge of iron and manganese and either:

    a. Stop any indirect discharge (seepage) of degraded groundwater to Sutter Creek that is in violation of the Clean Water Act; or

    b. Obtain an NPDES Permit that regulates the indirect discharge of degraded groundwater to Sutter Creek.

16. The 2011 CDO states that, if the selected seepage discharge compliance option does not require an NPDES permit, the City shall comply with the following requirements:

    a. By 30 May 2012, the City shall submit a RWD or apply for revised WDRs.

    b. If requested by the Executive Officer, the City shall submit a revised RWD that addresses staff's comments within 45 days of the request.

    c. By 30 October 2013, the City shall submit a technical report certifying that (1) the improvements/expansion project has been completed, (2) the facility does not discharge to Sutter Creek in violation of the Clean Water Act, and (3) any groundwater degradation that occurs due to treatment and disposal of wastewater is consistent with State Water Board Resolution 68-16.

    The City elected to modify the WWTF in a manner that would not require an NPDES permit. However, the City did not submit a RWD until 30 July 2012, and the RWD did not meet the criteria set forth in the CDO.

17. On 10 September 2012, the Executive Office of the Central Valley Water Board issued Administrative Civil Liability Complaint R5-2012-0558 for $143,552 to the City for failure to submit a complete Report of Waste Discharge as required by the 2011 CDO. On 10 January 2012, the matter was settled when the Assistant Executive Officer signed a final Settlement Agreement and Stipulation. The City agreed to the imposition of an administrative civil liability totaling $123,818, with $61,909 paid into the Cleanup and Abatement Account and the remaining liability of $61,909 permanently suspended because the City completed an Enhanced Compliance Action (the Preston Avenue Sewer Slip Lining Project).

Planned Changes in the Facility and Discharge

18. The City has approved several development projects, which will increase the total EDU from current 1,525 to 1,900 EDUs by the year 2020. In order to comply with the 2011 CDO and to increase WWTF capacity for future development, the City proposed two phases of WWTF modifications:

    Phase I (to be completed by 30 October 2013) will consist of:

    a. Constructing new water recycling land application areas (LAAs) on land owned by the Dischargers, including the 11-acre WWTF Field and the 67-acre Town Field (shown on Attachment B);

    b. Installing a specific number of additional aerators with specific horsepower in treatment Ponds 1 through 4 to consistently maintain high dissolved oxygen throughout the treatment process;

    c. Installing a mixing unit in Pond 5 to reduce the anoxic conditions in the pond (which has already been installed);

    d. Installing a new disinfection system utilizing sodium hypochlorite injection and a contact chamber; and

    e. Sludge removal from Ponds 5 and 6.

    Phase II (to be completed in 2015) will consist of:

    a. Constructing Pond 8 on the location of the 11-acre WWTF Field. Pond 8 will be clay lined with a capacity of 17 million gallons. It will be used to store un-disinfected effluent during the non-irrigation season; and

    b. Adding additional water recycling LAAs totaling 56 acres: the 40-acre Greenrock LAA and the 16-acre COWRP Field.

    The Phase II site plan is shown on Attachment C.

19. After completion of Phase I construction, the wastewater treatment and disposal facilities will consist of Ponds 1 through 7, a disinfection system, and the WWTF Field and Town Field LAAs with a total area of 78 acres. In Phase II, storage Pond 8 will be installed and the LAAs will consist of Town Field, COWRP Field, and Greenrock LAA with a total area of 123 acres. The LAAs are listed in the following table:

Improvements Phase	LAA Name	Total Area (acres)	Net Area* (acres)
Phase I	WWTF Field	11	9
	Town Field	67	56
Phase II	Town Field	67	56
	COWRP Field	16	15.5

Improvements Phase	LAA Name	Total Area (acres)	Net Area* (acres)
	Greenrock LAA	40	30.5

* Usable area considering setbacks required by Title 22.

20. The effluent applied to the LAAs will be disinfected secondary-23 recycled water (as the term is defined in California Code of Regulations, Title 22, section 60301.225). The land application will occur mainly during the summer months. Recycled water may also be used during the winter months in dry years to meet crop demands. The use of the proposed LAAs will reduce the use of the percolation ponds during the summer months, which minimizes potential for seepage of degraded groundwater and reduces the potential for groundwater surfacing in areas adjacent to the WWTF because of the reduced hydraulic load on the groundwater. In addition, the land application will empty the percolation ponds during some summer months, allowing for sludge removal, drying, and aeration of the soils beneath all the percolation ponds.

21. During the non-irrigation season, the treated un-disinfected wastewater will be discharged into percolation Ponds 5 through 7 and the clay lined storage Pond 8. During the irrigation season, secondary effluent will be disinfected in an 84,000-gallon chlorine contact basin before land application. The hydraulic residence time in the chlorine contact basin will be 60 minutes at a pumping rate of 1,400 gallons per minute. Sludge removed from the ponds will be hauled off site for disposal at an appropriately permitted facility. The wastewater treatment process schematic is shown on Attachment D, which is attached hereto and made part of this Order by reference.

22. The Dischargers propose to grow and harvest fodder crops such as alfalfa hay on the LAAs. The LAAs will have wheel-line irrigation systems controlled by a Supervisory Control and Data Acquisition (SCADA) system. The LAAs will be graded to drain tailwater to collection ditches. In general, irrigation tailwater will be collected and pumped back to the irrigation system for disposal. However, in the case of the WWTF field, irrigation tailwater will be returned to the WWTF headworks. The LAAs will not be irrigated during rainfall or when the soil is saturated to prevent commingling of storm water with tailwater. Storm water runoff from the LAAs will be allowed to drain to existing drainage features which eventually discharge to Sutter Creek. The LAAs may be used for cattle grazing.

23. The City also proposes to use disinfected secondary-23 recycled water during construction of the improvements at the WWTF, including backfill consolidation around nonpotable water piping, soil compaction, mixing concrete, and dust control. This Order allows that use.

24. As part of LAA design activities, the City has performed a preliminary geotechnical investigation and analyzed nine test pits at the WWTF and COWRP Fields to assess their suitability. In general, soil conditions were observed to be relatively consistent

and predominately characterized as clay and silty clay. There was evidence of likely restrictive layers and seasonal saturation (clay with mottles) in two of the pits on the WWTP field at depths of 3 to 4 feet. Evidence of restrictive layers or seasonal saturation was not found in the other test pits.

25. The RWD states that, according to the US Bureau of Reclamation's AgriMet website, the average root depth for alfalfa is 4 feet, which is above seasonal high groundwater and well above groundwater levels in summer and fall.

26. The proposed storage Pond 8 in Phase II will be a 17 million gallon pond with a berm height of approximate 10 feet above the surrounding grade. Because of the shallow groundwater, the pond bottom will be approximately two feet below grade to provide some separation. The pond will be constructed with a 24-inch thick clay liner along the base and sidewalls placed and compacted to achieve a maximum permeability of $1x\ 10^{-6}$ cm/sec. The RWD states that local Ione clays can achieve this permeability with appropriate placement and compaction.

27. The RWD projected that the effluent will have both BOD and total suspended solid concentrations of 30 mg/L. The RWD did not project the TDS and chloride concentrations for the disinfected wastewater. It is expected that the salinity levels of the disinfected effluent will be slightly higher than the current un-disinfected effluent levels.

28. The water balances in the RWD demonstrate the facility will have the following storage and disposal capacities for Phases I and II:

Flow Component	Phase I	Phase II
Influent ADWF [1] (MGD)	0.50	0.52
Total effluent flow to the percolation ponds as a maximum flow for any calendar month (MGD)	0.75	0.78
Total annual effluent flow to the percolation ponds (MG)	237	246

[1] Influent flows at headworks in the months of July through September, inclusive.

The influent flows used in the capacity analysis include: domestic wastewater generated from the City, tertiary filter backwash flows from the COWRP, and filter backwash flows from the AWA water treatment plant. The total effluent flows to the percolation ponds include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds. The water balances are based on the assumption of year-round cropping of all available LAAs. Therefore, this Order requires year round cropping of all LAAs and allows year-round irrigation with recycled effluent to meet crop water needs.

29. The 2011 CDO flow limits are 0.55 MGD as an average dry weather influent flow and 0.75 MGD as a monthly average effluent flow for any calendar month. The City states that the current treatment capacity is 0.55 MGD. However, the storage and disposal capacity is less than 0.55 MGD. Therefore, this Order sets initial flow limits equal to the WWTF's capacity after the Phase I upgrades are completed. This Order grants the Executive Officer the authority to increase the flow limits to the Phase II capacity after the City demonstrates that it has satisfactorily completed the proposed Phase II modifications.

Site-Specific Conditions

30. Potable water supply for the City is provided by AWA. The raw water comes from Tanner Reservoir and is treated in the City of Ione Water Treatment Plant by AWA. Based on the AWA's March 2011 sampling result, the chemical character of the potable water is summarized below.

Water Supply Analytical Results

Parameter	Unit	Concentration
Total Dissolved Solids	mg/L	37 mg/L
Calcium	mg/L	4.7 mg/L
Chloride	mg/L	1.8 mg/L
Fluoride	mg/L	< 0.10 mg/L
Magnesium	mg/L	1.0 mg/L
Phosphate	mg/L	1.0 mg/L
Potassium	mg/L	Non Detect
Sodium	mg/L	2.5 mg/L
Sulfate	mg/L	1.5 mg/L
Total Alkalinity	mg/L	18 mg/L
Hardness	mg/L	24 mg/L
Aluminum	mg/L	Not Detected
Arsenic	mg/L	Not Detected
Cadmium	mg/L	Not Detected
Copper	mg/L	Not Detected
Lead	mg/L	Not Detected
Iron	mg/L	Not Detected
Manganese	mg/L	Not Detected
Nickel	mg/L	Not Detected
Zinc	mg/L	Not Detected

31. The ground surface elevations at the WWTF site range from approximately 258 to 280 feet above mean sea level (MSL), and the area around the site is relatively flat. Sutter Creek flows from east to west approximately 100 feet north of the northernmost WWTF ponds.

32. The WWTF, WWFT Field, and COWRP Field are outside of the 100-year flood zone based on the FEMA 2000 Insurance Maps. The Greenrock LAA and the southern portion of the Town Field are within 100-year flood plain of Sutter Creek.

33. Surrounding land uses are primarily residential and agricultural. Annual precipitation in the vicinity averages approximately 23 inches, the 100-year total annual precipitation is approximately 40 inches, and the reference evapotranspiration rate is approximately 54 inches per year.

Groundwater Considerations

34. Soils at the existing WWTF and the LAAs are quaternary alluvium of the Modesto-Riverbank formation, which are mapped as Honcut very fine sandy loam on Honcut loam over clay. The soil permeability is low to moderate.

35. The City has been monitoring shallow groundwater at the WWTF since 2002. The current groundwater monitoring network consists of eight monitoring wells (MW-1, MW-1A, MW-2, MW-3, MW-3A, MW-4, MW-4A and MW-5A) and four piezometers (P1, P2, P3, and P5A). MW-1 and MW-1A are up-gradient of the WWTF, and MW-3, MW-3A, MW-4, MW-4A and MW-5A are down-gradient of the WWTF ponds, as shown on Attachment B. MW-2 monitors groundwater between Pond 4 and Sutter Creek. The following table presents a summary of the monitoring well construction details.

Monitoring Well ID	Well Depth (feet)	Range of Depth to water (feet)	Min. Groundwater Elevation (feet, msl)	Max. Groundwater Elevation (feet, msl)
MW-1 [1]	25	7.61 to 15.31	258.86	266.56
MW-1A [1]	41.5	8.11 to 14.42	259.67	265.98
MW-2 [1]	26	11.4 to 15.37	257.00	260.97
MW-3 [1]	26	11.05 to 16.59	253.26	258.80
MW-3A [1]	31.5	18.76 to 22.22	256.05	259.51
MW-4 [2]	27	8.57 to 14.51	254.26	260.20
MW-4A [2]	26.5	6.18 to 10.49	255.23	259.54
MW-5A [2]	26.5	5.08 to 9.82	256.31	261.05
P1 [2]	25	3.68 to 9.86	259.02	265.20
P2 [2]	26.5	12.82 to 17.47	259.86	264.51
P3 [2]	31.5	11.38 to 18.35	257.36	264.33
P5B [2]	17	4.46 to 9.19	256.32	261.05

1. Data collected during July 2002 through September 2012.
2. Data collected during August 2007 through September 2012.

The highest groundwater elevation in the piezometer P1 is 265.20 feet, which is slightly higher than the Pond 5 bottom elevation of 264.7 feet. Based on this information, the bottoms of some of the disposal ponds are likely in contact with

seasonal high groundwater, and these conditions may impact the ability of the soils beneath the disposal ponds to treat or remove certain waste constituents.

In addition, six MW-08 series wells (MW-08-1, MW-08-2A, MW-08-2B, MW-08-3, MW-08-4A, MW-08-4B) are located east and south of the WWTF, as shown on Attachment B. Since September 2009, the MW-08 series wells have only been used to measure the groundwater elevations semi-annually. The depths of water in the up-gradient wells MW-08-4A, MW-08-4B ranged from 10 to 20 feet; while the depths of water in MW-08-1 ranged from 1.64 to 5.76 feet.

36. As noted above, groundwater at the site and surrounding properties is very shallow (approximately 1.64 to 22 feet below ground surface). In general, the shallow groundwater flow direction is westward (parallel to Sutter Creek). Up-gradient of WWTF, the groundwater gradient is relative flat (approximately 0.001 feet/foot); Down-gradient of the WWTF ponds, the gradient steepens to approximately 0.02 to 0.03 feet/foot. Groundwater mounding occurs in the area around the WWTF ponds.

37. Groundwater quality has been characterized by quarterly sampling of monitoring wells from March 2009 through September 2012. A summary of average concentrations (except total coliform organisms) is presented in the table below for select constituents.

Well ID	TDS (mg/L)	Dissolved manganese (µg/L)	Dissolved iron (µg/L)	Nitrate nitrogen (mg/L)	Total Kjeldahl nitrogen (mg/L)	Total coliform organisms, median (MPN/100 ml)	Sodium (mg/L)	Chloride (mg/L)
Background Wells								
MW-1	178	6.9	13.9	1.1	0.2	<2	9.2	6.8
MW-1A	241	20	21	2.7	0.5	<2	16	18
Downgradient Wells								
MW-2	271	3,920	1,943	0.1	2.9	<2	42	41
MW-3	323	4,133	66	0.4	1.3	<2	40	39
MW-3A	283	5,513	3,818	0.2	6.0	<2	42	41
MW-4	259	373	31	0.1	0.1	<2	42	41
MW-4A	269	89	48	0.3	0.2	4	24	31
MW-5	257	221	12	0.4	0.1	<2	21	25

38. A discussion of groundwater conditions at the WWTF site is presented below based on the above data:

a. The average TDS concentrations in the background wells MW-1 and MW-1A ranged from 178 to 241 mg/L. The average TDS concentrations in the down-gradient wells ranged from 257 to 323 mg/L. Therefore the discharge has degraded groundwater quality for TDS. However, the average TDS concentrations in the down-gradient wells were less than the recommended secondary maximum concentration limit (MCL) of 500 mg/L for TDS.

b. The average nitrate nitrogen concentrations in the background wells MW-1 and MW-1A ranged from 1.1 to 2.7 mg/L. The nitrate nitrogen concentrations in the down-gradient wells ranged from 0.1 to 0.4 mg/L. These data indicate that the discharge has not degraded groundwater with nitrate. However, groundwater monitoring data indicate that groundwater has been degraded by total Kjeldahl nitrogen, which is a nitrate precursor.

c. The secondary MCL for dissolved iron is 300 µg/L. The average dissolved iron concentrations in the background wells MW-1 and MW-1A ranged from 13.9 to 21 µg/L. The average dissolved iron concentrations in down-gradient wells MW-2, MW-3A ranged from 1,943 to 3,818 µg/L, which show that the discharge has caused dissolved iron in shallow groundwater to exceed the secondary MCL in violation of the water quality objective in the Basin Plan.

d. The secondary MCL for dissolved manganese is 50 µg/L. The average dissolved manganese concentrations in the background wells MW-1 and MW-1A ranged from 6.9 to 20 µg/L. However, the average dissolved manganese concentrations in down-gradient wells MW-2, MW-3A ranged from 3,920 to 5,513 µg/L, which show that the discharge has caused dissolved manganese in shallow groundwater to exceed the secondary MCL in violation of the water quality objective in the Basin Plan.

e. The median concentrations of total coliform organisms in the background wells MW-1 and MW-1A were less than 2.2 most probable number (MPN)/100 mL, which is the Basin Plan's numeric water quality objective for total coliform organisms. The median concentrations of total coliform organisms in all down-gradient wells except MW-4A were less than 2.2 MPN/100 mL. MW-2 has had sporadic detections up to 240 MPN/100 mL. MW-4A has had sporadic detections up to 900 MPN/100 mL with a median concentration of 4 MPN/100 mL for total coliform organisms. The reasons for the occasional total coliform exceedances are unknown. The groundwater coliform detections may be caused by cross-contamination of the monitoring wells during construction and/or subsequent sampling events, or the inadequate soil separations between the pond bottom and groundwater. The lack of consistent detections indicates that the discharge has not caused violation of the Basin Plan water quality objective.

Basin Plan, Beneficial Uses, and Regulatory Considerations

39. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins,* Fourth Edition (hereafter Basin Plan) designates beneficial uses, establishes

water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

40. Local drainage is to Sutter Creek, a tributary of the Cosumnes River. The beneficial uses of the Cosumnes River, as stated in the Basin Plan, are municipal and domestic supply, irrigation, stock watering, contact recreation, canoeing and rafting, other noncontact recreation, warm and cold freshwater habitat, warm and cold migration, warm and cold spawning, and wildlife habitat.

41. 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.

42. 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.

43. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MPN groundwater.

44. 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.

45. 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.

46. 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.

47. 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

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

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

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

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

    d. The dischargers employ best practicable treatment or control (BPTC) to minimize degradation.

49. 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 limited groundwater degradation.

50. The City has been monitoring groundwater quality at the site since 2002. Based on the data available, it is not possible to determine pre-1968 groundwater quality. To ensure compliance with Resolution 68-16, the Central Valley Water Board has evaluated the potential for the discharge to impact background groundwater quality, which has been defined by sampling groundwater monitoring wells in the vicinity of the WWTF that have not been affected by the City's discharges.

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

Constituent	Unit	Concentration (mg/L)			
		Effluent [1]	Background Groundwater [2]	Downgradient Groundwater [3]	Protective Numeric Limit
TDS	mg/L	231	178 - 241	257 - 323	500 to 1,500 [4]
Nitrate as N	mg/L	3.2	1.1 - 2.7	0.1 - 0.4	10 [5]
TKN	mg/L	19.4	0.2 - 0.5	0.1 – 6.0	--
Iron	µg/L	--	13.9 - 21	12 - 3,818	300 [6]
Manganese	µg/L	--	6.9 - 20	89 - 5,513	50 [6]

[1] Effluent averages from January 2010 through March 2012.
[2] Compiled from MW-1, and MW-1A; data collected from March 2009 through September 2012.
[3] Compiled from MW-2, MW-3, MW-3A, MW-4, MW-4A and MW-5A; data collected from March 2009 through September 2012.
[4] Secondary Maximum Contaminant Level range.
[5] Primary Maximum Contaminant Level.
[6] Secondary Maximum Contaminant Level.

a. 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 average TDS concentrations in the background wells MW-1 and MW-1A ranged from 178 to 241mg/L. The average TDS concentrations in the down-gradient wells ranged from 257 to 323 mg/L. Therefore the discharge has degraded groundwater quality for TDS. However, the average TDS concentrations in down-gradient wells were less than both the lowest potentially-applicable water quality goal for agricultural use (450 mg/l) and the recommended secondary MCL of 500 mg/L for TDS. Because the City proposes to disinfect effluent to the LAAs by using sodium hypochlorite, the disinfected effluent TDS concentrations will be slightly higher than the current effluent TDS average concentration of 232 mg/L. However, 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 a water quality objective. Therefore, this Order does not contain an effluent TDS limit.

b. The Secondary MCL for iron is 300 µg/L, and background groundwater quality is below this level. However, the average dissolved iron concentrations in the down-gradient wells MW-2 and MW-3A ranged from 1,943 to 3,818 µg/L, showing that the discharge has caused dissolved iron in shallow groundwater to exceed the secondary MCL in violation of the Basin Plan. The current monitoring program does not require analysis of iron in the effluent. However, based on the potable water character (iron is typically not detected), domestic water use, and the WWTF operation, the effluent is not expected to contain high iron concentrations. Iron impacts to groundwater are attributable to the presence of degradable organic matter in the wastewater, which depletes oxygen and creates reducing conditions that favor dissolution of iron from the native soil minerals. In order to comply with the 2011 CDO, the City proposes to: a) increase aeration in the treatment ponds, b) increase mixing in Pond 5, and c) remove sludge from the percolation ponds to

decrease anoxic conditions that result in iron mobilization to the shallow groundwater. If these measures do not result in reduction of iron in the groundwater below the secondary MCL, the City plans to remove anoxic soils from the bottom of Pond 5 and add two feet of imported clean soil fill to increase the separation from groundwater.

Based on the planned modifications to the WWTF and proposed LAAs, groundwater quality with respect to iron is expected to improve over time. However, it is not possible to predict whether iron concentrations will be reduced to below the Secondary MCL or exactly when significant improvement in groundwater quality will occur. A companion Cease and Desist Order will include a time schedule that will require the City to complete the proposed facility modifications on a timeline specified by the Central Valley Water Board.

c. The Secondary MCL for manganese is 50 µg/L, and background groundwater quality is below this level. However, the average dissolved manganese concentrations in down-gradient wells MW-2 and MW-3A ranged from 3,920 to 5,513 µg/L, which are much greater than the secondary MCL for manganese. The groundwater monitoring results show that the discharge has caused dissolved manganese in shallow groundwater to exceed the secondary MCL in violation of the Basin Plan. Although manganese may not be present in the WWTF effluent at high concentrations, the reducing conditions in the groundwater mound beneath the WWTF ponds promote the dissolution of manganese that is naturally present in the soil beneath the ponds.

   Based on the planned modifications to the WWTF and proposed LAAs, groundwater quality with respect to manganese is expected to improve over time. However, it is not possible to predict whether manganese concentrations will be reduced to below the Secondary MCL or exactly when significant improvement in groundwater quality will occur. A companion Cease and Desist Order will include a time schedule that will require the City to complete the proposed facility modifications on a timeline specified by the Central Valley Water Board.

d. For nutrients such as nitrate, the potential for degradation depends not only on the quality of the treated effluent, but the ability of the vadose zone below the effluent 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.

   The nitrate nitrogen concentrations in the background wells MW-1 and MW-1A ranged from 1.1 to 2.7 mg/L, which are higher than the nitrate nitrogen concentrations in the down-gradient wells (nitrate nitrogen 0.1 to 0.4 mg/L). The groundwater nitrate nitrogen concentrations in all wells were less than the primary MCL of 10 mg/L for nitrate nitrogen. However, groundwater monitoring data indicate that groundwater has been degraded by total Kjeldahl nitrogen, which is a nitrate precursor. Currently, the effluent has average nitrate nitrogen and total nitrogen concentrations of 3.2 mg/L and 22.6 mg/L, respectively. The effluent quality of the modified WWTF is expected to remain the same.

It is appropriate to set an effluent limit of 25 mg/L for total nitrogen as an annual average to prevent further groundwater degradation due to pond percolation at the WWTF. The City is able to comply with this limit. Groundwater is shallow at the site. It is appropriate to set a groundwater limit of 10 mg/L for nitrate to protect groundwater.

Based on the effluent total nitrogen concentration of 22.6 mg/L, the projected total nitrogen loading rate for the LAAs is 261 pounds per acre per year (lbs/ac/yr), which is less than the crop demand for alfalfa of up 480 lbs/ac/yr. Therefore, the wastewater land application is not likely to degrade groundwater quality for nitrogen at the LAAs in the future.

e. For coliform organisms, the potential for exceedance of the Basin Plan's numeric water quality objective depends on the ability of vadose zone soils below the effluent storage/disposal ponds and saturated soils within the shallow water bearing zone to provide adequate filtration. The median concentrations of total coliform organisms in the background wells MW-1 and MW-1A are less than 2.2 MPN/100 mL. However, the down-gradient wells have shown occasional exceedances. Therefore, this Order sets a groundwater limitation for coliform organisms at the Basin Plan numeric water quality objective.

52. This Order, in concert with the companion CDO, establishes both effluent and groundwater limitations for the WWTF and a progressive sequence of improvements that will ultimately ensure that the discharge will not affect beneficial uses and will not result in water quality less than that prescribed in state and regional policies, including water quality objectives set forth in the Basin Plan.

After the facility and operational improvements described in Finding 18 a-e are completed, the City will provide treatment and control of the discharge that incorporates:

a. Improved secondary treatment through additional aeration;

b. Direct mixing in Pond 5 to promote aerobic conditions;

c. Water recycling to reduce waste constituent loading to the creek and groundwater;

d. Sludge removal; and

e. Chlorine disinfection.

The Central Valley Water Board considers these measures to go beyond treatment and control measures currently implemented by similarly-situated municipalities of the same approximate size that face similar environmental conditions, and therefore the Board considers these measures to constitute "best practicable" treatment and control of the waste discharge constituents. Because the City is implementing what the Board considers to be best practicable treatment or control of the discharges, the Board has the discretion to allow degradation of high-quality water up to the water quality objectives set forth in the Board's Basin Plan, provided that such degradation

is consistent with the maximum benefit to the people of the state. However, the Board recognizes that the City may still need to implement measures that go beyond those required herein, because even the City's implementation of "best practicable" measures do not allow the Board to authorize degradation that results in water quality worse than that which is protective of beneficial uses. Even after implementing the improvements described above, if iron and manganese concentrations in shallow groundwater remain elevated beyond their respective secondary MCLs, the Board will require the City to take additional measures. It is therefore appropriate for the Board to issue a companion Cease and Desist Order that will set forth a scope and schedule for work that will ensure that the City's discharge will not allow iron and manganese concentrations to impact beneficial uses in the shallow groundwater. However, the Board has the obligation to ensure that this compliance period will be as short as practicable.

53. 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 47, and the City is implementing treatment or control measures that the Board considers to be best practicable treatment and control. The Board is also setting a time schedule that will ensure that the City will achieve compliance with all state and regional policies, and that the discharge will not unreasonably affect present and anticipated beneficial uses. Therefore, this Order is consistent with Resolution 68-16. Should groundwater monitoring data reveal degradation beyond that anticipated in this Order, the City may be required to evaluate and implement additional treatment or control measures.

Water Recycling Regulatory Considerations

54. 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 (CDPH), 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.

55. 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.

56. 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.

57. 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 secondary recycled water by the City is consistent with the intent of State Board Resolution 2009-0011 and Central Valley Water Board Resolution R5-2009-0028.

58. The City submitted a *Title 22 Engineering Report* in October 2012 to the Central Valley Water Board and the CDPH pursuant to Title 22 for water recycling of disinfected secondary-23 recycled water as defined by Title 22, section 60301.225. On 1 November 2012, the CDPH commented on the *Title 22 Engineering Report* and directed the City to revise the report to address specific deficiencies. In addition, the CDPH recommended some specific requirements to be included in the revised WDRs. The CDPH has not approved the *Title 22 Engineering Report.* This Order incorporates the requirements requested by the CDPH. This Order prohibits the discharge of recycled water to the LAAs unless and until the CDPH has approved the *Title 22 Engineering Report*.

Other Regulatory Considerations

59. 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.”

60. 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.

(b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

(1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;

(2) the discharge is in compliance with the applicable water quality control plan; and

(3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

(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.

61. 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 Ponds 1 through 4 and Pond 8 are exempt pursuant to Title 27, section 20090(a) because they are treatment and storage facilities associated with a municipal domestic wastewater treatment plant.

    b. Percolation Ponds 5, 6, 7 and the LAAs are exempt pursuant to Title 27, section 20090(b) because:

        i. The Central Valley Water Board is issuing WDRs.

        ii. Following completion of the improvements required by this Order and a companion Cease and Desist Order, the discharge will be in compliance with the Basin Plan, and;

        iii. The treated effluent discharged to the ponds and LAAs does not need to be managed as hazardous waste.

62. Although the WWTF and the LAAs are 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.

63. 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 City is therefore not required to obtain coverage under NPDES General Permit CAS000001.

64. 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.

65. 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 R5-2013-0022 are necessary to ensure compliance with these waste discharge requirements. The Dischargers own and operate the facilities that discharge the waste subject to this Order.

66. 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.

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

68. On 26 February 2013, the City certified a Mitigated Negative Declaration for the proposed Phase I/II project in accordance with the California Environmental Quality Act (CEQA). The Initial Study/Mitigated Negative Declaration evaluated the potential impacts to water quality and found that the project will have less than significant impacts to water quality with mitigation incorporated. The Central Valley Water Board participated in the development of the CEQA document as a responsible agency. Compliance with these waste discharge requirements will mitigate or avoid significant impacts to water quality.

69. 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.

70. 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 Dischargers may have separate and/or additional compliance, reporting, and permitting responsibilities to the EPA.

71. 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

72. 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.

73. The Dischargers 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.

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

IT IS HEREBY ORDERED that Order 95-125 is rescinded except for purposes of enforcement and, pursuant to Water Code sections 13263 and 13267, the City and Greenrock Ranch Lands, LLC, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

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

2. Discharge of recycled water is prohibited unless and until the CDPH has approved the *Title 22 Engineering Report*.

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

4. Discharge of waste classified as 'designated', as defined in Water Code section 13173, is prohibited.

5. 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*.

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

7. Discharge of toxic substances into the wastewater treatment system or land application areas such that biological treatment mechanisms are disrupted is prohibited.

B. Flow Limitations

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

Flow Measurement	Limit
Influent Average Dry Weather Flow [1]	0.50 MGD
Total effluent flow as a maximum flow for any calendar month [2]	0.75 MGD
Total annual effluent flow [3]	237 MG

[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 during the calendar month divided by the number of days in that month.
[3] As determined by the total flow for the calendar year.

Influent flows at the headworks shall include domestic wastewater generated from the City of Ione, tertiary filter backwash flows from the COWRP, and filter backwash flows

from the AWA water treatment plant. Total effluent flows to the percolation ponds shall include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds.

2. **Effective on the date of Executive Officer approval** of the *2020 Capacity Expansion Completion Report* submitted pursuant to Provision I.1.c, influent flows to the WWTF and total effluent flows to the storage/disposal ponds shall not exceed the following limits. Approval of the report is dependent on submittal of a water balance capacity analysis demonstrating that the as-built hydraulic capacity of the WWTF is consistent with the flow limits.

Flow Measurement	Limit
Influent ADWF [1]	0.52 MGD
Total effluent flow as a maximum flow for any calendar month [2]	0.78 MGD
Total annual effluent flow [3]	246 MG

[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 during the calendar month divided by the number of days in that month.
[3] As determined by the total flow for the calendar year.

Influent flows at the headworks shall include domestic wastewater generated from the City of Ione, tertiary filter backwash flows from the COWRP, and filter backwash flows from the AWA water treatment plant as applicable. Total effluent flows to the storage/disposal ponds shall include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds as applicable.

C. Effluent Limitations

1. Effluent discharged to the percolation ponds shall not exceed the following limits:

Constituent	Units	Monthly Average	Monthly Maximum	Annual Average [2]
BOD_5 [1]	mg/L	40	60	--
Total Nitrogen as N	mg/L	--	--	25

[1] 5-day biochemical oxygen demand at 20˚C.
[2] As determined by the sum of all effluent monthly results during the calendar year divided by the number of samples.

2. The annual total nitrogen mass loading to each of the LAAs shall not exceed the agronomic rate for the crop grown. Compliance with this requirement shall be

determined using published nitrogen uptake rates for the vegetation/crops grown and the following formula:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

M = mass of nitrogen applied in lbs/ac/yr
C_i = concentration of total nitrogen in month *i* in mg/L
V_i = volume of wastewater applied during calendar month *i* in million gallons
A = the area of the LAA in acres
i = the number of the month (e.g., January = 1, February = 2, etc.)
M_x = nitrogen mass from other sources (e.g., fertilizer, cattle and compost) in pounds
8.345 = unit conversion factor

D. 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 as a 7-day median.

2. For constituents identified in Title 22, contain constituents in concentrations that exceed either the Primary or 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.

Compliance with these limitations shall be determined annually based on intra-well comparison of compliance well concentrations to the specified limitation using approved statistical methods.

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

3. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.

4. The City shall operate all systems and equipment to optimize the quality of the discharge.

5. Excluding the water recycling LAAs, all 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.

6. Public contact with wastewater shall be prevented through such means as fences, signs, or acceptable alternatives.

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

8. As a means of discerning compliance with Discharge Specification D.8, the dissolved oxygen (DO) content in the upper one foot of any pond that contains wastewater 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 City 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.

9. The City 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 City 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.

10. 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.

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

12. 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 Dischargers shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

13. 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.

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

15. The City shall monitor sludge accumulation in Ponds 1 through 4 at least every five years beginning in 2016, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of dry sludge in any pond exceeds five percent of the permitted capacity specified in Finding 7, the City shall complete sludge cleanout for that pond within 12 months after the date of the estimate.

F. Land Application Area Specifications

1. Crops shall be grown and harvested year round in all LAAs.

2. Application of effluent to the LAAs shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the LAAs, including the nutritive value of organic and chemical fertilizers and of the wastewater shall not exceed the annual crop demand.

3. Wastewater shall not be discharged to the LAAs in a manner that causes wastewater to stand for greater than 48 hours.

4. Any irrigation runoff (tailwater) shall be confined to the LAAs or collected and recycled at the LAAs, and shall not enter any surface water drainage course or storm water drainage system.

5. Irrigation using recycled water shall not be performed during rainfall or when the ground is saturated.

6. Discharge of effluent to any LAA not having a fully functional tailwater/runoff control system is prohibited.

G. Water Recycling Specifications

1. For the purposes of this section, the term “LAAs” shall mean recycled water Use Areas used to grow crops and Use Areas where recycled water is used for construction purposes pursuant to Title 22, section 60307(b).

2. 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 State Water Board Division of Drinking Water.

3. The use of recycled water shall not cause pollution or nuisance, as defined by Water Code section 13050.

4. Application of recycled water shall be confined to the LAAs.

5. The recycled water shall be at least un-disinfected secondary recycled water as defined in Title 22, section 60301.900.

6. Recycled water shall be used in compliance with Title 22, sections 60304 and 60307. Specifically, uses of recycled water shall be limited to those set forth in Title 22, sections 60304(d) and 60307 (c).

7. No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops that may be eaten raw by humans.

8. Each water recycling LAA shall have a designated supervisor. The supervisor(s) and their staff shall be trained on the hazards of working with recycled water and shall be periodically retrained.

9. The LAAs shall be inspected as frequently as necessary to comply with Monitoring and Reporting Program R5-2013-0022 and to ensure continuous compliance with the requirements of this Order.

10. Hydraulic loading of recycled water and supplemental irrigation water shall be at reasonable agronomic rates designed to:

    a. Maximize crop nutrient uptake;

b. Maximize breakdown of organic waste constituents in the root zone; and

c. Minimize the percolation of waste constituents below the root zone.

11. The irrigation with recycled water shall be managed to minimize erosion within the LAAs.

12. All storm water runoff from the LAAs shall be captured and recycled for irrigation or allowed to percolate within the use areas.

13. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

14. All drinking fountains located within the use areas shall be protected by location and/or structure from contact with recycled water spray, mist, or runoff.

15. Grazing of milking animals within the LAAs is prohibited.

16. The LAAs shall be managed to prevent breeding of mosquitoes. In particular:

    a. There shall be no standing water 48 hours after irrigation ceases;

    b. Tailwater ditches shall be maintained essentially free of emergent, marginal, and floating vegetation; and

    c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

17. The LAAs and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements:

Setback Definition	Minimum Irrigation Setback (feet)
Edge of use area to property boundary	25
Edge of use area to public road right of way	30
Edge of use area to manmade or natural surface water drainage course	50
Edge of use area to domestic water supply well	150
Toe of recycled water impoundment berm to domestic water supply well	150

Setback Definition	Minimum Irrigation Setback (feet)
Edge of use area to residence	100
Edge of use area using spray irrigation to public park, playground, school yard, or similar place of potential public exposure	100

18. The Dischargers shall cease spray irrigation of wastewater when wind the speed (including gusts) exceeds 30 mph.

19. Sprinkler heads shall be of the type approved for recycled water and shall create a minimum amount of mist.

20. Public contact with recycled water shall be controlled using fences, signs, and other appropriate means. Recycled water shall not be used when the public is present at any LAA.

21. The Dischargers shall ensure that any spray, mist or runoff does not contact any drinking water fountains, food handling facilities, places where the public may be present.

22. The LAAs that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all use areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in Attachment E, which is attached and forms part of this Order, and shall include the following wording:

“RECYCLED WATER – DO NOT DRINK”
“AGUA DE DESPERDICIO RECLAMADA – NO TOME”

23. 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.

24. 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.

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

26. Hose bibs and unlocked valves, if used, shall not be used in areas accessible to the public.

27. 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.

28. 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.

29. 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.

30. 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).

31. 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.

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

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 six months) 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 City 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.

I. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision I5:

   a. **By 31 December 2013**, the City shall submit a *Phase I Improvements Completion Report* that certifies construction and start-up testing of the new wastewater treatment system and recycling sites have been completed, and certifies that the WWTF can comply with the applicable effluent limitations. The report certify that the improvements were constructed as described in the

RWD and this Order, and shall include as-built drawings of the WWTF and recycling site improvements.

b. **With 60 days** of the rescission of CDO R5-2013-0023 (or subsequent revision thereto), the City shall submit a *Groundwater Limitations Compliance Assessment Plan*. The plan shall describe and justify the statistical methods proposed to determine compliance with the Groundwater Limitations of this Order. Compliance shall be determined annually based on statistical analysis that uses methods prescribed in Title 27, section 20415(e)(10) to compare monitoring data collected from each compliance well to the groundwater limitations of this Order. The plan shall propose specific compliance wells.

c. **By 30 October 2015**, the City shall submit a *2020 Capacity Expansion Completion Report* that certifies construction and start-up testing of all improvements needed to provide sufficient treatment, storage and disposal capacity for projected flows through 2020 have been completed, and that the WWTF can comply with the applicable effluent limitations. The report shall include as-built drawings of the WWTF and recycling site and/or other improvements and a detailed water balance model that provides the following hydraulic capacity information:

   (1) Average daily dry weather flow for the months of July through September, inclusive;

   (2) Maximum monthly average flow based on a reasonable allowance for sewer system I/I during the 100-year, 365-day precipitation event; and

   (3) Total annual flow volume.

   The water balance shall include documentation of, and technical support for, all data inputs used and shall consider at least the following.

   (1) The as-built geometry of all ponds and effluent recycling/disposal areas;

   (2) A minimum of two feet of freeboard in each pond at all times;

   (3) Historical local pan evaporation data (monthly average values) used to estimate pond evaporation rates;

   (4) Local precipitation data (for the 100-year 365-day event distributed in accordance with mean monthly precipitation patterns) applied as direct precipitation onto all ponds and effluent recycling areas;

   (5) Projected wastewater generation rates based on historical flows and new development to be served by the expansion distributed monthly in accordance with expected seasonal variations;

   (6) Estimated I/I flows for the 100-year 365-day event based on historical flows, new development, and age and type of sewer pipes;

(7) Recycling area crop evapotranspiration rates, including consideration of the required setbacks; and

(8) Projected long-term percolation rates based on documented percolation test results (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).

2. Except as allowed under a Cease and Desist Order, if groundwater monitoring results show that the discharge of waste is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order, within **120 days** of the request of the Executive Officer, the City 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 that exceeds a Groundwater Limitation. 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.

3. At least **180 days** prior to any sludge removal and disposal not required by the companion Cease and Desist Order or subsequent enforcement order, the City shall submit a *Sludge Cleanout Plan*. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows how all dried biosolids will be removed from the site prior to the onset of the rainy season **(1 October)**. If the City proposes to land apply biosolids at the effluent recycling site, the report shall include a Report of Waste Discharge and filing fee to apply for separate waste discharge requirements.

4. Dischargers 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 Dischargers shall notify the Central Valley Water Board by **31 January**.

5. 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 Dischargers shall bear the professional's signature and stamp.

6. The Dischargers 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 Dischargers shall proceed with all work required by the foregoing provisions by the due dates specified.

7. The Dischargers shall comply with Monitoring and Reporting Program R5-2013-0022, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Dischargers self-monitoring reports shall be no later than the submittal date specified in the MRP.

8. The Dischargers 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)."

9. The Dischargers shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Dischargers 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 Dischargers shall state the reasons for such noncompliance and provide an estimate of the date when the Dischargers will be in compliance. The Dischargers 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.

10. The Dischargers 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 Dischargers 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 Dischargers when the operation is necessary to achieve compliance with the conditions of this Order.

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

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

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

14. The Dischargers 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."

15. The Dischargers 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 Dischargers 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.

16. The Dischargers 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.

17. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Dischargers 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.

18. In the event of any change in control or ownership of the WWTF, the Dischargers must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

19. To assume operation as Dischargers under this Order, the succeeding owners or operators 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.

20. 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.

21. 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 Dischargers fail 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 5 December 2014.

Original signed by

PAMELA C. CREEDON, Executive Officer

LF/ALO: 9/25/2014