CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-__

WASTE DISCHARGE REQUIREMENTS

FOR
YOCHA DEHE WINTUN NATION
SEKA HILLS OLIVE MILL
YOLO COUNTY

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

1. On 5 March 2013, the Yocha Dehe Wintun Nation (hereafter "Discharger") submitted a Report of Waste Discharge (RWD) that describes a discharge of waste to land at the Seka Hills Olive Mill facility in Yolo County, California. Additional information to complete the Report of Waste Discharge was provided to the Central Valley Water Board in April 2013.

2. The Discharger owns and operates an olive mill facility, which includes163 acres of associated orchards and 20 acres of grassland to be used as Land Application Areas (LAAs). The facility and land are owned in fee simple by the Yocha Dehe Wintun Nation, which is responsible for compliance with these Waste Discharge Requirements (WDRs).

3. The facility is located at 19326 County Road 78, near Brooks, California (T10N, R3W, Sections 1, 2, 11, and 12, MDB&M). The facility occupies Yolo County Assessor's Parcel Numbers (APN) 048-010-06, 048-010-07, and 048-030-01. A topographic map of the site is shown on Attachment A, which is attached hereto and made part of this Order by reference.

4. On 31 July 2012, the Executive Officer issued a Revised Notice of Applicability to the Discharger for coverage under the *Conditional Waiver of Waste Discharge Requirements for Small Food Processors and Small Wineries within the Central Valley Region* (Order No. R5-2009-009-0060). The Conditional Waiver allows the discharge to land of up to 100,000 gallons of olive mill process wastewater annually. Because the Discharger plans to expand olive milling operations and increase the discharge of process wastewater to land, the Discharger applied for individual WDRs.

Facility and Discharge Description

5. The olive milling facility was constructed in late 2011 and began olive milling operations in 2012. During the 2012 milling season, the facility crushed approximately 700 tons of olives, plus three tons of oranges, lemons, and pomegranates to make specialty food-grade oils. Processing occurs during the olive harvest season, typically from August through January each year.

6. Process wastewater is currently stored in 10,000 gallon aboveground polyethylene storage tanks, and then transferred using a 2,000-gallon water truck for spray-application to a 12-acre Land Application Area (LAA) within APN 048-010-06. The 12-acre LAA (LAA-2) consists of fallow grassland used for seasonal cattle grazing. The existing and future LAAs are shown on Attachment B, which is attached hereto and made part of this Order by reference.

7. Currently there are no water treatment facilities or water softening system at the facility. Wastewater is generated from fruit washing, and supplemental water is added to assist with oil extraction, facility wash-down, equipment cleaning and maintenance. Clean-in-place (CIP) water for periodic cleaning of olive oil storage tanks and equipment contains potassium hydroxide and citric acid at concentrations necessary for cleaning and sanitation. All process waste streams are comingled and managed separately from storm water runoff for the facility.

8. The facility has an on-site boiler that is used to produce hot water for milling and equipment cleaning. The boiler is a closed-loop system, which does not produce any blowdown, boiler feed water treatment residues, or other waste streams.

9. Potable water supply for the olive mill facility is provided from an off-site desalinization treatment system that the Discharger operates for the Cache Creek Casino Resort (CCCR). Approximately 190,000 gallons of treated water was provided to the olive mill from the desalinization system between June 2012 and December 2012.

10. Source water for the CCCR desalinization system is from two groundwater supply wells (CCCR 1 and CCCR 2) located outside the southern boundary of the olive mill property. Below is a summary of average Total Dissolved Solids (TDS), sodium, and chloride concentrations in groundwater from CCCR 1 and CCCR 2 since 2001.

Constituent	Number of Samples	Average Concentration in Milligrams per Liter (mg/L)
Total Dissolved Solids (TDS)	20 [1]	545
Sodium	15 [2]	80
Chloride	21 [1]	109

[1] Sampling conducted periodically from December 2001 through August 2012
[2] Sampling conducted periodically from November 2003 through February 2012

11. The CCCR desalinization process uses electrodialysis reversal for water softening, and an enhanced reverse osmosis vibratory shear-enhanced process to concentrate brine for off-site disposal. Process water supplied to the olive mill from the CCCR desalinization system was sampled on 30 October 2012.

The process water characterization results are summarized below.

Constituent	Units	Concentration
Chloride	mg/L	32
Sodium	mg/L	<1.0
Potassium	mg/L	<1.0
Magnesium	mg/L	<1.0
Total Phosphorus as P	mg/L	<0.05
pH	S.U.	6.9
Nitrate as Nitrogen	mg/L	1.0
Sulfate	mg/L	21
Boron	mg/L	<0.02
Total Dissolved Solids (TDS)	mg/L	190
Fixed Dissolved Solids (FDS)	mg/L	170
Electrical Conductivity	µmhos/cm	303

12. The Discharger currently has one production line using a three-phase process. Attachment C, which is attached hereto and made part of this Order by reference, presents a flow diagram that identifies process flow, including, screening, storage, metering and sampling locations, and LAAs. The milling process generally includes the following elements:

    a. During harvest, olives are unloaded onto a hopper where the leaves and other debris are removed by a vacuum system. The olives are then fed into a 600-gallon tub where they are washed with treated water provided from the CCCR desalination system.

    b. The washed olives are then transferred into a second hopper where they are augured into a hammer mill. The hammer mill crushes the olives into a paste and prepares them for oil extraction.

    c. The olive paste is then transferred from the hammer mill to one of four malaxers, where it is slowly turned for 45 to 60 minutes to separate the oil from the solids. The paste is transferred to a decanter, which further separates the solids (pomace) from the liquid (oil and water). The pomace is then removed from the process and transferred into trailers for off-site disposal.

    d. The remaining oil and water is transferred to high-speed vertical centrifuges, where the remaining water is removed from the finished olive oil. Finished olive oil from the high-speed vertical centrifuges is transferred to stainless steel tanks for future bottling and/or distribution.

e. Untreated wastewater generated during olive washing and extracted from the high-speed vertical centrifuges is stored in 10,000-gallon fully enclosed polyethylene tanks. The tanks provide temporary wastewater storage, settling, and flow equalization, but do not provide complete aerobic degradation of organic constituents before discharge to the LAAs. The wastewater storage tanks are located adjacent to the olive mill building in an area that that does not currently provide secondary containment for leaks or spills.

f. Wastewater from the storage tanks is filtered prior to discharge to LAAs. Solids recovered from the storage tanks is removed and managed with recovered pomace from the olive milling process. When necessary, the storage tanks will be cleaned out and any recovered sediment will be incorporated into pomace and transported of to an off-site permitted disposal facility. No composting of solids is performed at the site.

g. Flow meters are located downstream of solid separation of the wastewater to measure the volume of water discharged from the storage tanks to all LAAs.

13. Four wastewater samples were collected between 29 October 2012 and 19 December 2012, as summarized below.

Constituent	**Units**	**Average Concentration**	**Water Quality Objectives**
Chloride	mg/L	163	106 [3] – 600 [2]
Sodium	mg/L	39	69 [3]
Potassium	mg/L	1,308	--
Total Phosphorus as P	mg/L	48	--
Total Suspended Solids	mg/L	13,900	--
pH	S.U.	5.13	6.5 - 8.5 [1]
Total Kjeldahl Nitrogen	mg/L	358	--
Nitrate as Nitrogen	mg/L	<0.5 to <5.0	10 [4]
Biochemical Oxygen Demand	mg/L	21,825	--
Sulfate	mg/L	49	250 [1]
Boron	mg/L	2.7	0.7 [3]
Dissolved Iron [5]	mg/L	<0.1 and 1.1	0.3 [1]
Dissolved Manganese [5]	mg/L	0.016 and 0.51	0.05 [1]

1 Secondary Maximum Contaminant Level.
2 Upper Secondary Maximum Contaminant Level range.
3 Agricultural Water Quality Goal.
4 Primary Maximum Contaminant Level.
5 Parameter analyzed on 11 December 2012 and 19 December 2012.

14. Wastewater samples collected between October 2012 and December 2012 were analyzed for TDS, FDS, and electrical conductivity; however, fine clay particles were observed in the samples during laboratory analysis. Thus, samples analyzed from each successive sampling event were screened with filters at decreasing sizes prior to each analysis. The analysis of turbidity was included for samples collected on 11 and 19 December 2012. Below is a summary of TDS, FDS, and electrical conductivity results from October 2012 through December 2012.

Filter Size	**Parameter**	**Units**	**Analytical Results (mg/L)**			
			10/29/12	**11/6/12**	**12/11/12**	**12/19/12**
1.5 µ	FDS	mg/L	1,400	4,900	---	4,200
	TDS	mg/L	3,800	8,800	---	18,000
0.45 µ	FDS	mg/L	---	---	8,200	3,400
	TDS	mg/L	---	---	18,000	17,000
	Turbidity	NTU	---	---	---	45
0.10 µ	FDS	mg/L	---	---	5,900	3,300
	TDS	mg/L	---	---	15,000	15,000
	Turbidity	NTU	---	---	16	15
Electrical Conductivity		µmhos/cm	1,768	2,900	4,700	3,650

15. Analytical results for TDS and FDS indicate a high degree of variability between different filtration methods. The standard deviation between the four wastewater samples collected between October and December 2012 was 5,374 mg/L for TDS and 2,166 mg/L for FDS, which makes using the mean of the entire data range unreliable. Because observable clay particles were observed and partially removed during laboratory analysis, the smallest filtration size used for samples collected on 11 December 2012 and 19 December 2012 are the most representative FDS and TDS concentrations. As a result, a mean TDS of 15,000 mg/L and mean FDS of 4,600 mg/L are used to evaluate the threat to water quality and generate effluent limits.

16. Residual solids generated at the facility include pomace (the crushed pulp of olives), stems and leaves, and recovered material from wastewater screens. Residual solids are sent to an off-site facility for further processing as cattle feed or for disposal. In 2012, approximately 400 tons of residual olive solids and pomace was transported off-site.

17. Domestic wastewater from restrooms and personal hygiene stations is directed to a septic tank and leach field located on the northwest side of the olive mill building. The septic system is permitted through the Yolo County Health Department.

Planned Changes to the Facility and Discharge

18. The Discharger is planning to increase olive milling production to crush up to 3,700 tons of olives and 18 tons of other fruits annually. The milling equipment has a maximum production capacity of 3.5 tons of olives per hour. Based on production efficiency results during 2012, approximately 35 gallons of oil are generated per ton of olives and nine gallons of wastewater are generated per gallon of oil produced. Therefore, with the mill running 24-hours a day at maximum planned capacity during a typical 120-day milling season, the maximum wastewater generated would be approximately 26,500 gallons per day from August through January. The Discharger estimates the following average and peak wastewater effluent volumes for each olive milling season.

Average Daily Flow [1] (gallons)	**Peak Hour [2] (gallons)**	**Peak Day [3] (gallons)**	**Peak Month [4] (gallons)**
13,333	1,104	26,500	795,000

[1] Estimated assuming a maximum annual wastewater volume of 1.6 million gallons (at full build-out), applied between August and January.
[2] Estimated assuming the mill is running at full capacity.
[3] Estimated assuming the mill is running at full capacity 24 hours per day.
[4] Estimated assuming the mill is running at full capacity 24 hours per day for 30 days.

19. Monthly wastewater effluent flow totals from 2012 are unavailable because the facility was new and many operational transitions were occurring. However, the Discharger has estimated future annual wastewater percentages per month, based upon projected milling tonnage. Below is a summary of the estimated distribution of average monthly wastewater flow, assuming an average annual wastewater flow of 1.6 million gallons, with 95% of the volume generated over a typical olive milling season.

Month	**Percentage of Annual Volume**	**Estimated Gallons**
September	20%	320,000
October	45%	720,000
November	20%	320,000
December	10%	160,000
January through August	5%	80,000
Estimated Total Annual Wastewater Flow		1,600,000

20. The Discharger plans to continue using fully-enclosed 10,000 gallon aboveground polyethylene wastewater storage tanks and not install a pond or other surface water impoundment. During 2012, three tanks were utilized and it is expected that up to 90 tanks will be used as flows increase. Under normal operating conditions, the

tanks will be used for wastewater storage, flow equalization, and residual solid settlings prior to filtration and discharge to the LAAs. Water released from the storage tanks to the LAAs will be filtered as needed to prevent clogging of drip irrigation systems. There will be no other wastewater treatment prior to discharge.

21. Because the facility is new and not completely operational, the use of portable wastewater storage tanks provides flexibility for temporary wastewater storage. As the facility is completed, the continued use of temporary wastewater storage tanks may become impracticable and require the construction of fixed wastewater storage structures. At such time the Discharger will be required to provide documentation of the added infrastructure and wastewater management procedures to apply for amended or revised WDRs.

22. During 2012, wastewater was discharged to 12 acres of fallow grassland within APN 048-010-06. Planned facility expansion includes increasing total LAAs from the single 12 acre area in 2012, to two LAAs totaling 80 acres in 2013, and then to a maximum area of 183 acres divided into four LAAs, beginning in 2014. Planned LAA locations are shown on Attachment B and are summarized below.

Land Application Area	APN No.	Acres	Planned Land Use	Year to Begin Use
LAA-1	048-030-01	20 [1]	Medium density olive orchard	2013
LAA-2	048-010-06	60	Fallow grassland used for seasonal cattle grazing	2012 [2]
LAA-3	048-010-07	23 [3]	Currently wheat, to be converted to medium density olive orchard	2014
LAA-4	048-030-01	80 [3]	Currently wheat, to be converted to an almond orchard	2014

[1] Acreage noted as LAA does not include entire parcel.
[2] Land application of wastewater began with 12 acres of this parcel in 2012.
[3] Not including three acres of this parcel identified as unsuitable for agriculture.

23. The Discharger will land apply wastewater to two of the four separate LAAs beginning in 2013. Below is a description and current status of each LAA and their planned sequence of inclusion in wastewater discharge.

    a. LAA-1 is an approximately 20-acre orchard of medium-density olive trees, which are about 2.5 years old. Water from a nearby agricultural well (B2) is currently used to irrigate LAA-1 through a pressurized drip irrigation system. The location of B2 is shown on Attachment B. LAA-1 is the only established orchard available to distribute wastewater through the irrigation system during the 2013 milling season. Supplemental irrigation water will continue to be provided from B2, depending on seasonal crop need.

b. LAA-2 consists of approximately 60 acres of fallow grassland, which is used for seasonal cattle grazing. During the 2012 milling season, wastewater was spray-applied with the use of a water truck to 12 acres of LAA-2 under the Conditional Waiver. Wastewater application to LAA-2 will continue to be applied using a water truck in 2013 and in future years to prevent over-application of wastewater above discharge loading limits once other LAAs are prepared and available for use.

c. LAA-3 is approximately 27 acres, is currently planted with wheat, and dry farmed with no irrigation. The Discharger is planning to plant 23 of the 27 acres with medium-density olive trees by the spring of 2014 and will be irrigated with a combination of surface water from Cache Creek and wastewater through a pressurized drip irrigation system. The remaining four-acre portion of LAA-3 is not planned for crop use due to the presence of elevated sodium, chloride, pH, and boron in shallow soils. Discharge of wastewater to the four-acre area was not included in loading rate calculations.

d. LAA-4 is approximately 80 acres and is currently planted with wheat. The Discharger plans to plant 80 acres of almonds on this land by the spring of 2014. Once planted, LAA-4 will be irrigated via pressurized drip irrigation with both wastewater and surface water from the nearby Cache Creek. LAA-4 will not be ready for wastewater discharge until the 2014 milling season.

24. Wastewater application to LAAs 1, 3, and 4 will be via pressurized drip irrigation and will be applied at levels below agronomic rates. Wastewater application to LAA-2 will be spray-applied using a water truck, as necessary. Application rates and frequencies will vary during the year depending on weather and crop conditions.

25. Wastewater and supplemental irrigation water will be blended and discharged through separate pipes to LAA-1, LAA-3, and LAA-4. Blending of wastewater and supplemental irrigation will typically occur in the discharge pipes to LAA-1, LAA-3, and LAA-4. No supplemental irrigation is proposed for LAA-2.

26. Supplemental irrigation water for LAA-1 is provided from nearby agricultural well B2 while supplemental irrigation water for LAA-3 and LAA-4 will be provided from Cache Creek. As noted in Finding 45, agricultural well B2 is screened across multiple water-bearing intervals. Although water quality data from B2 factors into supplemental irrigation, sampling data from this well location does not represent shallow groundwater conditions. Below is a summary of analytical results for water samples from agricultural well B1 and surface water from Cache Creek.

Constituent	Units	Agricultural Well (B2)	Surface Water (Cache Creek)	Potential Water Quality Limit
Chloride	mg/L	73	36	250 [1] – 600 [2]
Calcium	mg/L	61	31	--
Magnesium	mg/L	19	28	--
Potassium	mg/L	<1.0	2.3	--
Sodium	mg/L	82	30	69 [3]
Total Phosphorus as P	mg/L	0.069	--	--
pH	S.U.	7.5	8.19	6.5 – 8.4 [1, 3]
Nitrate as Nitrogen	mg/L	9.3	<0.5	10 [4]
Sulfate	mg/L	40	18	250 [1]
Boron	mg/L	0.67	1.3	0.7 [3]
TDS	mg/L	480	270	450 [3] – 1,500 [2]
FDS	mg/L	420	--	--
Total Iron	mg/L	0.4	--	0.3 [1]
Dissolved Iron	mg/L	--	<0.1	0.3 [1]
Total Manganese	mg/L	0.038	--	0.05 [1]
Dissolved Manganese	mg/L	--	<0.02	0.05 [1]

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

27. The Discharger will not land apply wastewater within 24 hours before a predicted storm, during precipitation, or within 24 hours after a precipitation event or when LAA soils are saturated. Precipitation that falls on the LAAs during the rainy season will be allowed to percolate, and will not be discharged off-site. The perimeters of each LAA are below grade of surrounding roads or are bordered with tailwater containment berms to prevent off-site discharge.

28. The Discharger plans to increase wastewater discharge in three phases as olive milling operations expand and LAA acreage becomes available. Based on current and projected future flow rates and availability of LAAs, the anticipated hydraulic loading rates are summarized below.

Land Application Area	Application Area (Acres)	Wastewater Application Rate (gallons)	Supplemental Irrigation Application Rate (gallons)	Wastewater % of Total Annual Hydraulic Loading
Phase I: 600,000 gallons of wastewater discharge to LAA-1 and LAA-2 [1]				
LAA-1	20	260,000 – 600,000 [1]	6,257,020	4.2% - 9.6%
LAA-2	60	340,000	0	100%
LAA-3	23	0	0	0%
LAA-4	80	0	0	0%
Phase I Total: 6,857,020 Gallons/Year				
Phase II: 900,000 gallons of wastewater discharge to LAA-1, LAA-3, and LAA-4				
LAA-1	20	146,341	8,689,360	1.70%
LAA-2	60	0	0	--
LAA-3	23	168,293	2,498,191	6.70%
LAA-4	80	585,366	39,102,120	1.50%
Phase II Total: 51,189,671 Gallons/Year				
Phase III: 1,600,000 gallons of wastewater discharge to LAA-1, LAA-3, and LAA-4				
LAA-1	20	260,200	15,206,380	1.70%
LAA-2	60	0	0	--
LAA-3	23	299,000	9,992,764	3.00%
LAA-4	80	1,040,800	69,514,880	1.50%
Phase III Flow Total: 96,314,254 Gallons/Year				
Phase IV: 1,600,000 gallons of wastewater discharge to LAA-1, LAA-3, and LAA-4				
LAA-1	20	260,200	10,861,700	2.40%
LAA-2	60	0	0	--
LAA-3	23	299,000	12,490,955	2.40%
LAA-4	80	1,040,800	82,548,920	1.30%
Phase IV Flow Total: 107,501,805 Gallons/Year				

[1] Amount to be applied depends on level of successful filtration to maintain nitrogen loading. Excess water (not to exceed 340,000 gallons) will be discharged via water truck to LAA-2.

29. A water balance was calculated for the three-phase LAA implementation schedule, based on LAA acreage and volume of wastewater discharge over a typical olive oil milling season between August and January. The table provided below provides proposed discharge volumes for each phase of expansion.

Implementation Phase	Land Application Area	Acres	Annual Wastewater Discharge (Inches)	Annual Wastewater Discharge (Gallons)
Phase I	LAA-1	20	0.48	260,000
	LAA-2 [1]	60	0.21	340,000
	Phase 1 Total Annual Discharge Limit:			**600,000**
Phase II	LAA-1	20	0.27	146,341
	LAA-2 [1]	60	--	--
	LAA-3	23	0.27	168,293
	LAA-4	80	0.27	585,366
	Phase 2 Total Annual Discharge Limit:			**900,000**
Phase III and Phase IV	LAA-1	20	0.48	260,200
	LAA-2 [1]	60	--	--
	LAA-3	23	0.48	299,000
	LAA-4	80	0.48	1,040,800
	Phase 3 & 4 Total Annual Discharge Limit:			**1,600,000**

[1] After 2013, discharge to LAA-2 will only occur if nitrogen loading rates exceed capacity of other LAAs.

30. The water balance used the 100-year annual rainfall event for the existing 12 acres of LAAs and the proposed 123 acres of LAAs. The water balance shows that under each discharge scenario, the LAAs will provide sufficient disposal capacity for the total annual wastewater flow without hydraulic or nitrogen over-loading.

31. Based on current wastewater quality, projected future flow rates, and increase of LAAs, the anticipated hydraulic and BOD loading rates are tabulated below.

Facility Operation [1]	LAAs (Acres)	Wastewater Discharge (gallons)	BOD Concentrations [2]		BOD Loading Rate (lbs/acre/day)
			(mg/L)	(lbs/gallon)	
2013	20 [3]	600,000	21,825	0.182	46
		6,000 [4]	21,825	0.182	50
2014+	123 [5]	1,600,000	21,825	0.182	20
		30,000 [4]	21,825	0.182	44

[1] Assumes 120 day olive oil milling and wastewater discharge season between August and January
[2] Average BOD concentration based on 2012 wastewater data
[3] Wastewater discharge to LAA-1
[4] Estimated peak daily flow during 120 day milling season discharge
[5] Wastewater discharge to LAA-1, LAA-3, and LAA-4 (LAA-2 only as needed to meet effluent limit)

32. As discussed in Finding 14, the analysis of wastewater samples collected during the 2012 milling season generated FDS results that may be influenced by fine clay particles that were not completely filtered prior to laboratory analysis. The exact contribution to FDS measurements by clay particles is currently unknown. The annual hydraulic loading from wastewater is estimated to be a maximum of 9.6% of the total water application to each LAA in 2013 and will be less than 6.7% in subsequent years as the ratio of supplemental irrigation water and LAA acreage is increased. The estimated flow-weighted annual average FDS concentrations are summarized below.

Discharge Phase	Area	Discharge Water Source	FDS/TDS (mg/L)	Discharge Volume (gallons)	Annual FDS Flow-Weighted Average (mg/L)
Phase I: 2013	LAA-1	Supplemental Irrigation [1]	420	6,257,020	**786**
		Wastewater	4,600 [2]	260,000	
	LAA-2	Wastewater	4,600 [2]	340,000	
Phase II: 2014 - 2016	LAA-1	Supplemental Irrigation [1]	420	8,689,360	**362**
		Wastewater	4,600 [2]	146,341	
	LAA-2	Wastewater	0	0	
	LAA-3	Supplemental Irrigation [3]	270	2,498,191	
		Wastewater	4,600 [2]	168,293	
	LAA-4	Supplemental Irrigation [3]	270	39,102,120	
		Wastewater	4,600 [2]	585,366	
Phase III: 2017+	LAA-1	Supplemental Irrigation [1]	420	15,206,380	**366**
		Wastewater	4,600 [2]	260,200	
	LAA-2	Wastewater	0	0	
	LAA-3	Supplemental Irrigation [3]	270	9,992,764	
		Wastewater	4,600 [2]	299,000	
	LAA-4	Supplemental Irrigation [3]	270	69,514,880	
		Wastewater	4,600 [2]	1,040,800	
Phase IV: Orchard Maturity	LAA-1	Supplemental Irrigation [1]	420	10,861,700	**350**
		Wastewater	4,600 [2]	260,200	
	LAA-2	Wastewater	0	0	
	LAA-3	Supplemental Irrigation [3]	270	12,490,955	
		Wastewater	4,600 [2]	299,000	
	LAA-4	Supplemental Irrigation [3]	270	82,548,920	
		Wastewater	4,600 [2]	1,040,800	

[1] Irrigation water supplied from agricultural well B2, sampled on 18 December 2012

[2] Average FDS concentrations from 11 and 19 December 2012.

[3] Irrigation water supplied from Cache Creek, sampled twelve times from March 2011 through August 2012.

33. Below is a summary of nitrogen uptake requirements for medium-density olive and almonds at their initial growth stages, which includes a 20-percent nitrogen loss factor when calculating the allowable nitrogen demand of each crop. Depending on orchard maturity, supplemental nitrogen may be needed to sustain growth.

Tree Maturity (years)	**Nitrogen Uptake (lbs/acre)**	
	Olives [1, 2]	**Almonds** [1, 3]
1	40 – 60	15 - 18
2	50 – 72	30 - 36
3	60 – 84	60 - 72
4	70 – 96	120 - 144
5	80 - 108	160 - 192
6+	100 - 120	220 - 264

[1] Ranges include 20% nitrogen loss factor due to nitrate conversion.

[2] University of California Cooperative Extension, Sampling Cost to Establish a Medium Density Olive Orchard and Produce Bottled Olive Oil (2011).

[3] University of California Cooperative Extension, Sampling Cost to Establish an Orchard and Produce Almonds (2012).

34. LAA-2 is utilized for cattle grazing for approximately 45 days each winter (November through January) for 25 cows and 25 calves (factored in at one-half the adult rate for nitrogen loading). This 60-acre area is also used for grazing approximately 45 days during the summer. Assuming an annual total of 62.5 head of cattle (50 cows and 25 calves) for the duration of planned grazing, nitrogen loading on LAA-2 is estimated to be 8.5 lbs/acre/year. In contrast, nitrogen uptake of grassland is estimated to range between 40 and 60 lbs/acre/year, making LAA-2 seasonally nitrogen deficient as a grazing pasture without irrigation.

35. Based on expected nitrogen uptake of the orchards and fallow grasses in each of the completed LAAs, the anticipated nitrogen loading rates are summarized below.

Application Area	**Allowable Nitrogen Loading (lbs/acre/year)**			
	2013	**2014-2016**	**2017**	**Orchard Maturity**
LAA-1	80	90	120	120
LAA-2	71	--	--	--
LAA-3	--	54	90	90
LAA-4	--	18	144	264

36. A maximum of 260,000 gallons of wastewater can be applied to LAA-1 in 2013 to maintain the agronomic loading rate for nitrogen. Based on the average total nitrogen concentration (358 mg/L), annual nitrogen loading from wastewater to LAA-1 in 2013 is estimated to be slightly greater than the total crop demand for a 3 year old crop of medium-density olive trees (60 to 84 lbs nitrogen/acre). As the

orchard matures and nitrogen demands increase, supplemental nitrogen loading will be provided from irrigation supply well B2 and the application of commercial fertilizers to maintain agronomic rates.

37. Wastewater applied to LAA-2 will account for 100% of the water applied to the 60 acres of fallow grasses as no supplemental irrigation will be provided to this parcel. Nitrogen loading calculations indicated that 70 lbs/acre/year would equate to approximately 1.4 MG, which would not exceed the agronomic loading rate for nitrogen. Based on wastewater volume projections for 2013, up to 340,000 gallons may be discharged to LAA-2 using a water truck, with no supplemental irrigation planned. The application of wastewater to LAA-2 will provide sufficient nitrogen loading to maintain forage potential for continued cattle grazing.

Site-Specific Conditions

38. Surrounding land uses are primarily agricultural with seasonal crops or fallow land used for seasonal cattle grazing. The Cache Creek Casino is located southeast of the facility, across State Route 16.

39. Topography of the site and surrounding area is generally level with an approximate elevation of 320 feet above mean sea level (MSL). Regional surface drainage is to the north, parallel with Brooks Creek, which trends northeasterly and then turns east where it connects with Cache Creek. The facility is located within the Lower Cache Creek Hydraulic Area of the Valley Putah-Cache Hydraulic Unit (511.30).

40. The Capay Valley has a Mediterranean climate with dry, hot summers and cool, relatively wet winters. The rainy season is generally from October through April. Annual precipitation in the site vicinity since 1890 averages approximately 17 to 25 inches per year. The 100-year, 365-day precipitation event is approximately 47.05 inches, and the average reference evapotranspiration (ETo) rate is approximately 57.0 inches per year. A summary of evapotranspiration rates is provided below.

Month	ETo (inches/month)
January	1.55
February	2.24
March	3.72
April	5.10
May	6.82
June	7.80
July	8.68
August	7.75
September	5.70
October	4.03

Month	ETo (inches/month)
November	2.10
December	1.55
Total	**57.0**

Groundwater Conditions

41. The Capay Valley Subbasin extends from the Yolo County boundary on the north end to the confluence of Salt Creek and Cache Creek in the south. Structurally, the Capay Valley is a broad, elongated synclinal depression between the Blue Hills of the Vaca Mountains and the Rumsey Hills in the Coast Range Geomorphic Province. Primary water bearing deposits within the Capay Valley sub basin include recent stream channel deposits and the Tehama Formation, which is underlain by older non-freshwater bearing Cretaceous marine sediments.

42. In April 2010, a localized hydrological model of the Capay Valley was developed for the Discharger. Groundwater is pumped from a total of nine domestic or irrigation supply wells within the site vicinity and hydrological model study area. Groundwater modeling results showed flow vectors for the shallow aquifer (0-60 feet bgs) trend to the northeast, parallel with Brooks Creek and then more easterly toward Cache Creek, which drains to the southeast. The hydraulic model estimated that the magnitude of flow in the shallow aquifer ranges from 0 to 65 feet per day and averages 4.3 feet per day during normal hydrologic conditions.

43. Subsurface investigations conducted in 2011 and 2013 at the olive mill property identified shallow groundwater at depths ranging from 11 feet bgs to 29.2 feet bgs, which varied partly due to differences in surface elevations. Shallow groundwater was not encountered in soil boring SB-6 at a maximum depth of 30 feet bgs. Soil boring SB-5, drilled in February 2013, was the only boring advanced and sampled downgradient of an existing LAA at that time.

44. Five of the six soil borings advanced in February 2013 (SB-1 through SB-5) included the collection of grab groundwater samples for laboratory analysis. With the exception of soil boring SB-5 drilled on 23 February 2013, groundwater grab data from the other boring locations represent baseline groundwater conditions prior to use of the LAAs. The grab groundwater analytical results are summarized below.

Constituent	Units	SB-1	SB-2	SB-3	SB-4	SB-5 [1]	Protective Water Quality Limit
Chloride	mg/L	72	38	93	60	7.9	250 [2] – 600 [3]
Calcium	mg/L	92	88	--	71	59	--
Magnesium	mg/L	27	30	--	26	15	--
Potassium	mg/L	<1.0	<1.0	--	1.6	1.5	--
Sodium	mg/L	66	78	--	38	42	69 [4]
Total Phosphorus	mg/L	0.96	16	--	16	18	--

Constituent	Units	SB-1	SB-2	SB-3	SB-4	SB-5 [1]	Protective Water Quality Limit
Nitrate as Nitrogen	mg/L	6.2	7.8	10	8.5	4.2	10 [5]
TKN	mg/L	0.71	0.85	--	0.55	0.51	--
Ammonia as Nitrogen	mg/L	0.15	0.32	--	0.43	0.22	--
Sulfate	mg/L	59	75	--	15	31	250 [2]
Boron	mg/L	0.6	1.0	--	0.2	0.25	0.7 [4]
TDS	mg/L	480	500	560	370	270	450 [6] – 1500 [3]
FDS	mg/L	440	430	--	290	210	--
Dissolved Iron	mg/L	<0.1	<0.1	--	<0.1	<0.1	0.3 [2]
Dissolved Manganese	mg/L	0.12	<0.01	--	0.052	0.16	0.05 [2]
Dissolved Arsenic	mg/L	<0.002	<0.002	--	<0.002	<0.002	0.01 [5]
pH	SU	6.91	7.24	6.87	6.97	7.38	6.5 - 8.4 [4]
EC	µmhos/cm	866	885	1,060	663	516	900 [2]

1 Data collected downgradient of active LAA-2.
2 Secondary Maximum Contaminant Level.
3 Secondary Maximum Contaminant Level range.
4 Lowest Agricultural Water Quality Goal.
5 Primary Maximum Contaminant Level.
6 Lowest Agricultural Water Quality Goal.

45. The presence of shallow groundwater encountered at depths less than 15 feet bgs and the heterogeneity of shallow soils indicates that wastewater percolation rates may vary, but will likely come into contact with groundwater in less than three years. The Order requires that the Discharger monitor groundwater quality.

46. The olive mill property is surrounded by several agricultural and water supply wells, as depicted on Attachment B. Below is a summary of the current use, total depths, and screen intervals for each of these wells.

Well ID	Well Use	Total Depth (feet bgs)	Screen Intervals (feet bgs)
F&R	Domestic	160	Unknown/Not provided
B1	Agricultural	300	185-192, 230-300
B2	Agricultural	324	133-158, 187-212, 256-266, 314-324
B3	Agricultural	264	96-138, 240-264
B4	Agricultural	301	141-161, 171-211, 231-241, 261-271, 281-301
CCCR 1	Domestic	450	105-150, 225-240, 258-273, 280-300,305-315, 325-335,350-380, 430-450
CCCR 2	Domestic	265	125-160, 215-265

Basin Plan, Beneficial Uses, and Regulatory Considerations

47. 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.

48. Local drainage is to Cache Creek, located approximately 1-mile east of the facility. The beneficial uses of Cache Creek are municipal and domestic supply; agricultural irrigation and stock watering supply; process and service industrial supply; contact recreation, other noncontact recreation; warm and cold freshwater habitat; warm and cold water spawning; and wildlife habitat.

49. 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.

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

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

52. 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 Maximum Contaminant Levels (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.

53. 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.

54. 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.

55. 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.

56. The list of crops in Finding 23 is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.

57. Pollution Abatement in the Fruit and Vegetable Industry, published by the United States Environmental Protection Agency, cites BOD loading rates in the range of 36 to 600 lbs/acre-day to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.

58. The California League of Food Processors' Manual of Good Practice for Land Application of Food Processing/Rinse Water proposes risk categories associated with particular BOD loading rate ranges as follows:

    a. Risk Category 1: (less than 50 lbs/ac/day; depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.

    b. Risk Category 2: (less than 100 lbs/ac/day; depth to groundwater greater than 5 feet) Minimal risk of unreasonable groundwater degradation with good distribution more important.

    c. Risk Category 3: (greater than 100 lbs/ac/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site-specific application cycles and soil properties and special monitoring.

    The Manual of Good Practice recommends allowing a 50 percent increase in the BOD loading rates in cases where sprinkler irrigation is used, but recommends that additional safety factors be used for sites with heavy and/or compacted soils.

59. Although it has not been subject to a scientific peer review process, the Manual of Good Practice provides science-based guidance for BOD loading rates that, if fully implemented, are considered a best management practice to prevent groundwater degradation due to reduced metals.

60. The Discharger proposes to operate the facility such that discharges to LAAs using drip irrigation will fall within Risk Category 1 of the Manual of Good Practice. This Order sets a monthly cycle average BOD loading rate of 50 lbs/acre/day for using drip irrigation.

Antidegradation Analysis

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

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

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

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

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

62. Limited degradation of groundwater by some of the typical waste constituents associated with olive milling discharges, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The Discharger's olive milling operation currently provides six to ten full time jobs, with supporting part-time employment of approximately five additional people that work in the orchards, and handling materials or equipment used for seasonal olive milling. The Discharger anticipates providing up to an additional 20 full-time equivalent jobs and support for additional ancillary services as part of the facility expansion. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing limited groundwater degradation that may occur pursuant to this Order.

63. As discussed in the previous findings, the Discharger sampled agricultural well B2 in December 2012 and shallow groundwater from five soil borings advanced in February 2013. Because agricultural well B2 is screened across four water-bearing intervals between 133 and 324 feet below ground surface, groundwater analytical results from this well are not considered representative of shallow groundwater conditions. Based on the limited groundwater assessment data available and long

term agricultural use of the Capay Valley, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this facility must be based on pre-discharge groundwater quality.

The table below provides a comparison of projected flow-weighted average concentrations of process wastewater and supplemental irrigation water with analytical results from groundwater samples collected in February 2013. Due to the limited extent of wastewater discharge in 2012, current groundwater data represent baseline pre-discharge shallow groundwater quality. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS, sodium, and chloride), nitrate, and other minerals (sodium, manganese, and iron) as discussed below:

Constituent	Concentrations (mg/L)		
	Wastewater and Supplemental Irrigation [1]	Baseline Groundwater	Protective Water Quality Limit
Chloride	42	7.9 – 93	106 [2] – 600 [3]
Sodium	35	38 – 78	69 [2]
Total Kjeldahl Nitrogen	6 [4]	0.51 – 0.85	--
Nitrate Nitrogen	0.5	4.2 – 10	10 [5]
Boron	1.3	0.2 – 1.0	0.7 [2]
TDS	510	270 - 560	450 [2] to 1,500 [3]
FDS	350	210 – 440	--
Dissolved Manganese	0.01	<0.01 – 0.16	0.05 [6]
Dissolved Iron	0.05	<0.1	0.3 [6]

1 Projected flow-weighted annual average - flow-weighted concentration of wastewater blended with supplemental irrigation water once all 123 acres of LAAs are available for use, unless otherwise noted.
2 Lowest Agricultural Water Quality Goal.
3 Upper end of Secondary Maximum Contaminant Level range.
4 Includes estimated TKN concentration of 1.0 mg/L in supplemental irrigation water.
5 Primary Maximum Contaminant Level.
6 Secondary Maximum Contaminant Level.

64. Based on the comparison of wastewater and groundwater concentrations, the following constituents have the potential to degrade groundwater quality.

    a. **Total Dissolved Solids.** Baseline TDS concentrations in groundwater range from 270 mg/L to 560 mg/L, which in some samples exceeds the lowest agricultural water quality goal of 450 mg/L. The flow-weighted average FDS concentration is expected to be no more than 400 mg/L, which is similar to the pre-discharge groundwater quality. Because of evapotranspiration, the discharge has the potential to degrade groundwater quality, but should not cause exceedance of a water quality objective. This Order sets an effluent limitation for FDS as a flow-weighted annual average and a groundwater limitation that prohibits exceedance of a water quality objective.

b. **Chloride**. Baseline chloride concentrations in groundwater range from 7.9 mg/L to 93, mg/L, which do not exceed the lowest agricultural water quality goal or the Secondary MCL of 250 mg/L. The flow-weighted average chloride concentration is expected to be no more than 67 mg/L, which is similar to the pre-discharge groundwater quality. Because of evapotranspiration, the discharge has the potential to degrade groundwater quality, but should not cause exceedance of a water quality objective. This Order does not set a separate effluent limit for chloride because it is adequately regulated by the FDS effluent limitation. This Order also sets a groundwater limitation that prohibits exceedance of a water quality objective

c. **Sodium**. Baseline sodium concentrations in groundwater range from 38 mg/L to 78 mg/L, which slightly exceeds the lowest agricultural water quality goal of 69 mg/L. The flow-weighted average sodium concentration is expected to be no more than 35 mg/L, which is similar to the pre-discharge groundwater quality. Most soils have sufficient cation exchange capacity to limit the mobility of sodium. Because of evapotranspiration, the discharge has the potential to degrade groundwater quality, but should not cause exceedance of a water quality objective. This Order does not set a separate effluent limit for sodium because it is adequately regulated by the FDS effluent limitation. This Order also sets a groundwater limitation that prohibits exceedance of a water quality objective.

d. **Nitrate**. Baseline groundwater monitoring data indicate that shallow groundwater at the site has been degraded with respect to nitrate, but does not generally exceed the Primary MCL of 10 mg/L for nitrate nitrogen. This degradation is likely due to historical agricultural practices in the area. Most of the nitrogen in the wastewater is present as TKN, which can readily mineralize and convert to nitrate (with some loss via ammonia volatilization) in the LAAs. The potential for further groundwater degradation due to the discharge depends on wastewater quality, application rates, crop uptake, and the ability of the vadose zone below the LAAs to support nitrification and denitrification to convert and release nitrogen to nitrogen gas before it reaches the water table. The Discharger proposes to limit nitrogen loading rates from all sources to the needs of the crop at each stage of orchard maturity to maximize nitrogen uptake and minimize the potential for nitrate to migrate to groundwater. Therefore, this Order requires that nitrogen loading from all sources be limited to the needs of the crops grown based on orchard maturity and sets a groundwater limitation for nitrate nitrogen that prohibits exceedance of the water quality objective.

e. **Manganese**. Baseline dissolved manganese concentrations in groundwater range from 0.052 mg/L to 0.16 mg/L, which exceed the Secondary MCL of 0.05 mg/L. Concentrations of manganese in shallow groundwater are likely naturally occurring for the area. The flow-weighted average manganese concentration of the wastewater combined with supplemental irrigation water is expected to be no more than 0.05 mg/L, which is equal to or better than pre-discharge groundwater quality. Because the Discharger proposes very low BOD loading rates, the Discharge is not likely to cause reducing conditions that could dissolve more manganese from the LAA soils. This discharge is not expected to contribute to the exceedance of the Water Quality Objective. This Order sets a BOD loading rate limit that is consistent with the Discharger's proposed loading rate to minimize the degradation potential. This Order also sets a groundwater limitation that prohibits causing or contributing to an exceedance of the water quality objective; or causing an exceedance of the background groundwater concentration if it exceeds the Water Quality Objective for manganese. Due to the limited groundwater data, this Order requires the Discharger to complete a *Background Groundwater Quality Study*.

f. **Iron**. Iron was not detected at or above the laboratory reporting limit of 0.1 mg/L during baseline groundwater sampling. The flow-weighted average iron concentration of the wastewater combined with supplemental irrigation water is expected to be no more than 0.05 mg/L, which is lower than the pre-discharge groundwater quality. Because the Discharger proposes very low BOD loading rates, the Discharge is not likely to cause reducing conditions that could dissolve more iron from the LAA soils. Because iron is present in the wastewater and supplemental irrigation water, evapotranspiration has the potential to degrade groundwater quality, but should not cause exceedance of a water quality objective. This Order sets a BOD loading rate limit that is consistent with the Discharger's proposed loading rate to minimize the degradation potential. This Order also sets groundwater limitation that prohibits exceedance, or contributing to an exceedance, of the water quality objective for iron.

g. **Boron.** Pre-discharge boron concentrations in shallow groundwater range from 0.2 mg/L to 1.0 mg/L, which exceed the lowest agricultural water quality goal of 0.7 mg/L. The apparent poor quality of shallow groundwater is likely naturally occurring and/or the result of long-term local agricultural practices. Based on the data tabulated in Finding 26, both of the Discharger's supplemental irrigation sources (Cache Creek and deeper local groundwater) contain boron at concentrations that approach or exceed the lowest agricultural water quality goal. Because these two water sources are the sole supply of irrigation water in the area, the types of crops that can be grown are likely already limited by naturally occurring boron in the agricultural water supply.

The Discharger uses high quality water that contains essentially no boron for its process water supply. Although the process wastewater contains relatively high concentrations of boron, the flow-weighted average boron concentration of wastewater combined with supplemental irrigation water is expected to be no more than 1.3 mg/L, which is similar to both the pre-discharge shallow groundwater quality and the Cache Creek irrigation supply water. Because the Discharger proposes very low BOD loading rates, the discharge is not likely to cause reducing conditions that could dissolve more boron from the LAA soils.

Although evapotranspiration has the potential to cause groundwater degradation, the discharge is not expected to cause pre-existing groundwater degradation to increase beyond the level that would be caused by irrigating crops solely with the local irrigation supply. This Order sets a BOD loading rate limit that is consistent with the Discharger’s proposed loading rate to minimize the degradation potential and requires monitoring or both the wastewater and groundwater for boron. This Order also sets a groundwater limitation that prohibits causing or contributing to an exceedance of the water quality objective; or causing an exceedance of the background groundwater concentration if it exceeds the Water Quality Objective for boron. Due to the limited groundwater data, this Order requires the Discharger to complete a *Background Groundwater Quality Study.*

65. The Discharger has implemented the following treatment and control measures to limit groundwater degradation:

a. Use of desalinated water for the process water supply, which provides high quality water and eliminates the need for water softening;

b. Blending of wastewater with high quality supplemental irrigation water;

c. Full containment of wastewater in engineered storage tanks;

d. Nitrogen loading at agronomic rates considering both the crops grown and the maturity of the orchard trees;

e. Limiting BOD loading rates to prevent anaerobic conditions that could mobilize metals; and

f. Use of closed-loop boilers to capture and recirculate boiler blowdown.

Based on the forgoing, these measures appear to constitute best practicable treatment or control. This Order requires compliance with discharge requirements designed to minimize groundwater degradation; evaluation and implementation of additional measures as needed; and sets numeric trigger concentrations for groundwater that are below the groundwater limitations. If any trigger concentration is exceeded in a compliance monitoring well, this order requires that the Discharger either demonstrate that the increasing trend will not result in exceedance of the groundwater limitation or implement additional treatment or control to ensure compliance with the groundwater limitation.

66. This Order establishes effluent and groundwater limitations for the facility 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.

Other Regulatory Considerations

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

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

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

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

69. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

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

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

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

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

    i. The Central Valley Water Board is issuing WDRs.

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

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

71. The U.S. EPA published Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (hereafter “Unified Guidance”) in 2009. As stated in the Unified Guidance, the document:

> …is tailored to the context of the RCRA groundwater monitoring regulations … [however, t]here are enough commonalities with other regulatory groundwater monitoring programs … to allow for more general use of the tests and methods in the Unified Guidance… Groundwater detection monitoring involves either a comparison between different monitoring stations … or a contrast between past and present data within a given station… The Unified Guidance also details methods to compare background data against measurements from regulatory compliance points … [as well as] techniques for comparing datasets against fixed numerical standards … [such as those] encountered in many regulatory programs.

The statistical data analysis methods in the Unified Guidance are appropriate for determining whether the discharge complies with Groundwater Limitations of this Order.

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

73. 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 _____ 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.

74. 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.

75. 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.

76. A Notice of Determination was certified by the Yolo County Planning Commission on 14 April 2011, adopting a Negative Declaration for construction of the olive mill, which was prepared in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Negative Declaration described the project a state-of-the-art agricultural production facility for the local processing of olive oil from fruit grown in the Capay Valley and surrounding region. The project will be built in three phases over a five-year period, as summarized below:

    a. Phase I – Site grading, drainage and utility installation to accommodate full project build-out, and the construction of approximately 13,287 square feet of building space.
    b. Phase II – Accommodate additional olive orchard acreage and expand the building and olive processing to approximately 13,547 square feet for extra storage capacity and temporary tanking.
    c. Phase III – Building expansion to 22,386 square feet to include a large tank room and ability to process a higher volume of olives.
    d. Planting of almond and olive orchards and preparation of a pressurized drip irrigation system for the distribution of wastewater.

77. 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. The Initial Study found that the project would not cause

potentially significant impacts to water quality and that mitigation measures were not necessary. The Central Valley Water Board commented on the Initial Study as a responsible agency. Compliance with this Order will prevent potentially significant impacts to water quality.

78. 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

79. 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.

80. 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.

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

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

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

A. Discharge Prohibitions

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

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

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

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

5. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.

6. Discharge of domestic wastewater to land application areas or any surface waters is prohibited.

B. Flow Limitations

1. **Effectively immediately**, wastewater flows from the storage tanks to the LAAs shall not exceed the following limits:

Flow Measurement	Flow Limit
Total Annual Flow [1]	600,000 Gallons
Average Daily Flow [2]	5,000 Gallons per day [3]

[1] As determined by the total flow for the calendar year.
[2] As determined by the total flow during the calendar months between August and January and divided by the number of days in each month.
[3] Estimate from staff gauges on wastewater storage tanks.

2. **Effective on the date of the** Executive Officer's approval of report described in Provision H.1.c, wastewater flows from the storage tanks to the LAAs shall not exceed the following limits:

Year	Total Annual Flow (MG) [1]	Peak Daily Flow (gpd) [2]
2014	0.9	26,500
2015	1.1	26,500
2016	1.3	26,500
2017 [3]	1.6	26,500

[1] As determined by the total flow for the calendar year.
[2] As determined by the total flow during each calendar month from August to January inclusive, divided by the number of days in the month.
[3] And subsequent years.

C. Effluent and Mass Loading Limitations

1. **Effective immediately,** the discharge of wastewater to each LAA shall not exceed the following effluent and mass loading limits:

Constituent	Units	Daily Maximum	Annual Maximum
BOD Mass Loading	lbs/ac/day	50 [1]	--
Total Nitrogen Mass Loading	lbs/ac/year	--	Crop Demand [1, 2]
Flow-Weighted Average FDS Concentration	mg/L	--	800 [3, 4]

1 To each LAA.
2 Based on type of crop and maturity of trees (where appropriate).
3 Flow-weighted average based on total flow and concentration of each source of water discharged.
4 As a site-wide flow-weighted average.

2. **Effective 1 September 2014,** the discharge to each LAA shall not exceed the following effluent and mass loading limits:

Constituent	Units	Daily Maximum	Annual Maximum
BOD Mass Loading	lbs/ac/day	50 [1]	--
Total Nitrogen Mass Loading	lbs/ac/year	--	Crop Demand [1, 2]
Flow-Weighted Average FDS Concentration	mg/L	--	400 [3, 4]
Flow-Weighted Average Manganese Concentration	mg/L	--	0.05 [3, 4]

1 To each LAA.
2 Based on type of crop and maturity of trees (where appropriate).
3 Flow-weighted average based on total flow and concentration of each source of water discharged.
4 As a site-wide flow-weighted average.

3. Compliance with the above requirements shall be determined as specified below:

   a. The mass of BOD applied to each LAA on a daily basis shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{A}$$

Where: M = mass of BOD applied to an LAA in lbs/ac/day
C = concentration of BOD in mg/L based on most recent monitoring result
V = volume of wastewater applied to the LAA in millions of

gallons per day
A = area of the LAA irrigated in acres
8.345 = unit conversion factor

b. The mass of total nitrogen applied to each LAA on an annual basis shall be calculated using the following formula and compared to published nitrogen demand for the maturity of crops actually grown:

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

Where: M = mass of nitrogen applied to LAA in lbs/ac/yr.
C_u = Monthly average concentration of total nitrogen for month *I* in mg/L
V_i = volume of wastewater applied to the LAA during calendar month *I* in million gallons
A = area of the LAA irrigated in acres
I = the number of the month (e.g., January = 1, February = 2, etc.)
M_{ix} = nitrogen mass from other sources (e.g., fertilizer and cattle) in pounds
8.345 = unit conversion factor

c. The flow-weighted average annual FDS concentration shall be calculated using the following formula:

$$C_a = \frac{\sum_{1}^{12} [(C_{Pi} \times V_{Pi}) + (C_{Si} \times V_{Si})]}{\sum_{1}^{12} (V_{Pi} + V_{Si})}$$

Where: C_A = Flow-weighted average annual FDS concentration in mg/L
$_I$ = the number of the month (e.g., January = 1, February = 2, etc.)
C_{Pi} = Monthly average process wastewater FDS concentration for calendar month *I* in mg/L
C_{Si} = Monthly average supplemental irrigation water FDS concentration for calendar month *I* in mg/L (considering each supplemental source separately)
V_{Pi} = volume of process wastewater applied to LAAs during calendar month *I* in million gallons

V_{Si} = volume of supplemental irrigation water applied to LAAs during calendar month ***I*** in million gallons (considering each supplemental source separately)

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 containment structures and land application areas 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. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.

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

9. Storage of residual solids, including pomace on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.

10. Application of pomace to LAAs is prohibited.

E. Groundwater Limitations

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

a. Contain boron or manganese at concentrations statistically greater than current background groundwater quality or the following water quality objectives, whichever is greater.

Constituent	Water Quality Objective
Boron	0.7 mg/L
Manganese	0.05 mg/L

Compliance with these limitations shall be determined based on analysis of data from compliance monitoring wells associated with the facility using approved statistical methods. For the purpose of this requirement, “current groundwater quality” refers to groundwater quality as of the date that monitoring wells are installed and initially sampled after development.

b. Except as specified in E.1.a above, contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

c. Except as specified in E.1.a above, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.

F. Land Application Area Specifications

1. Crops (e.g. wheat, olive orchards, almond orchards, and pasture grasses for cattle grazing) shall be grown in the LAAs. Crops shall be selected based on nutrient uptake capacity, tolerance to soil moisture conditions, consumptive use of water, and irrigation requirements. Cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure. Crops shall be harvested and removed from the land at least on an annual basis.

2. Application of waste constituents to 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. Discharge of process wastewater to any LAA not having a fully functional tailwater/runoff control system is prohibited.

4. Wastewater shall not be discharged outside of the LAAs.

5. Land application of wastewater shall be managed to minimize erosion.

6. 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. Tail water 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.

7. LAAs shall be designed, maintained, and operated to comply with the following setback requirements:

Setback Definition	**Minimum Irrigation Setback (feet)**
Edge of LAA to property boundary	25
Edge of LAA to manmade or natural surface water drainage course	25
Edge of LAA to domestic water supply well	100

8. Irrigation of the LAAs shall occur only when appropriately trained personnel are on duty.

9. LAAs shall be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order.

10. Any irrigation runoff (tail water) shall be confined to the LAAs or returned to the olive mill wastewater system and shall not enter any surface water drainage course or storm water drainage system.

11. Discharge of storm water runoff from the LAAs to off-site land or surface water drainage courses is prohibited.

G. Solids Disposal Specifications

Sludge, as used in this document, means the solid, semisolid, and liquid organic matter removed from wastewater treatment, settling, and storage vessels or ponds. Solid waste refers to solid inorganic matter removed by screens and soil sediments from washing of unprocessed fruit or vegetables. Except for waste solids originating from meat processing, residual solids means organic food processing byproducts such as culls, pulp, stems, leaves, and seeds that will not be subject to treatment prior to disposal or land application.

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

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

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

H. Provisions

1. The following reports shall be submitted pursuant to CWC section 13267 and shall be prepared as described in Provision H.3:

    a. **By 30 November 2013**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* prepared in accordance with, and including the items listed in, Section 1 of Attachment D which is attached hereto and is made part of this Order by reference. The workplan shall provide a plan to install a minimum of three wells to monitor groundwater upgradient, beneath, and downgradient of the planned LAAs. All groundwater monitoring wells shall be designed to yield samples representative of the uppermost portion of the first saturated interval below the water table.

       As described in Paragraph G, Section 1 of Attachment D, the workplan shall include a *Sampling and Analysis Plan* that describes sampling techniques designed to ensure that representative samples of sufficient volume are obtained and analyzed for all monitoring wells.

    b. **By 30 March 2014**, the Discharger shall submit a *Groundwater Monitoring Well Installation Report* that describes the installation and development of the new groundwater monitoring wells required by Provision H.1.a. The report shall be consistent with the Section 2 of Attachment D. If additional information is needed to characterize the hydrogeologic conditions at the site, recommendations for additional work shall be included in the report.

    c. By **30 March 2014**, the Discharger shall submit a *Flow Meter Installation and Calibration Report* that demonstrates that a flow meter has been installed upstream of the wastewater storage tanks for use in determining compliance with the Flow Limitations of this Order. The report shall document that all wastewater flow meters shown on Attachment C have been independently calibrated by a third party. The report shall also provide standard procedures for recording wastewater flow measurements, and provide a schedule for periodic meter calibration.

d. **By 30 July 2014,** the Discharger shall submit a *Land Application Area and Wastewater Secondary Containment Completion Report* that certifies completion of the LAAs as described in the findings. The report shall describe the preparation of all LAAs and verify that trees have been planted as described in the findings of this Order. The report shall include as-built drawings of the new LAA irrigation and tailwater/storm water runoff control systems, and shall also include a discussion of the number, size, and type of wastewater storage tanks, including a description of storage system plumbing and provisions for secondary containment. If the storage tank system will be expanded over time as production increases, include a description of secondary containment features that will be constructed in the future.

e. **By 30 July 2016,** the Discharger shall submit a *Background Groundwater Quality Study Report and Groundwater Limitations Compliance Assessment Plan*. For each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of monitoring data and calculation of the concentration in background monitoring wells. For boron and manganese, the *Groundwater Limitations Compliance Assessment Plan* shall propose the specific statistical approach and methods that will be used to determine compliance with Groundwater Limitation E.1.a. Determination of background quality and assessment of compliance with Groundwater Limitation E.1.a shall be made using the appropriate statistical methods that have been selected based on site-specific information and the U.S. EPA Unified Guidance document cited in Finding 72 of this Order. The report shall explain and justify the selection of the appropriate statistical methods.

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 previous three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by **31 January**.

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 workplan for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

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

11. 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."

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

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

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

15. 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.

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

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water

Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

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

or will be provided upon request.

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

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PAMELA C. CREEDON, Executive Officer