CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2012-0002

WASTE DISCHARGE REQUIREMENTS
FOR
LUCERO OLIVE OIL, LLC AND CRANE MILLS, INC.
LUCERO OLIVE OIL
TEHAMA COUNTY

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

1. Lucero Olive Oil, LLC and Crane Mills, Inc. (hereafter collectively referred to as Discharger) submitted a Report of Waste Discharge (RWD) dated 5 January 2010 to obtain Waste Discharge Requirements (WDRs) for the discharge of olive oil processing wastewater to land. RWD addenda were submitted on 24 March 2010 and 29 July 2010. The RWD was deemed complete on 20 April 2010.

2. The Lucero Olive Oil plant (hereafter Facility) is located southwest of Corning on Loleta Avenue, in Section 22, Township 24 North, Range 3 West, MDB&M. The land application area is located northwest of Richfield, in Township 25 North, Range 3 West, MDB&M. The Facility and land application area are shown on Attachment A, which is attached hereto and made part of this Order.

3. From 2005 through 2007, the Discharger milled olives off-site at various local olive oil facilities regulated by the Central Valley Water Board. In 2008, the Discharger obtained coverage under the Waiver of Waste Discharge Requirements for Small Food Processors, Including Wineries (Resolution R5-2003-0106) (Waiver) for discharge of wastewater less than 100,000 gallons annually to land. In 2009, the Discharger exceeded the flow criteria for coverage under the Waiver. Therefore, the Discharger submitted a RWD for individual WDRs; the RWD was deemed complete on 20 April 2010. The following wastewater volumes were generated, discharged, and stored from 2009 through 2011.

Year	Wastewater Generated (gallons)	Wastewater Discharged (gallons)	Wastewater Volume Stored (gallons)
2009	112,900	100,000	12,900
2010	96,375	99,975	9,300
2011	211,525	220,825	0

4. The Discharger's olive harvest typically begins in mid-September and ends mid-December. During this time, processing occurs approximately eight hours per day, five days a week. During the harvest, raw olives are conveyed to a wash tank and then to a crusher, where the pits, meat, stems, and skin of the olives are ground into a paste. The paste is sent to

malaxers, where the paste is agitated at a controlled temperature and the oil is separated from the fruit. The remaining paste is transferred to a decanter to further separate the oil, water, and solids; the water and solids that are separated within the decanter are termed pomace. The pomace is sent to holding tanks or dump end trailers for disposal and the oil is sent to a polisher to further separate the oil and water.

5. A boiler is used to heat the malaxers; all boiler washdown and blowdown wastewater is collected and disposed of offsite by a contracted cleaner and never comingled with olive processing wastewater. No chemicals are used at the Facility; equipment is cleaned with a pressure washer.

6. Wastewater generated at the Facility is a combination of three waste streams: (1) rinse water from the wash tank, (2) discharge water from the polisher, and (3) water generated from the washdown of equipment (minus the boiler). Wastewater generated from the polisher makes up approximately 78 percent of the wastewater, with the remaining 22 percent of wastewater split between the wash tank and equipment washdown.

7. Wastewater is stored at the Facility in fully enclosed aboveground storage tanks until a sufficient quantity is generated for transfer to the 180-acre almond orchard land application area. Wastewater is transported from the Facility to the land application area in a water truck. Wastewater is stored within poly tanks at the land application area and metered into irrigation water depending upon soil and weather conditions; an injection pump injects wastewater into the pressurized micro-sprinkler irrigation system at a maximum of 1 part wastewater to 133 parts irrigation water (at current Facility capacity) and at a maximum of 1 part wastewater to 39 parts irrigation water (at future Facility capacity)..

8. Wastewater flows in 2008, 2009, and 2010 were low due to Facility startup; the Discharger anticipates utilizing the full capacity of the Facility in 2012 and expanding the Facility in the near future. Current and projected wastewater flows are presented below.

	Total Discharge (gallons)	Average Flow (gpd)	Maximum Flow (gpd)
Current Capacity	250,700	3,700	15,300
Future Capacity	835,800	12,300	51,000

9. The total volume of wastewater and supplemental irrigation water (measured in inches over the application area) applied each year at the 180-acre land application area is as follows:

	Total Annual Discharge (gallons)	Total Depth of Water Applied Each Year (inches)
Wastewater (current)	250,700	0.05
Wastewater (future)	835,800	0.17
Irrigation Water	224,835,000	46.0

10. The Discharger sampled the wastewater in November 2009, the data is summarized below:

Parameter	Composite[1]	Units
Biochemical Oxygen Demand	6560	mg/L
Total Suspended Solids	3960	mg/L
Nitrate as N	nd	mg/L
Total Kjeldahl Nitrogen	22.2	mg/L
Ammonia	0.26	mg/L
Residual Chlorine	nd	mg/L
Total Dissolved Solids	741	mg/L
Fixed Dissolved Solids	318	mg/L
Specific Conductance	531	umhos/cm
Chloride	20.5	mg/L
Sulfate	12.5	mg/L
Alkalinity as $CaCO_3$	109	mg/L
Bicarbonate	133	mg/L
Carbonate	nd	mg/L
Calcium	20	mg/L
Magnesium	12	mg/L
Potassium	75	mg/L
Sodium	18	mg/L
pH	5.18	pH units
Hardness	100	mg/L
Silica	36	mg/L
Boron	173	ug/L
Iron	2880	ug/L
Manganese	120	ug/L
Total Phosphorus	6.56	mg/L
Hydroxide	nd	mg/L
Silicon	16.8	mg/L

[1] Sample taken on 11/16/2009 over a five-hour period.

11. Wastewater is collected and combined within storage tanks located at the Facility prior to land application. Thus, although there are variations in the volume and quality of the wastewater generated on a daily basis, the variations are normalized in the storage tanks. Therefore, a composite sample is considered representative of the wastewater discharged to the land application area.

12. All solids and pomace produced at the Facility are stored on site in aboveground storage tanks or dump end trailers for transport off-site to Wilbur Ellis, a permitted solar drying facility in the area; the dried solids are used as a cattle feed amendment.

13. The RWD provided an analysis of loading rates for BOD, nitrogen, and TDS. The analysis was performed in accordance with the *Manual of Good Practice for Land Application of Food Processing/Rinse Water (Food Processing Manual)*, published by the California

League of Food Processors, which measures the acceptability of wastewater application according to risk categories. It should be noted that although the *Food Processing Manual* has not been subject to scientific peer review, the Central Valley Water Board was consulted during its preparation. Compliance with the guidelines in the *Food Processing Manual* demonstrates that the Discharger is implementing treatment and control measures consistent with those promoted by the industry to limit the potential for groundwater degradation.

Risk Category	**Description**
1 (Lowest)[1]	Loading rates substantially below agronomic rates. Risk indistinguishable from good farming operations. Waiver typically appropriate for small systems, depending upon current waiver eligibility criteria.
2	Loading rates or conditions up to agronomic criteria, providing minimal risk of unreasonable degradation of groundwater. Some risk for systems with water distribution, crop and/or operational problems; causing treatment and reuse effects to be inadequate or spotty.
3	Total loading rates above agronomic rates, but still within calculated capacities. Requires detailed planning, good operation, and monitoring. May require specific design to enhance treatment and losses of some constituents.
4 (Highest)	Loading rates above calculated capacities. Pilot testing and/or intensive monitoring likely to be required to prove efficacy.

[1]Based on loading rates alone, category 1 systems should typically be eligible for a waiver or simplified waste discharge requirements.

14. At current capacity, the hydraulic loading rate is 50 gallons per acre per day, based on a maximum of 9,000 gallons of wastewater applied over the 180 acre land application area each day. Currently, the instantaneous BOD load does not exceed 2.7 pounds per acre per day. At Facility buildout, the hydraulic loading rate would be 167 gallons per acre per day; based on a maximum of 30,000 gallons of wastewater applied over the 180 acre land application area each day. The instantaneous BOD load at buildout would not exceed 9.1 pound per acre per day. According to the *Food Processing Manual,* for a Risk Category 1, the loading rate for BOD must not exceed 50 pounds per acre per day. In addition, USEPA recommends a BOD loading rate not to exceed 100 lbs per acre per day in order to avoid nuisance conditions, according to publication No. 625/3-77-007C, Pollution Abatement in the Fruit and Vegetable Industry. The BOD loading rate from the discharge is significantly below the USEPA nuisance level and the threshold for a Risk Category 1.

15. Based on the California Fertilizer Association, *Western Fertilizer Handbook,* the nitrogen uptake for almonds is 200 pounds per acre per year. The projected nitrogen loading rates from the wastewater for current capacity and future capacity are shown below:

	Annual Flow (million gallons)	Annual Nitrogen Loading Rate (lbs/acre/yr)
Current Capacity	0.25	0.26
Future Capacity	0.84	0.87

The projected nitrogen loading rates are significantly below the nitrogen uptake for almonds identified in the *Western Fertilizer Handbook*.

For a Risk Category 1, the loading rate of nitrogen must be less than half of the agronomic rate on an annual basis; thus a loading rate of less than 100 pounds per acre per year is acceptable according to the *Food Processing Manual*. The loading rates calculated are significantly below the threshold for a Risk Category 1.

In addition, the RWD provided a nitrogen balance for the land application area that evaluated nitrogen inputs from: applied fertilizer, applied wastewater, and applied irrigation water. The following table shows the loading rates for the facility at current and future capacity.

	Applied Fertilizer N (lbs/acre/yr)	Applied Wastewater N (lbs/acre/yr)	Applied Irrigation Water N[1] (lbs/acre/yr)	Allowable N Load at Orchard[2] (lbs/acre/yr)	Net N Load (lbs/acre/yr)
Current Capacity	130	0.26	103.44	-250	-16.3
Future Capacity	130	0.87	103.44	-250	-15.69

[1]Calculated by multiplying the total volume of irrigation water applied (46 in/yr) by the average nitrogen concentration of the irrigation water (9.93 mg/L) and a conversion factor.
[2]The allowable nitrogen load was calculated by accounting for the crop uptake (200 lbs/acre/yr) and using the most conservative nitrogen loss factor.

As shown above, all nitrogen that is applied is taken up by the crop and there is an overall net nitrogen deficiency.

16. The Discharger obtained groundwater samples from a source well and several agricultural wells on site; these wells range in depth from 350 to 650 feet deep. As shown by the data below, groundwater from these wells are below water quality objectives (WQO).

Parameter	Source Well	Ag Well #1	Ag Well #2	Ag Well #3	Ag Well #4	WQO
EC, umhos/cm	214	365	297	355	266	700[1]
TDS, mg/L	158	208	191	230	172	450[2]
FDS, mg/L	108	167	156	162	132	--
Sulfate, mg/L	11.2	10.0	17.3	19.6	14.4	250[3]
Chloride, mg/L	8.33	6.54	5.59	6.90	4.86	106[4]

[1]Ag. Goal (Food & Ag. Org. of United Nations). DPH secondary MCL is 900 umhos/cm.
[2]Ag. Goal (Food & Ag. Org. of United Nations). DPH secondary MCL is 500 mg/L.
[3]DPH secondary MCL.
[4]Ag. Goal (Food & Ag. Org. of United Nations). DPH secondary MCL is 250 mg/L.

17. In addition to the groundwater data provided above, groundwater data was obtained from irrigation and drinking water wells in the vicinity of the facility and land application area. Groundwater data for TDS was obtained from the Department of Water Resources (DWR) and the City of Corning. The DWR wells had TDS concentrations that ranged from 144 mg/L to 656 mg/L, with an average concentration of 315 mg/L. The two DWR wells closest to the land application area were approximately 2 to 3 miles away and had TDS concentrations of 144 mg/L (188 feet deep) and 165 mg/L (104 feet deep). The City of Corning data included TDS concentrations from drinking water wells that ranged from 158 mg/L to 209 mg/L (well depths ranged from 268 to 550 feet deep).

18. The *Food Processing Manual* uses mineral salinity concentration risk categories to evaluate potential salinity impacts to groundwater; it compares process/rinse wastewater inorganic dissolved solids (FDS) concentrations to TDS concentrations in irrigation water. Since organic dissolved solids are broken down in the soil profile, the salinity of process/rinse water is best measured by the concentration of FDS. Although FDS is slightly less than the total mineral salinity of process/rinse wastewater, it is a reasonable basis for comparison with irrigation water TDS, which represents slightly less than the total salinity from irrigated agriculture including fertilizers and soil amendments. The FDS concentration of the wastewater sample was 318 mg/L. The concentrations of TDS in the source well and agricultural supply wells at the land application area ranged from 158 mg/L to 230 mg/L; local irrigation wells in the vicinity of the Facility and land application area had TDS values that ranged from 144 mg/L to 656 mg/L. The FDS concentration of the applied wastewater falls within the TDS range for irrigation water in the general area; therefore, the wastewater meets the criteria of a Risk Category 1.

19. The low pH of the discharge can contribute to soil acidity at the land application area. Excessive acidity in soils can be toxic to crops, reducing the availability of phosphorus, and restricting the population of microorganisms that require neutral soil conditions to convert nitrogen and sulfur into acceptable forms for crop uptake. The low pH of the discharge could also contribute to the mobilization of certain metals in the soil potentially degrading groundwater. However, the relatively short processing season and effective use of lime and/or other soil amendments to control soil pH minimizes the potential for the discharge to degrade groundwater.

20. The RWD stated that groundwater at the land application area is flowing northeast at an approximate gradient of 0.00126 ft/ft. Depth to first encountered groundwater at the land application area ranges from 13 to 19 feet below ground surface.

21. The RWD provided monthly water balances for the land application area that evaluated flows at facility capacity and flows after facility expansion. The components of the water balance included applicable precipitation for a 100-year return period, evapotranspiration, percolation, and wastewater and irrigation water rates. The water balances demonstrated that there is no significant potential for flooding and/or runoff to occur at the land application area due to irrigation or wastewater application.

22. Domestic wastewater at the Facility is discharged separately to a septic tank / leachfield system not regulated by the county. This Order requires monthly visual monitoring of the leachfield for surfacing effluent and excessive weed growth when the Facility is in operation; in addition, the Order requires septic tank maintenance inspections every five years.

Site-Specific Conditions

23. Average annual precipitation and evaporation in the vicinity of the Facility and land application area are 12.2 inches and 67.63 inches, respectively. The Discharger applies a total volume of 46 inches of irrigation water over the year; irrigation well water is applied at approximately one inch every four days. The depth of wastewater application to the land application area is less than one inch each year.

24. According to the USDA Natural Resources Conservation Service soil survey, soils in the land application area are primarily loam, but also contain significant quantities of gravelly loam and silt loam. The water balance in the RWD utilized a conservative infiltration rate for silts and silty clays; an infiltration rate of 0.028 feet per day was used.

25. At the land application area, surface water flows northeast to a tailwater retention pond. Wastewater runoff should be non-existent due to the low application rates and prohibitions against discharge during wet weather. Water stored in the retention pond is utilized for frost protection. Surface water drainage at the land application area is to Thomes Creek.

26. At the Facility, surface drainage flows southeast. The hopper and the washer are the only equipment located outside; this equipment is located within a concrete berm to contain all runoff. The runoff is directed to a sump and sent to the storage tanks for discharge at the land application area. All storm water is contained on site. Surface water drainage at the Facility is to Birch Creek.

27. The Discharger is not required to obtain coverage under the National Pollutant Discharge Elimination System Industrial Storm Water Permit since all storm water runoff at the Facility and land application area is retained onsite and does not discharge into a water of the Untied States.

Basin Plan, Beneficial Uses and Regulatory Considerations

28. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition, revised October 2011 (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 Resources Control Board. Pursuant to Water Code section 13263(a), WDRs must implement the Basin Plan.

29. Surface water drainage at the land application area is to Thomes Creek, which is tributary to the Sacramento River. The Basin Plan designates the beneficial uses of Thomes Creek as: agricultural irrigation and stock watering; contact recreation; other non-contact recreation; warm and cold freshwater habitat; cold migration; warm and cold spawning; power; and wildlife habitat.

30. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

31. State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:

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

    b. The degradation will not unreasonably affect present and anticipated 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 and control (BPTC) to minimize degradation.

32. The Discharger conducted an antidegradation analysis in the RWD that evaluated potential impacts of the discharge on groundwater quality. Agronomic loading rates for BOD, nitrogen, and TDS were calculated and evaluated in accordance with the *Food Processing Manual*. The Facility and land application area do not have shallow groundwater monitoring wells. Therefore, the antidegradation analysis used groundwater data from the supply well and agricultural wells on site to evaluate potential impacts to groundwater. In addition, groundwater data was obtained from DWR for agricultural wells and drinking water wells in the vicinity of the Facility; this data was also used in the antidegradation analysis. The analysis showed that the loading rates proposed by the Discharger are substantially below agronomic rates and that the risk to groundwater is indistinguishable from good farming practices. The antidegradation analysis concluded that the discharge will not result in any measureable groundwater degradation. As expected based on the antidegradation analysis provided by the Discharger, groundwater data from the supply well and agricultural wells on site were below water quality objectives.

    The Facility provides best practicable treatment and control of the discharge that includes:

    a. Removal of solids at the plant before discharge to the land application area; solids are hauled offsite, dried, and used in cattle feed;

    b. Wastewater is sent through a polisher to remove residual oil;

c. Disposal of boiler blowdown and washdown offsite by an independent contractor;

d. Water softeners and chemicals are not used at the Facility;

e. Wastewater is stored in above-ground storage tanks;

f. Application of wastewater at rates that will not allow wastewater to stand for more than 24 hours;

g. Daily inspection of the land application area during discharge;

h. Application of wastewater below recommended agronomic loading rates for BOD, nitrogen, and TDS;

i. Application of supplemental irrigation water that results in minimal nutrient and salinity loading;

j. Calculation of loading rates monthly for BOD and annually for inorganic TDS and nitrogen.

k. Availability of additional acreage for wastewater disposal;

l. Preparation and implementation of a Nutrient Management Plan;

m. Preparation and implementation of a Salinity Evaluation and Minimization Plan.

33. The discharge is consistent with Resolution 68-16 because:

a. The discharge is consistent with the maximum benefit to the people of the State. The Discharger provides jobs in a small economically disadvantaged community. In addition, the use of wastewater for irrigation of crops results in the Discharger using less supplemental irrigation water, which is a benefit to the people of the State;

b. The discharge will not unreasonably affect present and anticipated beneficial uses because the discharge will not result in any measurable groundwater degradation. Wastewater is land applied below agronomic loading rates and supplemented with fresh irrigation water;

c. The discharge will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives. Groundwater under the land application area is not and will not be impacted by the discharge and does not exceed water quality objectives;

d. The Discharger implements BPTC by removing solids and excess oil from the wastewater, disposing of high salinity boiler waste offsite through an independent

contractor, not using chemicals, storing wastewater in aboveground tanks, applying wastewater below agronomic loading rates, and inspecting the land application area daily during the discharge season.

34. The California Code of Regulations, title 27 ("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 wastewater. The exemption, found at Title 27, section 20090(b), is described below:

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

    (1) The applicable regional water quality control board has issued WDRs, or waived such issuance;

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

    (3) The wastewater does not need to be managed … as a hazardous waste.

35. The discharge authorized by this Order is exempt from Title 27 because:

    a. The Central Valley Water Board is issuing waste discharge requirements that will be protective of groundwater. The antidegradation analysis provided in the RWD demonstrated that the discharge will not result in any measureable groundwater degradation;

    b. The discharge complies with the Basin Plan; groundwater quality below the land application site does not exceed water quality objectives. The Discharger has demonstrated that the application of wastewater below agronomic loading rates to 180 acres of almond trees for a short period of time (approximately 90 days annually) will not result in measureable groundwater degradation;

    c. The discharge is not considered a hazardous waste and does not need to be managed according to Title 22.

36. Any degradation from the application of wastewater to land cannot be monitored separately from any degradation due to agricultural practices at the land application area; fertilizers will be added annually at the land application area because the wastewater discharge is not sufficient to provide the full agronomic needs of the almond orchards. However, based on the limited volume of the discharge, the seasonal nature of the discharge, the character of the waste, the disposal of boiler waste offsite by an independent contractor, the direct application of wastewater to the land application area below agronomic rates, the use of supplemental irrigation water, and site-specific soil and groundwater conditions, the discharge has minimal potential to degrade groundwater quality. Therefore, shallow

groundwater monitoring is not necessary unless the discharge changes significantly or new information regarding the threat to groundwater quality becomes available. However, it is appropriate to require that the Discharger not allow the salinity of the wastewater to increase, and to require that the Discharger develop and implement a salinity evaluation and minimization plan. In addition, the Discharger is required to calculate and report loading rates monthly for BOD and annually for nitrogen and inorganic TDS.

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

    a. Category 3 threat to water quality, defined as, "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2." The Discharger's handling, storage, transfer, and land discharge of food processing wastewater will not cause a nuisance, which would require that the Facility be rated a Category 2. Wastewater is stored at the Facility and land application area in fully enclosed tanks, precluding nuisance conditions (odors). Wastewater is blended with irrigation water through micro-sprinklers at the land application area below the BOD nuisance loading rate of 100 pounds per acre per day, precluding nuisance conditions.

    b. Category C complexity, defined as, "Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal."

38. 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 California Code of Regulations, title 14, section 15301.

General Findings

39. 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 to discharge.

40. CWC Section 13267(b) states that:

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

41. The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2012-0002 are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the Facility that discharges the waste subject to this Order.

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

Public Notice

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

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

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13263 and 13267, Lucero Olive Oil, LLC and Crane Mills, Inc. and their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

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

2. Bypass or overflow of untreated wastes, except as allowed by Provision E.2. of Standard Provisions and Reporting Requirements, is prohibited.

3. Discharge of waste classified as ‘hazardous’, as defined in California Code of Regulations, title 23, section 2521(a), is prohibited. Discharge of waste classified as ‘designated waste’, as defined in Water Code section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

4. Discharge of irrigation tailwater from the wastewater land application area to any off-site area or drainage course is prohibited.

5. Application of wastewater in a manner or location other than that described herein is prohibited.

B. Discharge Specifications

1. The annual discharge to the land application area shall not exceed 251,000 gallons given current operation. Upon facility expansion, the annual discharge to the land application area shall not exceed 836,000 gallons.

2. Objectionable odors originating at the facility (including the wastewater land application area) shall not be perceivable beyond the property limits.

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

4. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of groundwater limitations.

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

6. The facility shall have sufficient treatment, storage, and disposal capacity to accommodate allowable wastewater flow and design precipitation. 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.

C. Land Application Area Specifications

1. Average BOD loading to the land application area shall not exceed 100 lbs/acre/day, both long term and over the course of any discharge cycle (i.e., the time between successive applications.)

2. The perimeter of the land application area shall be graded to prevent ponding along public roads or other public areas and prevent runoff onto adjacent properties not owned or controlled by the Discharger.

3. The Discharger shall maximize use of the available land application area to minimize waste constituent loading rates.

4. Hydraulic loading of wastewater (and supplemental fresh water) to the land application areas shall be at reasonable agronomic rates designed to minimize percolation of waste constituents below the evaporative and root zones, except as needed to promote surface soil chemistry that is consistent with sustainable agricultural land uses.

5. Application of waste constituents to the land application area shall be at reasonable agronomic rates to preclude creation of nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the land application area, including the nutritive value of organic and chemical fertilizers and of the wastewater shall not exceed the annual crop demand.

6. The irrigation system shall be designed and managed to ensure even application of wastewater over each irrigation field and prevent the discharge of tailwater and overspray outside of the land application area.

7. Irrigation with wastewater shall not be performed within 24 hours before a predicted storm, during precipitation, or within 24 hours after the end of any precipitation event, nor shall it be performed when the ground is saturated.

8. There shall be no standing water in any portion of the land application area more than 24 hours after application of wastewater ceases.

9. The discharge shall not cause the buffering capacity of the soil profile to be exceeded nor shall it cause the soil to become reducing.

10. Application of process wastewater shall only occur where the field and irrigation system are maintained to provide uniform water distribution, minimize ponding, and provide complete tailwater control.

11. The land application area shall be managed to prevent breeding of mosquitoes and other vectors.

12. Tailwater ditches shall be maintained free of emergent, marginal, and floating vegetation.

D. Solids Specifications

1. Any handling and storage of solids and/or sludge at the facility or the land application area shall be temporary, 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 groundwater limitations of this Order.

2. Collected screening, and other solids removed from the liquid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, rendering plants, composting sites, 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 to the Executive Officer at least 90 days in advance of the change.

E. Groundwater Limitations

1. The discharge shall not cause underlying groundwater to contain any chemical constituent in concentrations greater than background groundwater quality.

F. Provisions

1. **Within 90 days of adoption of the Order, the Discharger shall submit a Wastewater and Nutrient Management Plan** for the land application area. At a minimum, the Plan must include procedures for daily monitoring of the plant operation and land application area during the processing season, an action plan to deal with objectionable odors and/or nuisance conditions, identification of additional acreage for future land application of wastewater, a discussion on blending wastewater and supplemental irrigation water to achieve maximum dilution, supporting data and calculations for monthly and annual water and nutrient balances, and management practices that will ensure wastewater, irrigation water, and commercial fertilizers are applied at agronomic rates. The Plan shall be prepared as described in Provision F.7.

2. **One year after adoption of the Order, the Discharger shall submit a Salinity Evaluation and Minimization Plan** detailing control measures taken to reduce salinity of the discharge. The Plan should also identify any additional methods that could be used to further reduce the salinity of the discharge to the maximum extent feasible, include an estimate on load reductions that may be attained through the methods identified, and provide a description of the tasks, cost, and time required to investigate and implement the various elements. The Plan shall be prepared as described in Provision F.7.

3. Discharge Specification B.1. includes annual flow limitations for the Facility as-built and for the Facility after expansion. Prior to the annual flow exceeding 251,000 gallons, the Discharger must submit a letter to the Central Valley Water Board that details process and equipment changes and the associated increase in wastewater flow (not to exceed 836,000 gallons annually).

4. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as *Standard Provisions*.

5. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2012-0002, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer. The submittal

date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger self-monitoring reports.

6. The Discharger shall keep a copy of this Order at the Facility, including its Monitoring and Reporting Program, Information Sheet, Attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.

7. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with California Code of Regulations, title 16, sections 415 and 3065, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

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

9. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus 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.

10. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the appropriate Regional Water Board office.

11. To assume operation 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 address and telephone number of the persons responsible for contact

with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of *Standard Provision B.3.* and state the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. 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.

12. If the Central Valley Water Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of any groundwater quality objective, this Order may be reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations, installation of groundwater monitoring wells, and/or BPTC evaluation for the constituents of concern.

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

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

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 2 February 2012.

Original signed by

PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2012-0002

FOR LUCERO OLIVE OIL, LLC AND CRANE MILLS, INC.
LUCERO OLIVE OIL
TEHAMA COUNTY

This monitoring and reporting program (MRP) is required pursuant to Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample location shall be established with concurrence of Regional Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer. All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are calibrated prior to each use;
3. Instruments are serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions; and
4. Field calibration reports are submitted as described in the “Reporting” section of this MRP.

In addition to details specified in Standard Provisions, Provisions for Monitoring C.3., records of monitoring information shall also include the following:

1. Analytical method;
2. Measured value;
3. Units;
4. Method detection limit (MDL);
5. Reporting limit (RL) (i.e. a practical quantitation limit or PQL); and

All laboratory results shall be reported down to the MDL. Non-detect results shall be reported as less than the MDL (<MDL). Results above the MDL, but below the concentration of the lowest calibration standard for multipoint calibration methods or below the reporting limit for other methods, shall be flagged as estimated.

Analytical procedures shall comply with the methods and holding times specified in: *Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020, 1983); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA/600/R-93/100, 1993); *Standard Methods for the Examination of Water and Wastewater*, 20th Edition 9WEF, APHA,

AWWA); and *Soil, Plant and Water Reference Methods for the Western Region*, 2003, 2nd Edition (hereafter Western Region Methods).

WASTEWATER MONITORING

Wastewater samples shall be collected from the last storage tank at the Facility prior to transport to the land application area. The Discharger shall monitor the wastewater for the constituents and frequencies specified below throughout the processing season and while there is a discharge to the land application area.

Constituent/Parameter	Units	Sample Type	Sample Frequency
Daily Flow	Gallons	Continuous	Daily
pH	pH units	Grab	Twice per Month[4]
Biochemical Oxygen Demand[1]	mg/L	Grab	Twice per Month[4]
Electrical Conductivity	umhos/cm	Grab	Twice per Month[4]
Total Dissolved Solids	mg/L	Grab	Twice per Month[4]
Fixed Dissolved Solids	mg/L	Grab	Twice per Month[4]
Total Nitrogen[2]	mg/L	Grab	Twice per Month[4]
General Minerals[3]	mg/L	Grab	Annually

[1]Five-day, 20°C.
[2]Total kjeldahl nitrogen plus nitrate.
[3]General mineral analytes may vary depending on the lab, but shall include at least the following: alkalinity, bicarbonate, boron, calcium, carbonate, chloride, hardness, magnesium, potassium, sodium, and sulfate. An anion/cation balance shall accompany results.
[4]Twice monthly monitoring should occur in non-consecutive weeks when feasible.

WATER SUPPLY MONITORING

The supply water (source well) for the facility shall be monitored during the processing season for the following:

Constituent/Parameter	Units	Sample Type	Sample Frequency
Electrical Conductivity	umhos/cm	Grab	Annually
Total Nitrogen[1]	mg/L	Grab	Annually
Total Dissolved Solids	mg/L	Grab	Annually

[1]Total kjeldahl nitrogen plus nitrate

IRRIGATION SUPPLY MONITORING

The supplemental irrigation supply water, irrigation well(s), and/or canal water supply, for the land application area shall be monitored during the processing season for the following:

Constituent/Parameter	Units	Sample Type	Sample Frequency
Electrical Conductivity	umhos/cm	Grab	Annually
Total Nitrogen[1]	mg/L	Grab	Annually
Total Dissolved Solids	mg/L	Grab	Annually

[1]Total kjeldahl nitrogen plus nitrate

LAND APPLICATION AREA MONITORING

The Discharger shall monitor the land application area throughout the processing season and while there is a discharge. Monitoring of the land application area shall include the following:

Constituent/Parameter	Units	Sample Type	Sample Frequency	Reporting Frequency
Supplemental Irrigation Flow	Gallons per Well/Ditch	Metered	Daily	Monthly
Rainfall	Inches	Measured[1]	Daily	Monthly
Wastewater flow	Gallons	Metered	Daily	Monthly
Wastewater application area	Acres	N/A	Daily	Monthly
Wastewater application rate	gal/acre-day	Calculated	Daily	Monthly
BOD loading rate[2]				
Day of application	lbs/acre	Calculated	Daily	Monthly
Cycle average	lbs/acre/day	Calculated	Daily	Monthly
Nitrogen loading[3]				
From wastewater	lbs/acre/year	Calculated	Annually	Annually
From irrigation water	lbs/acre/year	Calculated	Annually	Annually
From fertilizers	lbs/acre/year	Calculated	Annually	Annually
Inorganic TDS loading[3]	lbs/acre/year	Calculated	Annually	Annually

[1]Data obtained from the nearest National Weather Service rain gauge is acceptable.
[2]Loading rate to be calculated using the applied volume of wastewater, applied acreage, and average of the two most recent concentrations for BOD. The BOD loading rates shall be divided by the number of days between applications to determine cycle average.
[3]Wastewater nitrogen and inorganic TDS loading shall be calculated as a flow-weighted average using the applied volume of wastewater, actual application area, and the average concentration of total nitrogen and inorganic TDS for the season (staring as zero each January 1).

The Discharger shall inspect the wastewater land application area **at least once daily prior to and during irrigation events**, and observations from those inspections shall be documented for inclusion in the monthly monitoring reports. The following items shall be documented for each area to be irrigated on that day:

1. Soil saturation, ponding, and evidence of soil clogging;
2. Potential runoff to off-site areas and/or surface water;

3. Accumulation of organic solids at soil surface;
4. Odors that have the potential to be objectionable at or beyond the property boundary; and
5. Insects.

SOLIDS/POMACE DISPOSAL MONITORING

The Discharger shall record and report **monthly** the quantity, disposal location, hauler, and method of disposal of solids/pomace generated during the process season.

The storage of any solids and olive pomace shall be described. The description shall include the material stored, approximate amount, location of storage, and measures implemented to prevent leachate generation or control and dispose of any leachate that is generated.

DOMESTIC LEACHFIELD AND SEPTIC TANK MONITORING

Septic tank maintenance inspections (including tank sludge level measurement) shall be performed at least **once every 5 years**. The leachfield that is used to dispose of domestic wastewater shall be monitored and reported **monthly** when the Facility is in operation for signs of surfacing effluent and excessive weed growth.

REPORTING

The Discharger shall report monitoring data and information as required in this MRP as required in the Standard Provisions.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g. wastewater, water supply), sample location, and the reported analytical result for each sample are readily discernable. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of analyses performed in accordance with specified test procedures, taken more frequently than required at the locations specified in this MRP, shall be reported to the Central Valley Water Board and used in determining compliance.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Central Valley Water Board on the **1st day of the second month following sampling** (i.e., the September report is due by 1 November). Wastewater monitoring is required in months when the facility is actively processing olives, processing olive oil, or performing cleaning activities prior to or after processing.

B. Annual Report

An annual report shall be submitted to the Central Valley Water Board by **1 February of the year following the processing season**. The Annual Report shall include the following:

1. The names and telephone numbers of persons to contact regarding emergency and routine situations;
2. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4.);
3. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss corrective actions taken and planned to bring the discharge into full compliance with this Order;
4. A discussion on the type of crops grown and their nutrient requirements; and
5. A discussion on loading rates.

A transmittal letter shall accompany each self-monitoring report. The letter shall discuss any violations during the reporting period and all actions taken or planned for correcting violations, such as operation of facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the certification statement by the Discharger or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B. 3.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

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 2 February 2012.

Original signed by

_____

PAMELA C. CREEDON, Executive Officer

February 2, 2012

_____

(date)

INFORMATION SHEET

R5-2012-0002
LUCERO OLIVE OIL, LLC AND CRANE MILLS, INC.
LUCERO OLIVE OIL
TEHAMA COUNTY

Background

Lucero Olive Oil, LLC and Crane Mills, Inc. (collectively referred to as Discharger) operate an olive oil processing plant (Facility) in Corning in Tehama County. From 2005 through 2007, the Discharger milled olives off-site at various local olive oil facilities regulated by the Central Valley Water Board. In 2008, the Discharger obtained coverage under the *Waiver of Waste Discharge Requirements for Small Food Processors, Including Wineries (Resolution R5-2003-0106)* (Waiver) for discharge of wastewater less than 100,000 gallons annually to land. In 2009, the Discharger exceeded the flow criteria for coverage under the Waiver, and submitted a Report of Waste Discharge (RWD) on 5 January 2010 and supplemental information on 24 March 2010 for individual waste discharge requirements; the RWD was deemed complete on 20 April 2010. The following wastewater volumes were generated, discharged, and stored from 2009 through 2011.

Year	Wastewater Generated (gallons)	Wastewater Discharged (gallons)	Wastewater Volume Stored (gallons)
2009	112,900	100,000	12,900
2010	96,375	99,975	9,300
2011	211,525	220,825	0

The Discharger's olive harvest typically begins in mid-September and ends mid-December. During this time, processing occurs approximately eight hours per day, five days a week. Raw olives are unloaded and conveyed to a wash tank where they are cleaned. The washed olives are then conveyed to a crusher, where the pits, meat, stems, and skin of the olives are ground together to form a paste. The paste is transferred to one of six 400-gallon malaxers, where the paste is agitated at a controlled temperature and the oil is separated from the fruit. A boiler is used to heat the malaxers; all boiler washdown and blowdown water is collected and disposed of offsite by a contracted cleaner. The remaining paste is transferred to a decanter to further separate the oil, water, and solids; the water and solids that are separated within the decanter are termed pomace. The pomace is sent to holding tanks or dump end trailers for disposal and the oil is sent to a polisher to further separate the oil and water. Wastewater is sent to storage tanks at the Facility. No chemicals are used at the facility; equipment is cleaned with a pressure washer.

Wastewater flows in 2008, 2009, and 2010 were low due to Facility startup; the Discharger anticipates utilizing the full capacity of the Facility in 2012 and expanding the Facility in the near future. Current and projected wastewater flows are presented below.

	Total Discharge (gallons)	Average Flow (gpd)	Maximum Flow (gpd)
Current Capacity	250,700	3,700	15,300
Future Capacity	835,800	12,300	51,000

Wastewater is transported to a 180-acre almond orchard land application site in Corning via a 4,000 gallon water truck; wastewater is stored within poly tanks at the land application area and metered into the pressurized micro-sprinkler irrigation system depending upon soil and weather conditions. Wastewater is applied at a hydraulic loading rate of 50 gallons per acre per day (current capacity) and 167 gallons per acre per day (future capacity). All solids and pomace are transported off-site to a permitted solar drying facility; the dried solids and pomace are used in cattle feed.

Loading Rates

The Discharger took a composite sample of the wastewater in November 2009. Wastewater is collected and combined within storage tanks located at the Facility prior to land application; thus although there are variations in the volume and quantity of the wastewater generated on a daily basis, the variations are normalized in the storage tanks. Therefore, a composite sample is considered representative of the wastewater discharged to the land application area. The constituents of concern in the discharge are biochemical oxygen demand (BOD), nitrogen, and total dissolved solids (TDS).

The RWD provided an analysis of loading rates for BOD, nitrogen, and TDS. The analysis was performed in accordance with the *Manual of Good Practice for Land Application of Food Processing/Rinse Water (Food Processing Manual)*, published by the California League of Food Processors, which measures the acceptability of wastewater application according to risk categories; a Risk Category 1 is the lowest category and means that loading rates are substantially below agronomic rates and that the risk to groundwater is indistinguishable from good farming practices. It should be noted that although the Food Processing Manual has not been subject to scientific peer review, the Central Valley Water Board was consulted during its preparation. Compliance with the guidelines in the Food Processing Manual demonstrates that the Discharger is implementing treatment and control measures consistent with those promoted by the industry to limit the potential for groundwater degradation.

For a Risk Category 1, the loading rate for BOD must not exceed 50 pounds per acre per day. In addition, BOD loading rates should not exceed 100 lbs per acre per day in order to avoid nuisance conditions (USEPA Publication No. 625/3-77-007C, *Pollution Abatement in the Fruit and Vegetable Industry*). Current capacity BOD loading was calculated based on a hydraulic loading rate of 50 gallons per acre per day; BOD loading would not exceed 2.7 pounds per acre per day. At facility buildout, BOD loading would not exceed 9.1 pounds per acre per day based on a hydraulic loading of 167 gallons per acre per day.

For a Risk Category 1, the loading rate of nitrogen must be less than half of the agronomic rate of the crop on an annual basis; the typical nitrogen requirement for almonds is 200 lbs per acre per year (California Fertilizer Association, *Western Fertilizer Handbook)*. At current Facility capacity, the RWD estimated the nitrogen loading at 0.26 pounds per acre per year. When the plant is expanded, the nitrogen loading will be 0.87 lbs per acre per year. All nitrogen that is applied in the wastewater is taken up by the crop and there is an overall net nitrogen deficiency.

The inorganic dissolved solids (FDS) concentration of the wastewater was 318 mg/L. The FDS concentration of the wastewater falls within the TDS range for irrigation water in the general area, which ranged from 144 mg/L to 656 mg/L; therefore, the wastewater meets the criteria for a Risk Category 1. In addition, wastewater is applied at less than half and inch annually and supplemented with 46 inches of irrigation water annually.

According to the *Food Processing Manual,* the loading rates calculated in the RWD for BOD, nitrogen, and TDS are significantly below the threshold for a Risk Category 1*;* meaning that the risk to groundwater from the discharge is indistinguishable from good farming practices and that the discharge will not result in any measureable groundwater degradation.

Groundwater Conditions
Local groundwater quality was obtained from the source well at the Facility and irrigation wells at the land application area; the TDS concentrations ranged from 158 mg/L to 230 mg/L. Additional groundwater data for TDS was obtained from the Department of Water Resources (DWR) and the City of Corning; the TDS concentrations ranged from 144 mg/L to 656 mg/L. The wells ranged in depth from 104 to 650 feet deep.

Antidegradation
The antidegradation directives of State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with this directive are set forth in the Basin Plan.

The discharge is consistent with the Antidegradation Policy because:

a. The discharge is consistent with the maximum benefit to the people of the State because the Discharger provides jobs in a small economically disadvantaged community. In addition, the use of wastewater for irrigation of crops results in the Discharger using less supplemental irrigation well water which is a benefit to the people of the State;

b. The discharge will not unreasonably affect present and anticipated beneficial uses because the discharge will not result in any measurable groundwater degradation. Wastewater is land applied below agronomic loading rates and supplemented with fresh irrigation water;

c. The discharge will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives. Groundwater under the land application area is not and will not be impacted by the discharge and does not exceed water quality objectives;

d. The Discharger implements BPTC by removing solids and excess oil from the wastewater, disposal of high salinity boiler waste offsite by an independent contractor, not using chemicals, storage of wastewater in aboveground tanks, application of wastewater below agronomic loading rates, and daily inspection of the land application area during the discharge season.

Title 27

The California Code of Regulations, title 27 ("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 wastewater. The exemption, found at Title 27, section 20090(b), is described below:

> (b) Wastewater – Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields, if the following conditions are met:
>
> (1) The applicable regional water quality control board has issued WDRs, or waived such issuance;
>
> (2) The discharge is in compliance with the applicable water quality control plan; and
>
> (3) The wastewater does not need to be managed … as a hazardous waste.

The discharge authorized by this Order is exempt from Title 27 because:

- The Central Valley Water Board is issuing waste discharge requirements that will be protective of groundwater. The antidegradation analysis provided in the RWD demonstrated that the discharge will not result in any measureable groundwater degradation;
- The discharge complies with the Basin Plan; groundwater quality below the land application site does not exceed water quality objectives. The Discharger has demonstrated that the application of wastewater below agronomic loading rates to 180 acres of almond trees for a short period of time (approximately 90 days annually) will not result in measureable groundwater degradation;
- The discharge is not considered a hazardous waste and does not need to be managed according to Title 22.

CEQA

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 California Code of Regulations, title 14, section 15301.

Proposed Order Terms and Conditions

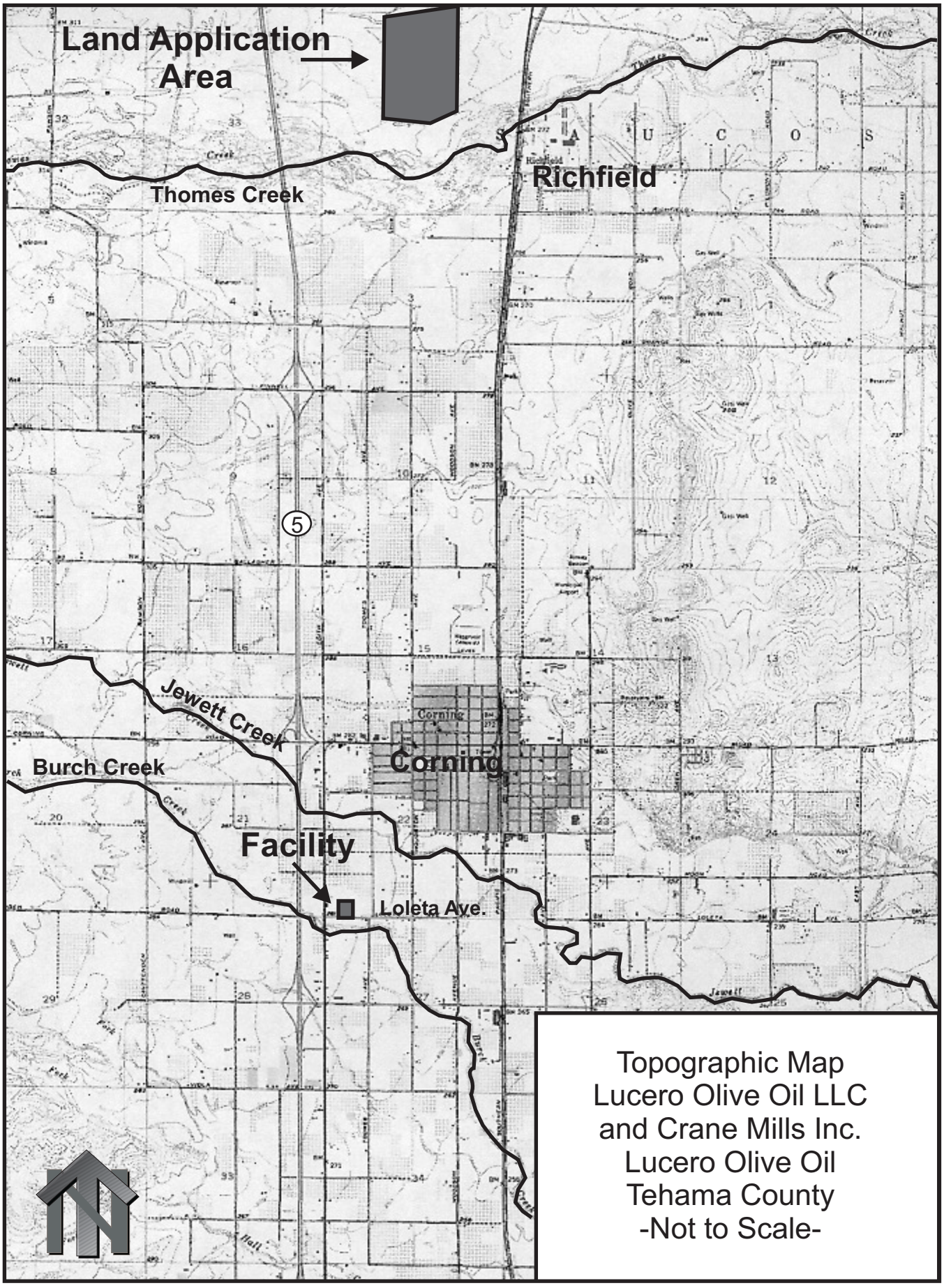
The proposed Order includes an annual wastewater flow limit of 251,000 gallons per year for the Facility as-built. The proposed Order includes an annual wastewater flow limit of 836,000 gallons per year once the Facility is expanded.

The proposed Order limits BOD loading at the land application area to 100 lbs/acre/day, both long-term and over the course of any discharge cycle.

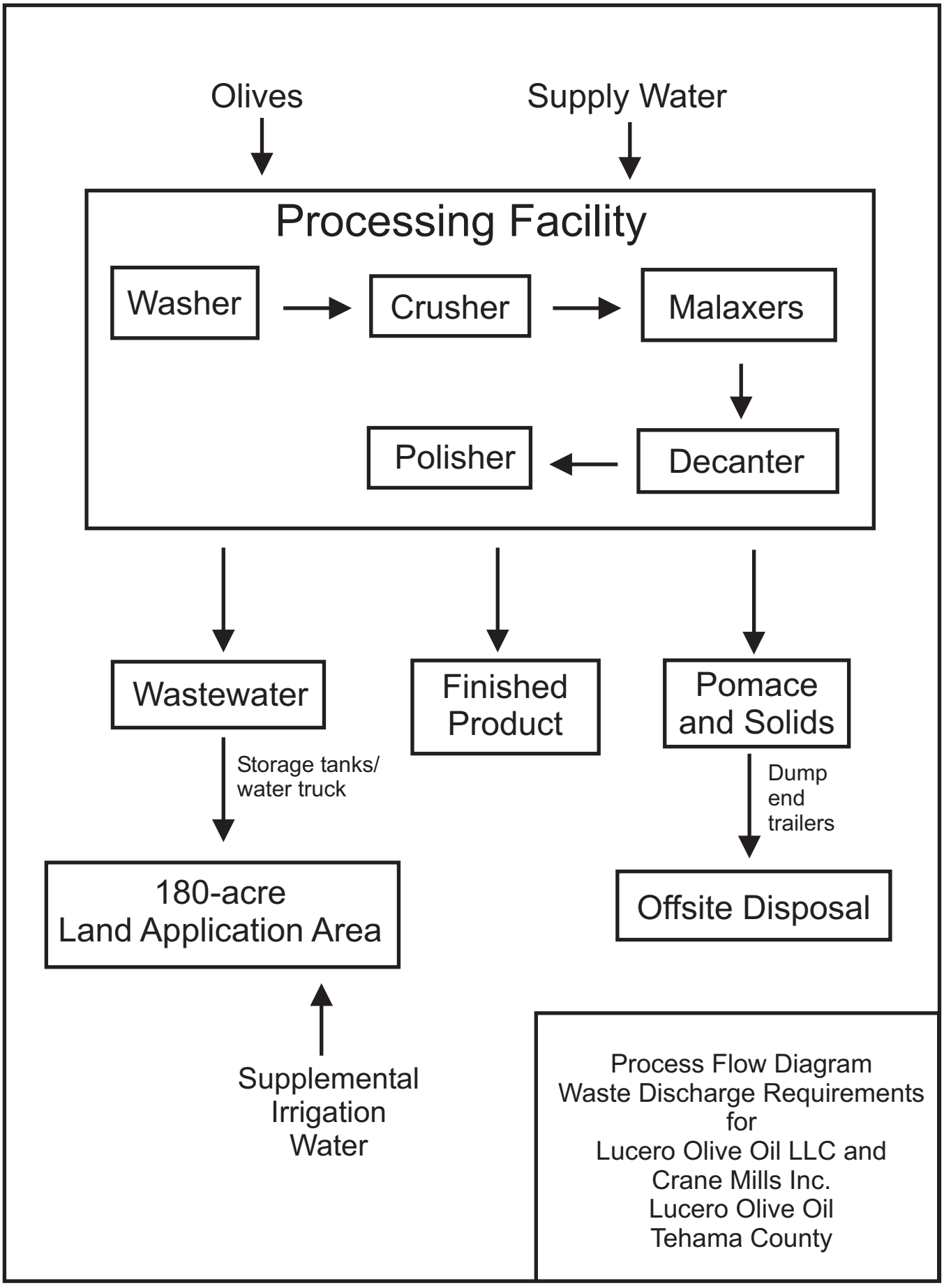
Monitoring Requirements

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. In recent years there has been an increased emphasis on obtaining all necessary information, assuring the information is timely, as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Water Code section 13268 authorizes the assessment of civil administrative liability where appropriate.

The proposed Order includes wastewater monitoring requirements, supply water monitoring, irrigation supply monitoring, land application area monitoring, and solids monitoring.



Topographic Map
Lucero Olive Oil LLC
and Crane Mills Inc.
Lucero Olive Oil
Tehama County
-Not to Scale-



Process Flow Diagram
Waste Discharge Requirements
for
Lucero Olive Oil LLC and
Crane Mills Inc.
Lucero Olive Oil
Tehama County