

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2007-0157

WASTE DISCHARGE REQUIREMENTS
FOR
SK FOODS
LEMOORE TOMATO PROCESSING FACILITY
KINGS COUNTY

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

1. SK Foods, a California corporation (hereafter known as Discharger), submitted a Report of Waste Discharge (RWD) dated 16 October 2006 to obtain revised Waste Discharge Requirements (WDRs) for the discharge of tomato processing wastewater at the SK Foods, Lemoore Tomato Processing facility. The Discharger proposes to increase the flow from 2.5 to 4.5 million gallons per day (mgd) and to recycle the wastewater on about 2,600 acres of agricultural land (Use Area) that is about 5 miles southwest of the tomato processing facility.
2. The SK Foods tomato processing facility is on 19th Avenue southwest of Lemoore in Kings County approximately 0.8 miles east of Highway 41. The proposed discharge area is on 2,600 acres approximately 5-miles southwest of the processing facility in Sections 2, 3, 10, and 11, T20S, R19E, MDB&M, as shown on [Attachment A](#), which is attached hereto and made a part of this Order by reference.
3. Waste Discharge Requirements (WDRs) Order No. 98-167, adopted on 24 July 1998, restricts the monthly average discharge flow to 2.5 mgd. The WDRs prescribe effluent limitations on a monthly average basis for 5-day biochemical oxygen demand (BOD₅) and dissolved oxygen (DO).
4. The purpose of this Order is to rescind WDRs Order No. 98-157 and prescribe requirements that reflect the Discharger's Wastewater Expansion Project.
5. The RWD presents information on site conditions, the existing tomato processing facility, wastewater quantity and quality, and the conceptual design of the Expansion Project. [Attachment B](#), which is attached hereto and made a part of this Order by reference, depicts the process flow of the existing processing plant and the discharge.

Existing Discharge of Wastewater

6. SK Foods processes over 750,000 tons of tomatoes annually. Tomatoes enter the facility and are processed in the "Bulk" or "Fresh Pack" process line from which bulk dice and paste are manufactured. A portion of the Bulk process line is sent to the "Food" process line for remanufacturing.

7. The “Bulk” or “Fresh Pack” process line typical operates from the first week of July through early October. The average flow rate of the Bulk line is about 1.7 mgd with a minimum of about 615,000 gallons per day and a maximum of about 2.58 mgd. A summary of the wastewater quality generated from the Bulk process line from 2001 through 2006 is summarized in the following table.

Bulk (Fresh Pack) - Wastewater Quality

<u>Constituent</u> ¹	<u>Units</u>	<u>Average Concentration</u>	<u>Range of Concentration</u>
Electrical Conductivity	micromhos per centimeter	1,142	850 – 1,500
pH	pH Units	6.38	5.3 – 7.5
Total Alkalinity	milligrams per liter (mg/L)	92	2 – 290
BOD ₅	mg/L	1,315	25 – 3,000
Nitrate as Nitrogen	mg/L	0.3	0.1 – 1.3
TKN	mg/L	63	5 – 180
Total Nitrogen	mg/L	63	3 – 180
Total Phosphorus	mg/L	12	0.5 – 18.0
TDS	mg/L	1,547	200 – 3,200
TSS	mg/L	803	90 – 2,400
Aluminum	mg/L	0.2	0.07 – 0.24
Boron	mg/L	0.7	0.5 – 1.4
Chloride	mg/L	73	47 – 100
Manganese	mg/L	0.1	0.04 – 0.2
Sodium	mg/L	128	120 – 140
Sulfate	mg/L	19	15 – 26

1. 5-day, 20°C biochemical oxygen demand (BOD), Total Dissolved Solids (TDS), and Total Suspended Solids (TSS).

8. The “Food” process line operates year round and produces a daily average flow of about 400,000 gallons and monthly flows of about 8 million gallons. The Food process line wastewater has been historically discharged to the City of Lemoore’s wastewater treatment plant, but the Discharger now proposes to discharge the Food process line wastewater to the 2,600-acre Use Area. Effluent quality from 2002 through 2006 of the Food process line wastewater is summarized in the following table.

Food (Retail) – Wastewater Quality

<u>Constituent</u> ¹	<u>Units</u>	<u>Average Concentration</u>	<u>Range of Concentration</u>
Electrical Conductivity	Micromhos per centimeter	956	260 – 3,200
pH	pH Units	6.9	3.8 – 11.6
BOD ₅	Milligrams per liter	394	ND – 2,100

9. On average, the EC of the wastewater is about 600 μmhos/cm higher than source water EC, but is four to five times less than the lowest EC recorded for the shallow groundwater beneath the Use Area.
10. To reduce the potential for nuisance conditions, the Discharger screens the wastewater with a 40 mesh, 0.02-inch spacing rotary screen and then aerates it in a holding pond before discharging the wastewater to the Use Area. Solid wastes screened from the wastewater (pomace and tomato culls) are utilized off-site as cattle feed. The wastewater is typically blended with irrigation water further reducing the potential for nuisance conditions and the wastewater is applied at rates that do not allow standing water for periods of greater than 48 hours.

Wastewater Expansion Project

11. The Wastewater Expansion Project is planned for the next three to five years and will increase the flow of both product lines. The limiting factors for the processing plant were the acreage required for disposal of the wastewater and the ability to pump the wastewater to the Use Area, not the plants operational capacity. The additional acreage and the new and modified pipelines are proposed to meet the requirements. The proposed daily flow limit for the Food or Retail process line is 500,000 gpd, while the proposed average daily flow limit for the Bulk process line is 4.5 mgd.
12. The wastewater for both lines will be conveyed to the 2,600-acre Use Area via a series of pipelines. An existing 12-inch line is present heading south from the facility along 19th Avenue, then heading west along Jackson Avenue. The Discharger has added a new

pipeline segment south from Jackson Avenue and 21st Avenue to Kent Avenue, and then west along Kent and under the Kings River to the 2,600-acre Use Area. The new pipe discharges into an irrigation ditch that currently supplies the eastern half of the 2,600-acre Use Area. Additional pipeline(s) are planned to deliver the wastewater to the western half of the Use Area as the flow increases. More pipeline improvements are planned for 2008 to allow the Discharger to increase its flows to 4.5 mgd.

13. It is anticipated that effluent mineral and metals quality characterized in [Findings 7 and 8](#) for the existing discharge will be similar to the effluent quality resulting from the Expansion Project.
14. During the first phase of the project, approximately 2.5 mgd of wastewater will be generated and spread on approximately 70 acres per day, over a ten-day irrigation cycle on a total of 700 acres. During future phases, after the pipeline from the tomato plant is upgraded, up to 4.5 mgd will be generated and discharged over the full 2,600 acres.
15. To assess the potential loading rates, the Discharger used wastewater characteristics based on average concentrations from 2006 effluent monitoring (BOD = 1,193 mg/L). Assuming a daily 4-inch depth of wastewater application (over an unspecified number of acres), the Discharger calculated maximum instantaneous (i.e., on the day of application) and cyclical BOD loadings to be 1,040 lb/ac and 104 lb/ac/day, respectively.
16. Given the estimated first-phase flow rate of 2.5 mgd, reuse area of 700 acres, irrigation cycle of ten days, and average concentrations from 2001 through 2006 (BOD = 1,315 mg/L), the instantaneous and cyclical BOD loadings would be approximately 390 lb/ac and 40 lb/ac/day, respectively. The loadings are less than calculated above because at 2.5 mgd, applying four inches daily on a ten-day rotation would mathematically reduce the size of the reuse area from 700 acres to approximately 260 acres. It is unlikely such higher loadings would be sustainable without creating nuisance conditions or without violating the effluent limits below (e.g., no standing water after 48 hours).

Water Recycling

17. WDRs Order No. 98-167 incorporated water-recycling specifications to allow the Discharger to implement water recycling. The Discharger recycled wastewater to an 863-acre area to irrigate crops from 2001 through 2006. The Discharger began to recycle wastewater at the new 2,600-acre Use Area in July 2007. Typical crops have and will include alfalfa, corn (silage), and winter wheat.
18. Wastewater is pumped through a pipeline that discharges into a distribution canal present along the northern boundary of the disposal area. Several booster pumps and air valves are located along the length of the pipeline. The wastewater blends with canal/irrigation water in the distribution channel. The blended wastewater is then transferred to siphon ditches excavated along the western side of the fields and siphoned into rows as needed.

19. The blended wastewater is applied at plant uptake rates for both nutrient and hydraulic loading during the growing season. The canal water to wastewater ratio is typically at least one to one and often higher during the summer months to meet crop demands.
20. The Discharger reports that nitrogen will be applied to the soil at a rate of 113 pounds per acre per year (lb/ac/yr). The Discharger will grow winter wheat, alfalfa, and silage corn that have an annual plant uptake rate of 175 lb/ac, 480 lb/ac, and 250 lb/ac, respectively. The crops will require supplemental nitrogen fertilizer to maintain the crops.
21. Both recycling areas are in the ancestral lakebed for the Tulare Lake. Soils in the area are comprised primarily of the Lethent Clay Loam and lesser amounts of the Panoche Clay Loam. Both soils are saline-alkaline and have high pH concentrations of 7.8 or greater, which can restrict the growth of alkali sensitive crops. Addition of the acidic wastewater rich with organic constituents is beneficial to the alkali soils and results in the use of fewer soil amendments and the soil being compatible to growing a wider variety of crops.

Site-Specific Conditions

22. The processing plant and Use Area are in an arid climate characterized by hot dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry. Average annual precipitation and evaporation in the discharge area are about 11 inches and 63 inches, respectively, according to information published by California Department of Water Resources (DWR).
23. Area soils are primarily the Lethent Clay Loam and the Panoche Clay Loam, according to the USDA Natural Resources Conservation Service. These soils are reported to be moderately well to well drained, but saline to alkaline. Both soils are known to have high pH, and soils are typically treated with soil amendments (gypsum, sulfur, and acid forming fertilizers) to improve drainage, salinity, and excess alkali conditions.
24. The tomato processing facility and the Use Area are not within a 100-year floodplain according to Federal Emergency Management Agency maps.
25. Land use in the vicinity of the tomato processing facility and Use Area is primarily agricultural and some industrial around the SK processing plant and the City of Lemoore approximately 5 miles to the northeast of the Use Area. The primary crops grown within five miles of the Use Area include field crops such as corn (silage), sorghum, sugar beets, and cotton and pasture crops such as alfalfa according to DWR land use data for Kings County published in 2003. Irrigation water is supplied primarily by groundwater.

Groundwater Considerations

26. Regional groundwater is contained generally in two aquifers, the Lower Confined Aquifer and the Upper Unconfined Aquifer. The two aquifers are separated by a confining layer

(Corcoran Clay or E Clay) present beneath the Use Area at about 450 to 500 feet bgs and is reported to be 80 to 100 feet thick in this area.

27. Although hydraulic continuity between aquifers is restricted, some agricultural wells within the vicinity are likely screened within the upper and lower aquifers to maximize well production. This uppermost layer has the potential to have hydraulic continuity between the two aquifers resulting in lower quality water from the uppermost aquifer to migrate into the higher quality aquifers just above and below the E-clay.

28. The City of Lemoore obtains its source water from several deep groundwater wells. The source water is of good quality as indicated by the City's 2005 Annual Water Quality Report. Elevated concentrations of uranium in groundwater have resulted in the City drilling additional wells to meet drinking water standards. Water used for processing operations is supplied by the City of Lemoore. A summary of the City's water quality is shown in the following table.

City of Lemoore – Water Quality

<u>Constituent</u>	<u>Units</u>	<u>Range of Concentration</u>
Aluminum	micrograms per liter (ug/L)	110 – 720
Arsenic	ug/L	6 – 25
Chromium	ug/L	not detected (ND) to 2
Calcium	milligrams per liter (mg/L)	0.5 – 1.7
Magnesium	mg/L	ND – 0.2
Sodium	mg/L	59 – 170
Hardness	mg/L	1.2 – 5.1
pH	pH Units	8.7 – 9.2
Total Dissolved Solids	mg/L	170 – 470
Electrical Conductivity	Micromhos per centimeter	250 – 730
Chloride	mg/L	3 – 68
Sulfate	mg/L	0 – 6.0

29. According to the California Department of Water resources, shallow groundwater in the area is unconfined. First encountered groundwater is encountered at 5 to 15 feet bgs and is of poor quality. A deeper groundwater zone is present within the unconfined aquifer with water depths reported to be about 85 to 145 feet bgs. The quality is reported to be good with EC values ranging from about 600 to 1,200 umhos/cm.
30. The Discharger's groundwater monitoring network is shown in [Attachment C](#), which is attached hereto and made a part of this Order by reference, and monitors the perched or shallow groundwater zone of the unconfined aquifer. The network was constructed in 2007 and consists of 11 shallow groundwater monitoring wells: three generally upgradient (MW-1 through MW-3), four (MW-4 through MW-8) in the central portion of the Use Area, and three downgradient wells (MW-9 through MW-11) along the eastern border of the 2,600-acre Use Area. Additionally, seven piezometers (P-1 through P-7) were already present as shown on [Attachment C](#). [Three piezometers \(P1, P2, and P3\)](#) will be used to record groundwater elevation data in conjunction with collecting samples from the wells for chemical analysis.
31. Groundwater elevation data obtained in January and March 2007 monitoring events indicate depth to perched or first groundwater ranging from about 6 to 20 feet bgs and a flow direction to the east. Initially, wastewater will be applied only to the eastern half of the Use Area, and wells in the central portion of the Use Area (MW-4 through MW-8) will serve as background wells. When flows increase, wastewater will be applied to the western portion of the Use Area and the wells will then serve as point of compliance wells to assess potential impact to shallow groundwater due to the application of the waste water. The Discharger collected samples from the 11 wells in January and March 2007, before wastewater from the processing plant was discharged to the Use Area. The following table characterizes average concentrations of groundwater samples collected from the monitoring wells in January, February, and March 2007.

2,600-Acre Use Area – Groundwater Quality Data

<u>Well Number</u>	<u>Constituents¹</u>					
	<u>EC</u>	<u>TDS</u>	<u>NO₃ as N</u>	<u>Chloride</u>	<u>Sulfate</u>	<u>Sodium</u>
MW-1	26,500	30,500	35.5	990	19,000	7,900
MW-2	8,200	7,250	7.9	270	4,200	1,700
MW-3	15,500	15,000	17	690	8,900	3,900
MW-4	46,500	63,500	37	2,850	41,000	17,500
MW-5	20,500	20,500	18	1,135	12,800	5,800
MW-6	11,500	10,500	97	260	6,250	2,850

<u>Well Number</u>	<u>Constituents¹</u>					
	<u>EC</u>	<u>TDS</u>	<u>NO₃ as N</u>	<u>Chloride</u>	<u>Sulfate</u>	<u>Sodium</u>
MW-7	27,500	32,000	17	965	19,500	8,700
MW-8	10,500	9,250	12.5	420	5,650	2,650
MW-9	7,750	7,100	0.73	530	3,850	1,450
MW-10	16,000	14,500	<0.2	1,750	7,100	3,950
MW-11	10,500	9,650	0.26	940	5,100	2,300
<u>Averages</u>	18,300	20,000	22	980	12,120	5,340

1. Units are in milligrams per liter for all constituents except electrical conductance (EC), which is reported in micromhos per centimeter. TDS = Total dissolved solids. NO₃ as N = Nitrate as nitrogen.

32. The data indicates the extremely poor quality of the perched groundwater and the spatial distribution of the results. Elevated concentrations are observed in both upgradient and downgradient wells. All EC, sulfate, and TDS concentrations exceed the recommended and upper secondary maximum contaminant limits (MCLs) for each constituent. Nitrate concentrations exceed the primary MCL of 10 mg/L in seven (7) of the 11 samples analyzed. Chloride concentrations exceed the recommended secondary MCL of 250 mg/L in all samples, and the upper secondary MCL of 500 mg/L in all but two (2) of the 11 samples. An MCL has not been established for sodium, but the reported concentrations significantly exceed the water quality limit for agriculture of 69 mg/L further limiting the use of the Perched Groundwater.

Basin Plan, Beneficial Uses, and Water Quality Objectives

33. The Water Quality Control Plan for the Tulare Lake Basin, 2nd Edition, (hereafter Basin Plan) designates beneficial uses, establishes numerical and narrative water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates by reference plans and policies of the State Water Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these waste discharge requirements implement the Basin Plan.

34. Water in the Tulare Lake Basin is in short supply, requiring importation of surface water from other parts of the State. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity existing to replace an existing uses or proposed use of fresh water with recycled water.

35. The tomato processing facility and Use area are in Detailed Analysis Unit (DAU) No. 238 within the Tulare Lake Basin hydrologic unit. The Basin Plan designates the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, and industrial process and service supply.
36. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the MCLs specified in Title 22. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that that the Regional 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.
37. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Tastes and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. 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.
38. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until a valley wide drain is constructed to carry salts out of the basin. Until the drain is available, the Basin Plan establishes several salt management requirements, including:
- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500 $\mu\text{mhos/cm}$. When the source water is from more than one source, the EC shall be a weighted average of all sources.
 - b. Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 $\mu\text{mhos/cm}$, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
- These effluent limits are considered best practicable treatment or control (BPTC).
39. Title 22 in Table 64449 B establishes recommended, upper, and short-term ranges for EC, TDS, chloride, and sulfate. The recommended and upper ranges are 900 and 1,600 $\mu\text{mhos/cm}$ for EC, 500 and 1,000 mg/L for TDS, and 250 and 500 mg/L for chloride and for sulfate, respectively.
40. The list of crops in [Finding 25](#) is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but is representative. Though salt and boron sensitive crops could potentially be grown in Class I soils, which make up

approximately 40% to 50% of the soils in the area (i.e., strawberries, onions, and beans) none of these crops were observed or reported as being currently grown in the area based on DWR land use maps.

Antidegradation

41. 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 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 BPTC to minimize degradation.
42. In general, shallow groundwater exceeds Water Quality Objectives for nitrate as nitrogen, EC, TDS, chloride, and arsenic. The discharge of tomato processing wastewater from the Lemoore tomato processing facility will not degrade the beneficial uses of groundwater beneath the Use Area because the first encountered groundwater is not of high quality. The concentrations of the effluent ([Findings 7 and 8](#)) are less than the concentrations reported for background groundwater ([Finding 31](#)). EC and TDS concentrations in background groundwater are four to five times the EC and TDS concentrations of the effluent.

Treatment and Control Practices

43. The proposed expansion described in [Findings 11 through 16](#), once completed, provides treatment and control of the discharge that incorporates:
- a. Screening at the plant before discharge to the Use Area to remove solids that are hauled offsite and used as cattle feed;
 - b. Application of wastewater at plant uptake rates for nitrogen and organic loading;
 - c. Application of wastewater at rates that will not allow wastewater to stand for more than 48 hours;
 - d. Blending of wastewater with irrigation water to meet the agronomic requirements for crop growth or other measures to ensure even distribution of wastewater over the area irrigated; and
 - e. At least daily inspection of the Use Area during times of discharge.

44. This Order establishes groundwater limitations 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. This Order contains requirements for a groundwater assessment for assuring that the highest water quality consistent with the maximum benefit to the people of the State will be achieved.
45. According to Pollution Abatement in the Fruit and Vegetable Industry, published by the United States Environmental Protection Agency (US EPA Publication No. 625/3-77-0007) (hereafter Pollution Abatement), in applying food-processing wastewater to land for biological treatment, the loading of BOD₅ should not exceed 100 lbs/acre/day (as a cycle average) to prevent nuisance odors.

Water Recycling Criteria

46. State Water Board Resolution No. 77-1, Policy with Respect to Water Recycling in California, encourages recycling projects that replace or supplement the use of fresh water, and the Water Recycling Law (California Water Code Section 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.
47. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.

Designated Waste and Title 27

48. CWC Section 13173 defines designated waste as either:
- a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.
 - b. Non-hazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions as a waste management unit, could be released in concentrations exceeding applicable water quality objectives or could reasonably be expected to affect beneficial uses of the waters of the state contained in the appropriate state water quality control plan.
49. Release of designated waste is subject to full containment pursuant to the requirements of Title 27, CCR, Section 20005 et seq. (hereafter "Title 27"). Title 27 Section 20090(b) exempts discharges of designated waste to land from Title 27 containment standards provided the following conditions are met:
- a. The applicable regional water board has issued waste discharge requirements, or waived such issuance;
 - b. The discharge is in compliance with the applicable basin plan; and

- c. The waste is not hazardous waste and need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.

CEQA

- 50. On 2 August 2007, the Regional Water Board adopted Resolution No. R5-2007-0106, which approved the Initial Study and adopted a Negative Declaration for the discharge/recycling of wastewater to an approximately 2,600-acre disposal area from the Discharger's Lemoore Tomato Processing Facility.
- 51. This Order implements measures necessary to mitigate any adverse impacts to groundwater from the Expansion Project to less than significant levels, including:
 - a. [Effluent Limitation B.1](#), which restricts flow to 4.5 mgd;
 - b. [Discharge Specification C.4](#), which stipulates the wastewater will be blended with irrigation water or other approved measures to ensure even distribution over the irrigated area ; and
 - c. [Discharge Specification C.5](#), which stipulates waste constituents cannot be released or discharged in a concentration or mass that causes violation of the Order's groundwater limitations.

General Findings

- 52. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
- 53. The Regional Water Board will review this Order periodically and will revise requirements when necessary.
- 54. California Water Code Section 13267(b) states that: "In conducting an investigation specified in subdivision (a), the Regional Water 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, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water 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 Water 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."
- 55. The technical reports required by this Order and the attached Monitoring and Reporting Program No. [R5-2007-0157](#) are necessary to assure compliance with these waste

discharge requirements. The Discharger operates the Facility that discharges the waste subject to this Order.

56. The California Department of Water Resources set standards for the construction and destruction of groundwater wells, 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 California Water Code Section 13801, apply to all monitoring wells.

Public Notice

57. 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.

58. 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.

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

IT IS HEREBY ORDERED that, Waste Discharge Requirements Order No. 98-167 is rescinded and that, pursuant to Sections 13263 and 13267 of the CWC, SK Foods and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

A. 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 Section 2521(a) of Title 23, California Code of Regulations, Section 2510 et seq., is prohibited. Discharge of waste classified as 'designated,' as defined in California Water Code Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Application of treated wastewater in a manner or location other than that described herein is prohibited.

B. Effluent Limitations

1. The monthly average discharge flow shall not exceed 4.5 mgd.

2. Average BOD Loading to the Use 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).

C. Discharge Specifications

1. 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.
2. Objectionable odors shall not be perceivable beyond the limits of the Use Area property at an intensity that creates or threatens to create nuisance conditions.
3. Application of waste constituents to the Designated Disposal Area 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 Designated Disposal Area, including the nutritive value of organic and chemical fertilizers and of the wastewater shall not exceed the annual crop demand.
4. To provide for even distribution of wastewater to the Use Area, wastewater shall be blended with irrigation water (i.e., well or canal water) at a ratio of 1:1, or the Discharger shall implement other operational measures approved by the Executive Officer pursuant to Provision G.10.
5. 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.
6. Wastewater will not be discharged to the Use Area during periods of heavy rain or when surface soils are saturated to a point that would restrict the ability to infiltrate into the soils or cause wastewater to stand for greater than 48 hours.

D. Use Area Specifications

1. The perimeter of the Use 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.
2. No physical connection shall exist between tomato processing wastewater and any domestic water supply or domestic well, or between wastewater piping and any irrigation well that does not have an air gap or reduce pressure principle device.
3. The Use Area shall be managed to prevent breeding of mosquitoes. More specifically:
 - a. All applied irrigation water must infiltrate completely within a 48-hour period;

- b. Ditches not serving as wildlife habitat should be maintained 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.

E. Solids Specifications

1. Any handling and storage of solids and sludge at the tomato processing facility or in the Use 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 screenings, sludge's, 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, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control 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. Screenings may be land applied to a portion of the 2,600-acre Use Area provided that, at least 60 days prior to application, the Discharger submits a loading analysis that demonstrates the land application of solids will not cause an exceedance of any specification (particularly Discharge Specification C,3) or groundwater limitation of this Order.

F. Groundwater Limitations

Release of waste constituents from any treatment or storage component associated with the tomato processing facility or Use Area shall not cause or contribute to groundwater:

- a. Containing concentrations of constituents identified in Title 22 in excess of the MCLs quantified therein, or natural background quality, whichever is greater; or
- b. Containing taste or odor-producing constituents, or toxic substances, or any other constituents, in concentrations that cause nuisance or adversely affect beneficial uses.

G. Provisions

1. 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(s).
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. [R5-2007-0157](#), which is part of this Order, and any revisions thereto as adopted by the Regional 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.

3. The Discharger shall keep a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.
5. The Discharger must 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 include 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 only when the operation is necessary to achieve compliance with the conditions of the Order.
6. All technical reports and work plans 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 sections 415 and 3065 of Title 16, 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 and work plans 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.
7. 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 Regional 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 Regional Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
8. 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.

9. 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 that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Regional Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
10. Discharge Specification C.4 requires that wastewater be blended with irrigation water at a 1:1 ratio to ensure even distribution of wastewater to the Use Area. The Discharger may propose other options by submitting for Executive Officer approval a technical report describing other operational measures to reduce the potential for creating nuisance conditions. The technical report should consider such measures as distributing wastewater to the fields in pipelines instead of open ditches; pumping water from all conveyance systems immediately after use; and/or additional treatment of the wastewater at the processing plant before discharge to the Use Area.
11. By **1 January 2008**, the Discharger shall submit a Final Salinity Control Plan detailing all measures taken to reduce the salinity of the discharge, and documenting that all feasible salinity reduction measures have been implemented.
12. The pH of the discharge shall not be less than 4.5 or greater than 10 pH units for more than three consecutive 24-hour composite sampling events. In the event that the pH of the discharge is outside of this range for more than three consecutive sampling events, the Discharger shall submit a technical evaluation in its monthly SMRs documenting the pH of the blended discharge to the Designated Disposal Area, and if necessary demonstrate that the effect of the discharge on soil pH will not exceed the buffering capacity of the soil profile.
13. If the Regional Water Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of an objective for groundwater, this Order may be reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations for the problem constituents.

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 26 October 2007.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

Monitoring and Reporting Program

A Vicinity Map – SK Foods Lemoore

B. Process Flow Diagram – SK Foods Lemoore

C. Use Area Map with Monitoring Well Locations
Information Sheet

Standard Provisions (1 March 1991) (separate attachment to Discharger only)

JSP 8/23/07

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2007-0157
FOR
SK FOODS
LEMOORE TOMATO PROCESSING FACILITY
KINGS COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Regional 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. 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 Regional Water Board and used in determining compliance.

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 by the manufacturer at the recommended frequency; and
4. field calibration reports are submitted as described in the "Reporting" section of this MRP.

Each laboratory report shall clearly identify the following:

1. analytical method;
2. measured value;
3. units;
4. what constituent a value is reported as;
5. method detection limit (MDL);
6. reporting limit (RL) (i.e., a practical quantitation limit or PQL);
7. documentation of cation/balance for general minerals analysis of supply water and groundwater samples.

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

If monitoring consistently shows no significant variation in magnitude of a constituent concentration after at least 12 months of monitoring, the Discharger may request the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

DISCHARGE (EFFLUENT) MONITORING

The Discharger shall collect wastewater samples at a point in the system following the processing of tomatoes but before discharge to the Use Area. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Frequency</u>
Daily Flow ¹	gal/day	Continuous	Daily
Dissolved Oxygen	mg/L	Grab	Daily
Electrical Conductivity	µmhos/cm	24 hr – Composite ²	Weekly
pH	pH units	24 hr – Composite	Weekly
Total Suspended Solids (TSS)	mg/L	24 hr – Composite	Weekly
BOD ₅ ³	mg/L	24 hr – Composite	Weekly
Total Kjeldahl Nitrogen (TKN)	mg/L	24 hr – Composite	Monthly
Ammonia (as NH ₃ -N)	mg/L	24 hr – Composite	Monthly
Nitrate(as NO ₃ -N)	mg/L	24 hr – Composite	Monthly
Total Nitrogen	mg/L	24 hr – Composite	Monthly
Inorganic TDS ⁴	mg/L	24 hr – Composite	Monthly
General Minerals ⁵	mg/L	24 hr – Composite	Annually ⁶

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Frequency</u>
1 Flow shall be measured using a magnetic or ultrasonic flow meter.			
2 Unless otherwise approved, 24-hour composite samples shall be collected using a composite wastewater sampler synchronized with a flow meter to take flow proportional (volumetric) samples. While being composited samples shall be refrigerated at 4 °C (39.2 °F).			
3 Five-day, 20°C biochemical oxygen demand (BOD ₅)			
4 TDS, as used in this MRP, shall be determined using EPA Test Method No. 160.1 for combined organic and inorganic TDS and EPA Method No. 160.4 for inorganic TDS.			
5 General Minerals, as used in this MRP, shall include the constituents in the General Minerals Analyte List below.			
6 In July.			

General Minerals Analyte List¹

Alkalinity (as CaCO ₃)	Carbonate (as CaCO ₃)	pH
Arsenic	Chloride	Potassium
Bicarbonate (as CaCO ₃)	EC	Sodium
Boron	Hardness (as CaCO ₃)	Sulfate
Calcium	Magnesium	TDS

¹. General Minerals Analyte lists may vary depending on the laboratory, but shall include at least the above analytes and properties. An anion cation balance shall accompany results.

GROUNDWATER MONITORING

Concurrently with groundwater quality sampling, the Discharger shall measure the water level in each well as groundwater depth (in feet and hundredths) and as groundwater surface elevation (in feet and hundreds above mean sea level). The horizontal geodetic location of each monitoring well shall be provided where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum.

Prior to collecting samples and after measuring the water level, each monitoring well shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 volumes of the standing water within the well casing and screen, or additionally the filter pack pore volume.

The Discharger shall include in its submittal of groundwater elevation data, a contour map based on said data showing the gradient and direction of groundwater flow under/around the facility and effluent disposal area(s). The groundwater contour map shall also include the location of the monitoring wells and active storage and land disposal areas (i.e., areas receiving treated effluent).

Samples shall be collected quarterly from approved monitoring wells and analyzed for the following constituents:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Depth to groundwater	feet ¹ feet above mean sea level	Measured	Quarterly ² Quarterly ²
Groundwater elevation	sea level	Calculated	
Electrical Conductance	umhos/cm	Grab	Quarterly ²
pH	standard units	Grab	Quarterly ²
Nitrogen compounds:			
Nitrate (as NO ₃ -N)	mg/L	Grab	Quarterly ²
TKN	mg/L	Grab	Quarterly ²
Ammonia	mg/L	Grab	Quarterly ²
Total Nitrogen (as N)	mg/L	Calculated	Quarterly ²
General Minerals	mg/L	Grab	Annually ³
TOC	mg/L	Grab	Annually ³
Manganese ⁴	mg/L	Grab	Annually ³
Iron ⁴	mg/L	Grab	Annually ³

1. To the nearest hundredth of a foot.
2. January, April, July and October.
3. In October.
4. Samples must be filtered (by Discharger or the lab) prior to preservation.

In addition, the Discharger shall collect grab samples from the Use Area Irrigation supply wells and analyze them for the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Measurement</u>	<u>Frequency</u>
EC ¹	umhos/cm	Grab	Annually ²
Nitrate (as NO ₃ -N)	mg/L	Grab	Annually

¹ EC shall be reported as a flow-weighted average from all irrigation supply wells. Include copies of supporting calculations with monitoring reports.

² Once a season when irrigation water is used to supplement wastewater.

WATER SUPPLY MONITORING

The supply water for the facility shall be monitored as follows:

<u>Constituent</u>	<u>Units</u>	<u>Measurement</u>	<u>Frequency</u>
EC ¹	umhos/cm	Grab	Quarterly ²
Nitrate (as Nitrogen)	mg/L	Grab	Quarterly ²

¹ EC shall be reported as a flow-weighted average from all facility supply wells. Include copies of supporting calculations with monitoring reports.

² In July.

USE AREA MONITORING

The Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area. Data shall be collected and submitted quarterly:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Frequency</u>
Wastewater application field number	N/A	N/A	Daily
Precipitation	inches ¹	Rain gauge ²	Daily
Wastewater application area	acres	N/A	Daily
Wastewater flow	mgd	Continuous	Daily
Wastewater loading	inches/day/acre ³	Calculated	Daily
Supplemental irrigation flow	mgd	Estimated	Daily
Supplemental irrigation flow	inches/day/acre ³	Calculated	Daily
Total hydraulic loading rate ⁴	Inches/day/acre ³	Calculated	Daily
BOD ₅ loading rate ⁵			
on application day ⁶	lbs/acre/day	Calculated	Daily
averaged over application cycle ⁷	lbs/acre/day	Calculated	Daily
Monthly nitrogen loading rates ⁸			
from wastewater	lbs/acre/month	Calculated	Monthly
from fertilizers	lbs/acre/month	Calculated	Monthly
Cumulative Annual nitrogen loading rate ⁹	lbs/acre	Calculated	Monthly
Inorganic TDS loading rates ¹⁰	lbs/acre/month	Calculated	Monthly

¹ Report to the nearest 0.1 inch.

² National Weather Service data from the nearest weather station is acceptable.

³ Report to the nearest 0.001 inch.

⁴ Includes total liquid application (i.e., precipitation, wastewater, and irrigation water).

⁵ BOD₅ loading rates shall be calculated using the applied volume of wastewater, actual application area, and the average of the three most recent results of wastewater BOD₅.

⁶ Application day, as referred to in this MRP, shall be defined as a 24-hour period.

⁷ Application cycle, as referred to in this MRP, shall be defined as the period (in days) of wastewater application followed by resting interval until next wastewater application.

⁸ Wastewater nitrogen loading rates shall be calculated using the applied volume of wastewater, actual application area, and the wastewater total nitrogen.

⁹ Starting as zero each January 1

¹⁰ Inorganic TDS loading rates shall be calculated using the applied volume of wastewater, actual application

area, and the average of the three most recent results of wastewater inorganic TDS.

REPORTING

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

Monitoring data and/or discussions submitted concerning the Treatment System's performance must also be signed and certified by the chief plant operator. When reports contain laboratory analyses performed by the Discharger and the chief plant operator is not in the direct line of supervision of the laboratory, reports must also be signed and certified by the chief of the laboratory.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the discharge monitoring report.

A. Monthly Reports

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

1. Results of influent, effluent, pond, and use area (land application) monitoring;
2. Calculated Monthly Average Daily Flow;
3. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
4. Copies of laboratory analytical reports; and
5. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Quarterly Reports

Wastewater: Daily, weekly, monthly, and quarterly monitoring data shall be reported in quarterly monitoring reports. Quarterly monitoring reports shall be submitted to the Regional Water Board **by the 1st day of the second month after the calendar quarter** (i.e., the 1st Quarter Report is due by 1 May, 2nd Quarter Report is due by 1 August, and

the 3rd Quarter Report is due 1 November). At a minimum, the quarterly reports shall include:

1. Results of discharge, and use area monitoring;
2. Calculated Monthly Average Daily Flow;
3. Daily, Monthly, and Average loading calculations;
4. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
5. Copies of laboratory analytical reports; and
6. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

Groundwater: Quarterly groundwater monitoring data shall be reported in quarterly monitoring reports and submitted to the Regional Water Board as detailed in the previous section. Quarterly monitoring reports shall include all monitoring data required from quarterly groundwater monitoring events. The quarterly groundwater monitoring reports shall contain:

1. Quarterly groundwater contour maps;
2. Graphs of the laboratory analytical data for all samples taken from each well within at least the previous five calendar years. Each such graph shall plot over time for a given monitoring well the concentration of one or more waste constituents; and
3. All monitoring analytical data obtained during the quarter presented in tabular form and included with previous data obtained for the given well.

C. Annual Reports

Wastewater: An Annual Report shall be prepared as a fourth quarter monitoring report. The Annual Report will include all monitoring data required in the monthly/quarterly schedule plus the results of any annually sampled constituents (general minerals, selected metals, etc). The Annual Report shall be submitted to the Regional Board **by 1 February of the year following the year the samples were collected.** In addition to the data normally presented, the Annual Report shall include the following:

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal;
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations;
3. 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);
4. The results of an annual evaluation conducted pursuant to Standard Provisions E.4 and a figure depicting monthly average discharge flow for the previous five calendar years;
5. The most recent water supply report including laboratory data;
6. A summary of solids monitoring, including:
 - a. Annual solids production in dry tons; and
 - b. A description of the disposal methods used at the facility. If more than one method is used, include the percentage of solids production disposed of by each method.
7. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this Order.

Groundwater: An Annual Groundwater Monitoring Report shall be prepared as a fourth quarter groundwater monitoring report. The Annual Groundwater Monitoring Report will include all groundwater monitoring data required in the monthly/quarterly groundwater monitoring schedule plus the results of any annually sampled groundwater constituents (general minerals, selected metals, etc). The Annual Groundwater Monitoring Report shall be submitted to the Regional Board **by 1 February of the year following the year the samples were collected.** In addition to the data normally presented in the quarterly groundwater monitoring reports, the Annual Report shall include the following:

1. Quarterly groundwater contour maps from the previous four quarters;
2. Graphs of the analytical data for all samples collected from each monitoring well for at least five calendar years. Each such graph shall plot over time for a given monitoring well the concentration of one or more waste constituents specified herein and selected in concurrence with Regional Water Board staff. Graphs

shall be plotted at a scale appropriate to show trends or variations in water quality, and shall plot each datum, rather than plotting mean values; and

3. All monitoring data obtained during the previous monitoring events for at least the last five calendar years.

All technical reports required herein must be overseen and certified by a California registered civil engineer, certified engineering geologist, or certified hydrogeologist in accordance with California Business and Professions Code, sections 6735, 7835, and 7835.1.

All reports submitted in response to this Order shall comply with the signatory requirements in Standard Provision B.3.

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

PAMELA C. CREEDON, Executive Officer

26 October 2007

(Date)

INFORMATION SHEET

ORDER NO. R5-2007-0157
SK FOODS
LEMOORE TOMATO PROCESSING FACILITY
KINGS COUNTY

Background

SK Foods (Discharger) operates a tomato processing facility southwest of Lemoore, in Kings County. The tomato processing facility processes tomatoes for canning and currently has an average daily flow of about 1.7 million gallons per day (mgd) during the processing season (July through October) and about 400,000 gallons per day in the off-season. Before the 2007 processing season (July through October) wastewater was discharged to an 863-acre parcel southwest of the Facility. Wastewater is screened and aerated before being discharged to the Use Area.

The Discharger submitted a Report of Waste Discharge (RWD) dated October 2006, in support of an increase in the discharge to land of wastewater from the existing Facility. Waste Discharge Requirements (WDRs) Order No. 98-167, adopted by the Regional Water Board on 24 July 1998, limits the discharge flow to 2.5 mgd. The WDRs also establish daily maximum limits for biochemical oxygen demand (BOD) of 400 milligram per liter (mg/L). WDRs Order No. 98-167 does not reflect the configuration of the Wastewater Expansion Project.

The Wastewater Expansion Project consists of increasing the discharge limit to 4.5 mgd and discharging wastewater to an approximately 2,600-acre disposal site or Use Area about 5 miles southwest of the tomato processing facility. The increase in flows is primarily because flows that were formerly discharged to the City of Lemoore's wastewater treatment facility will now be discharged the Use Area. Additional processes within the facility may also require more water. The existing pipeline was modified and extended by the Discharger to reach the new Use Area and new lines will be constructed in 2008 to allow the increase in flow from the Facility.

Solids Disposal

The wastewater is screened at the tomato processing facility and the screenings (pomace and tomato hulls) are collected in a bin and hauled off-site as cattle feed. In the event the current solids disposal option ceases, the screenings will be land applied to a portion of the 2,600-acre Use Area. The Discharger estimates it produces about 15,000 tons annually.

Groundwater Conditions

Regional groundwater is contained within two aquifers; a lower confined aquifer exists beneath the Corcoran Clay and an upper unconfined aquifer exists above it. Available data indicates the top of the Corcoran Clay is about 500 feet bgs and is approximately 80 to 100 feet thick beneath the area. The upper unconfined aquifer is further divided into a lower zone and an upper-perched groundwater zone.

Groundwater quality of the lower confined aquifer is typically of excellent quality (EC concentrations between 250 and 650 umhos/cm) and provides the majority of water for

domestic purposes in the area. The deeper portion of the upper unconfined aquifer is reported to be of good quality with EC values ranging from 600 to 1,200 umhos/cm.

The shallow or perched aquifer is of extremely poor water quality. The Discharger installed 11 shallow monitoring wells at the Use Area in January 2007 before discharging tomato wastewater to the property. EC concentrations ranged from about 7,500 umhos/cm to 46,000 umhos/cm. All EC, chloride, sulfate, and TDS concentrations exceed primary or secondary maximum contaminant levels. The wastewater has EC concentrations that are at a minimum four to five times less than the lowest levels reported for the shallow groundwater indicating the wastewater will not degrade water quality with respect to these constituents.

Compliance History

WDRs Order No. 98-167 was written when the Discharger disposed of the wastewater by discharge to the Westlake Canal. Inspections in 1998 and 1999 observed several areas of the WDRS that the discharger was in violation of. Those violations included dissolved oxygen concentrations less than 1.0 milligrams per liter (mg/L), BOD greater than 400 mg/L, discharging untreated or partially treated wastewater, causing DO in the receiving water to fall below 5.0 mg/L, and failure to submit self monitoring reports.

An inspection in September 2000 revealed violations of the WDRs and Conditional Waiver for dissolved oxygen concentrations less than 1.0 mg/L, BOD greater than 400 mg/L, failing to notify the Regional Water Board of noncompliance, and causing DO in the receiving water to fall below 5.0 mg/L. A Notice of Violation for these issues was sent to the Discharger on 26 February 2001.

In June 2001, the Discharger began discharging to the currently used 863-acre Use Area. A site inspection on 8 August 2002 noted that no violations were observed. No effluent violations have been noted since then; however, the Discharger routinely submits late reports.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Basin Plan indicates the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Regional Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental EC limitation of 500 µmhos/cm as a measure of the maximum permissible addition of salt constituents through use.

Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/L, or boron content of 1.0 mg/L.

Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16 (Resolution 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 the 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 receiving water is not of high quality as it contains naturally occurring waste constituents in concentrations that exceed water quality objectives. The lowest EC concentrations observed in shallow groundwater are 4 to 5 times higher than the highest values recorded for the effluent applied. Total nitrogen concentrations in groundwater samples collected from the shallow wells range from 2.2 mg/L in well MW-10 to 110 mg/L in well MW-6. Effluent Total Nitrogen concentrations range from 6.1 mg/L to 75 mg/l in 2006, similar to that of the groundwater. The Discharger collected the available groundwater data in January, February, and March 2007 before the discharge of wastewater to the 2,600 acre Use Area in July 2007.

Treatment Technology and Control

The Wastewater Expansion Project will provide treatment and control of the discharge that incorporates:

- a. Screening at the plant before discharge to the Use Area to remove solids that are hauled offsite and used as cattle feed;
- b. Application of wastewater at plant uptake rates for nitrogen and organic loading;
- c. Application of wastewater at rates that will not allow wastewater to stand for more than 48 hours;
- d. Blending of wastewater with irrigation water to meet the agronomic requirements for crop growth or other measures to ensure even distribution of wastewater over the area irrigated; and
- e. At least daily inspection of the Use Area during times of discharge.

Title 27

Title 27, CCR, section 20005 et seq. (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

Title 27 Section 20090(b) exempts discharges of designated waste to land from Title 27 containment standards provided the Regional Water Board has issued waste discharge requirements or waived such issuance; the discharge is in compliance with the Basin Plan; and the waste need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.

Accordingly, the discharge of effluent and the operation of treatment or storage facilities associated with a food processing facility can be allowed without requiring compliance with Title 27, provided the resulting degradation of groundwater is in accordance with the Basin Plan.

CEQA

The Discharger submitted a draft Initial Study in October 2006 in conjunction with a RWD. Regional Water Board staff reviewed and edited the Initial Study and circulated it along with a draft Negative Declaration for public comment. Comments were received by the Department of Water Resources, Caltrans, the Department of Health Services, and a nearby landowner. Each comment was addressed and the CEQA documents were adopted at the August meeting of the Regional Water Board.

Proposed Order Terms and Conditions

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The proposed Order prohibits discharge to surface waters and water drainage courses.

The proposed Order would approve the increase over the current Order's monthly average daily discharge flow limitation from 2.5 to 4.5 mgd.

The proposed Order would set an Effluent Limitation on BOD loading of 100 lbs/acre/day, seasonally and over any particular discharge cycle. Based on the ten-day cycle time, the 2.5 mgd wastewater application rate, 700-acre Reuse Area, and a BOD concentration of 1,315 mg/L, the Discharger should be able to comply with these limits without further treatment. Compliance with this requirement as flows increase to the proposed 4.5 mgd flow limit is achievable through full use of the 2600-acre Reuse Area.

To provide for even distribution of wastewater to the Use Area, the proposed Order requires wastewater to be blended with irrigation water (i.e., well or canal water) at a ratio of 1:1, or the Discharger shall implement other operational measures approved by the Executive Officer pursuant to Provision G.10 of the proposed Order.

The proposed Order requires the Discharger to submit a Salinity Control Plan that will detail measures taken to reduce the salinity of the discharge and document that all feasible salinity reduction measures have been implemented.

The proposed WDRs would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedance of these objectives or natural background water quality, whichever is greatest.

Monitoring Requirements

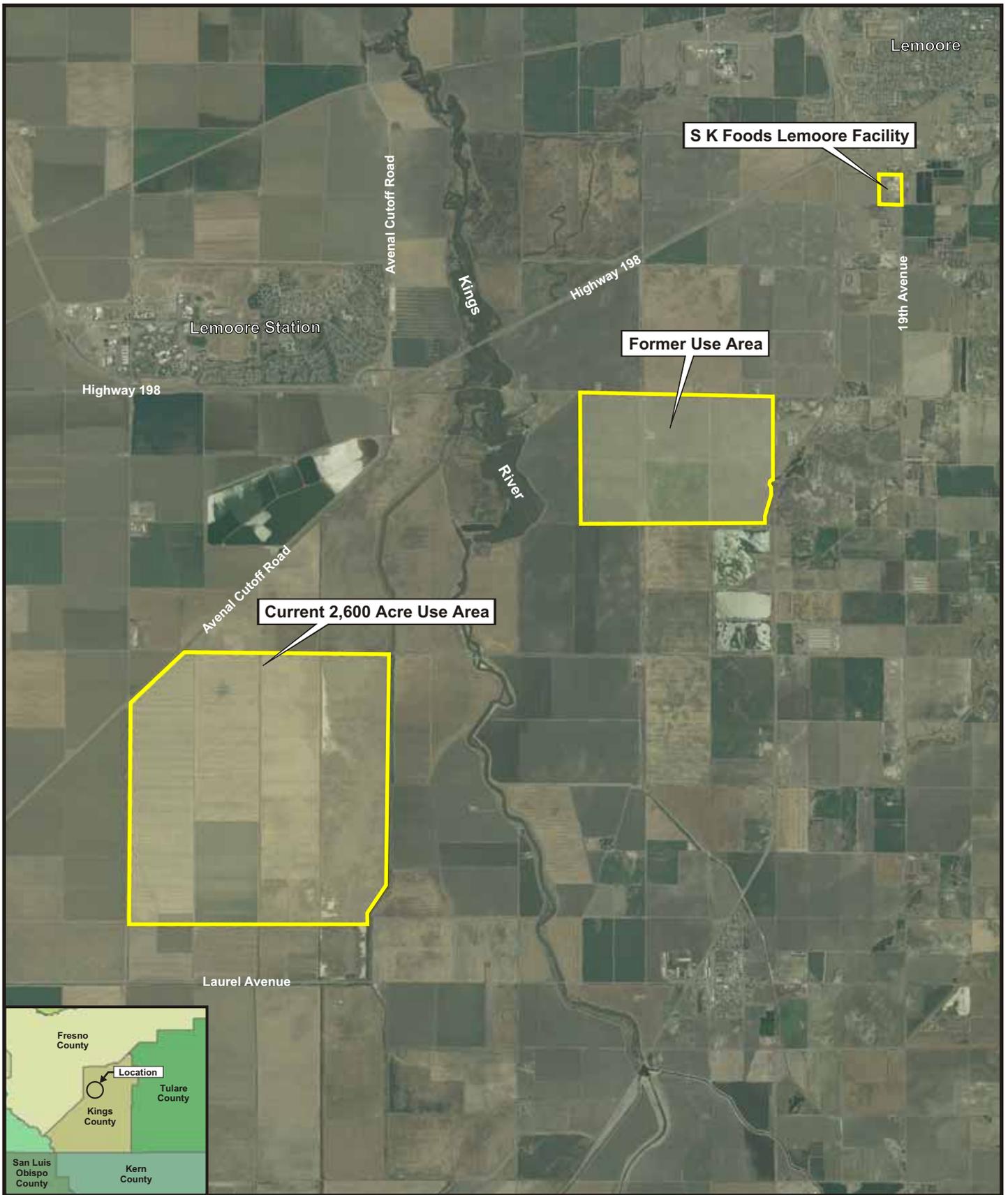
Section 13267 of the CWC authorizes the Regional Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. In recent years there has been an increased emphasis on obtaining all necessary information, assuring the information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

The proposed Order includes influent and effluent monitoring requirements, Use Area monitoring, groundwater monitoring, and water supply monitoring. The monitoring is necessary to evaluate groundwater quality and the extent of the degradation from the discharge.

Reopener

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

JSP 8/23/07

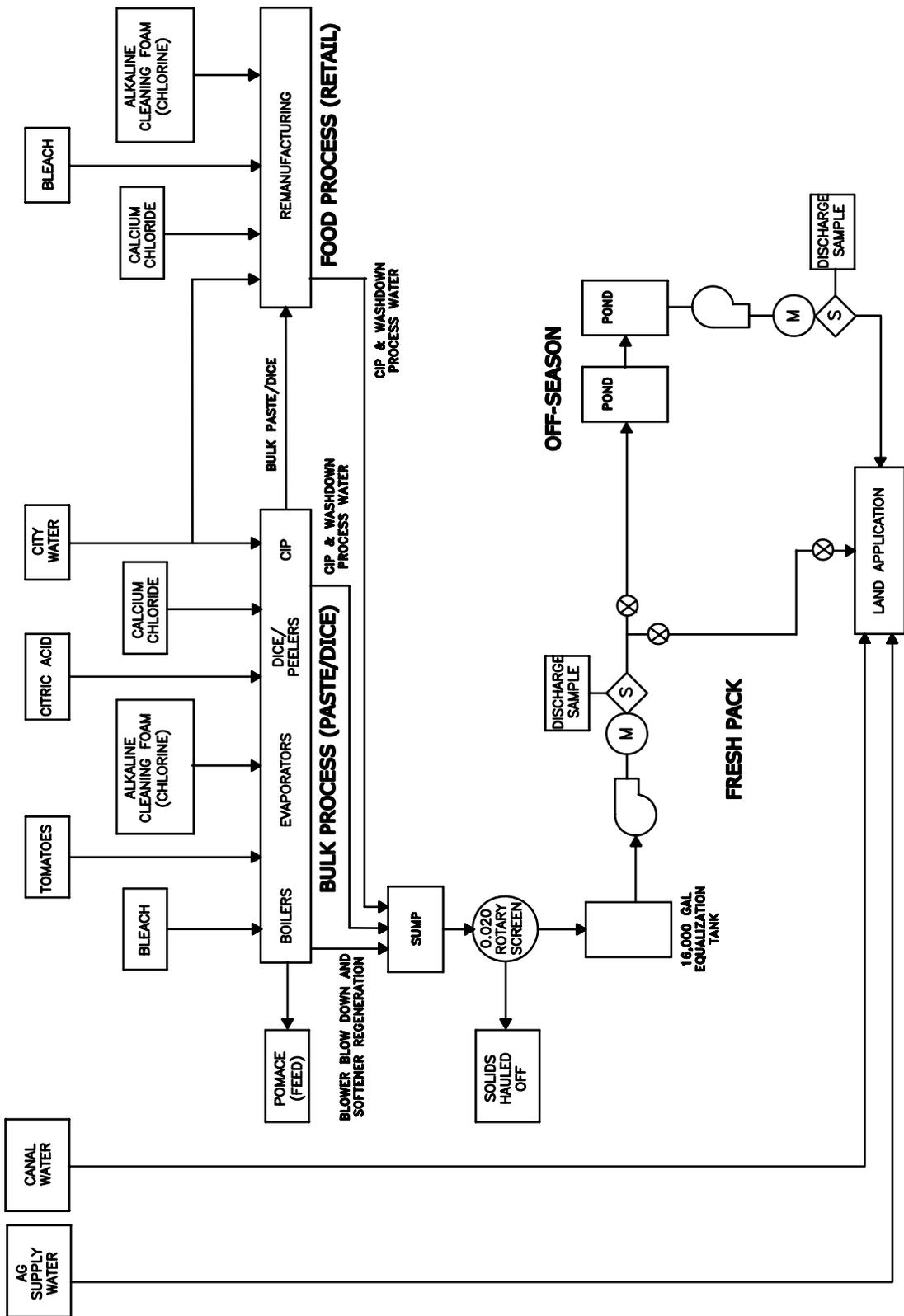


Map Source:
NAIP Aerial Photograph (2005)


 SCALE
 1 inch = 1 mile

SITE MAP
 ORDER NO. R5 -2007-0157
 WASTE DISCHARGE REQUIREMENTS
 FOR
 S K FOODS
 LEMOORE FACILITY
 KINGS COUNTY

ATTACHMENT A

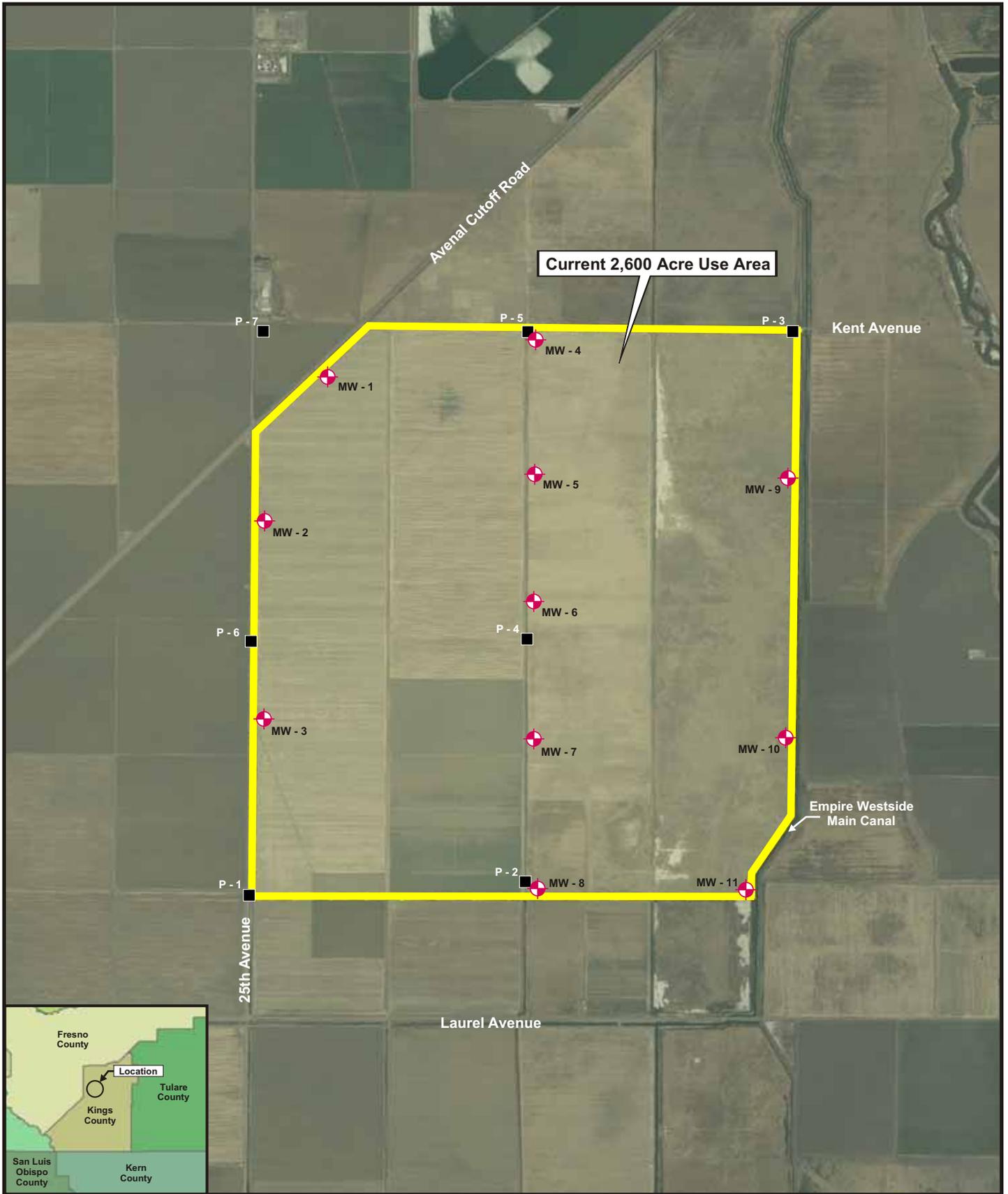


WASTEWATER TREATMENT PLANT FLOW DIAGRAM

ORDER NO. R5 -2007-0157
 WASTE DISCHARGE REQUIREMENTS
 FOR
 S K FOODS
 LEMOORE FACILITY
 KINGS COUNTY

NOT TO SCALE

ATTACHMENT B



Current 2,600 Acre Use Area

Kent Avenue

Empire Westside Main Canal

Laurel Avenue

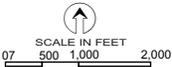
25th Avenue



Map Source:
NAIP Aerial Photograph (2005)

-  MW - 7 Monitoring Well
-  P - 1 Piezometer

Note: All well locations are approximate



USE AREA MAP / MONITORING WELLS

ORDER NO. R5 -2007-0157

WASTE DISCHARGE REQUIREMENTS

FOR

S K FOODS
LEMOORE FACILITY
KINGS COUNTY

ATTACHMENT C