

**REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN REGION
PUBLIC HEARING SCHEDULED FOR JANUARY 11-12, 2012**

**TRANSMITTAL OF WRITTEN MATERIALS FOR CONSIDERATION OF
COMPLAINT NO. R6V-2011-0082**

FOR

**ADMINISTRATIVE CIVIL LIABILITY ISSUED TO
HECTOR HUERTA AND GREEN VALLEY FOODS PRODUCTS, INC.,
SAN BERNARDINO COUNTY**

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SECTION I

LIST OF WITNESSES

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1. Brianna Bergen, P.G., Engineering Geologist, Regional Water Quality Control Board, Lahontan Region
2. Lisa Scorallo, P.G., Engineering Geologist, Regional Water Quality Control Board, Lahontan Region
3. Howard Hold, P.G., Regional Water Quality Control Board, Central Valley Region
4. Dennis Draeger, Assessor-Recorder-County Clerk, San Bernardino County
5. Patrice Copeland, P.G., Senior Engineering Geologist, Regional Water Quality Control Board, Lahontan Region
6. Scott C. Ferguson, P.E., Senior Water Resource Control Engineer, Chief - Enforcement and Special Projects Unit, Regional Water Quality Control Board, Lahontan Region
7. Charles L. Curtis, P.E., Supervising Water Resource Control Engineer, Manager - Cleanup and Enforcement Division, Regional Water Quality Control Board, Lahontan Region
8. Lauri Kemper, P.E., Assistant Executive Officer, Regional Water Quality Control Board, Lahontan Region

SECTION II

SUMMARY OF TESTIMONY

**SUMMARY OF TESTIMONY OF BRIANNA BERGEN, LISA SCORALLE,
HOWARD HOLD, PATRICE COPELAND, SCOTT C. FERGUSON, CHARLES
L. CURTIS, AND LAURI KEMPER**

- Hector Huerta and Green Valley Foods Products Inc. operate a cheese production facility (Facility);
- The Facility discharges waste to land;
- The Facility's waste discharge is subject to waste discharge requirements (Board Order No. R6V-2010-0019).
- Evidence supporting violations of Board Order No. R6V-2010-0019 (failure to submit required documents);
- Legal authority for the Water Board to impose administrative civil liability for violation of waste discharge requirements;
- Application of Enforcement Policy administrative civil liability methodology and supporting information; and
- Recommendation to the Water Board.

**SUMMARY OF TESTIMONY OF DENNIS DRAEGER,
SAN BERNARDINO COUNTY ASSESSOR-RECORDER-COUNTY CLERK**

- Authenticate copies of San Bernardino County records obtained from San Bernardino County Assessor-Recorder-County Clerk Internet Site (<http://www.co.san-bernardino.ca.us/assessor/>).

SECTION III

LIST OF EXHIBITS

LIST OF EXHIBITS

| Exhibit No. | Description of Exhibit |
|-------------|---|
| 1 | Board Order No. R6V-2010-0019 |
| 2 | Complaint No. R6V-2011-0082 |
| 3 | Green Valley Foods Surface Impoundment Design Submittal, dated April 2009 |
| 4 | Water Board Staff letter to Green Valley Foods, dated July 2, 2009 |
| 5 | Green Valley Foods Surface Impoundment Design Submittal, dated July 22, 2010 |
| 6 | Water Board Staff letter to Green Valley Foods, dated September 20, 2010 |
| 7 | Water Board Staff Notice of Violation to Green Valley Foods, dated January 26, 2011 |
| 8 | Green Valley Foods (John Stamford) letter to Water Board, dated February 15, 2011 |
| 9 | Water Board Staff Inspection Report for April 4, 2011 Inspection |
| 10 | Water Board Staff Inspection Report for April 5, 2011 Inspection |
| 11 | Water Board Staff Inspection Report for April 6, 2011 Inspection |
| 12 | Water Board Staff Notice of Violation to Green Valley Foods, dated May 31, 2011 |
| 13 | Green Valley Foods (John Driscoll) letter to Water Board, dated June 24, 2011, and LGC Inland Consultants Project Memorandum, dated June 24, 2011 |

LIST OF EXHIBITS, continued

| | |
|----|---|
| 14 | Water Board Staff letter to Green Valley Foods, dated June 27, 2011 |
| 15 | Water Board Staff Inspection Report for July 11, 2011 Inspection |
| 16 | Water Board Staff Inspection Report for July 22, 2011 Inspection |
| 17 | Water Board Staff Inspection Report for August 26, 2011 Inspection |
| 18 | Water Board CD with 3 videos: a) Green Valley Foods unauthorized Facility waste discharge, April 6, 2011 b) Green Valley Foods unauthorized Facility waste discharge, July 22, 2011 c) Green Valley Foods unauthorized Facility waste discharge, August 26, 2011 |
| 19 | Green Valley Foods Report of Waste Discharge, dated August 31, 2011 |
| 20 | Water Board Staff letter (Incomplete Report of Waste Discharge) to Green Valley Foods, dated September 30, 2011 |
| 21 | Electronic mail providing estimated costs to prepare plans and reports required by Board Order No. R6V-2010-0019, from Howard Hold, RWQCB-Region 5 staff to Lisa Scorallo, RWQCB-Region 6 staff, dated October 12, 2011 |
| 22 | Electronic mail identifying professional background and title 27 experience, from Howard Hold to Lisa Scorallo, dated October 18, 2011 |
| 23 | Water Board Staff Inspection Report for October 28, 2011 Inspection |

LIST OF EXHIBITS, continued

| | |
|----|---|
| 24 | Water Board Staff Inspection Report for November 8, 2011 Inspection |
| 25 | San Bernardino County Assessor's Online Property Information Management System, excerpts from files documenting properties owned by Hector Huerta and Green Valley Foods Products, Inc. |
| 26 | Water Board Staff Enforcement Costs |
| 27 | California Integrated Water Quality System (CIWQS) – Green Valley Foods Violation Report |

SECTION IV

EXHIBITS

EXHIBIT NO. 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. R6V-2010-0019
WDID NO. 6B360704003

WASTE DISCHARGE REQUIREMENTS
FOR

GREEN VALLEY FOODS PRODUCTS, INC., AND HECTOR HUERTA
CHEESE PROCESSING FACILITY,
CLASS II SURFACE IMPOUNDMENT

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Water Board), finds that:

1. Report of Waste Discharge

Green Valley Foods Products, Inc., (Green Valley Foods) has discharged wastes for over ten years without filing a Report of Waste Discharge to the Water Board. After receiving a request from the Water Board, Green Valley Foods submitted an initial permit application/Report of Waste Discharge (RWD) on April 6, 2007. Water Board staff reviewed the RWD and notified Green Valley Foods that it was incomplete. A series of submittals by Green Valley Foods and responses by Water Board staff were exchanged between April 2007 and July 2009; however, the RWD remains incomplete because the submitted design of the Surface Impoundment is insufficient to contain the proposed discharge. The Water Board is imposing these waste discharge requirements pursuant to Water Code Section 13263(d).

2. Discharger

Hector Huerta, landowner, and Green Valley Foods, is hereafter referred to as the "Discharger." The Discharger owns and operates a cheese manufacturing plant that processes milk (both liquid and solid) into rounds of Mexican style hard cheese called Cotija.

3. Facility

The cheese manufacturing plant consists of two parcels located at 25660 and 25684 Community Drive in Barstow (Assessor's Parcel Numbers 0497-221-13-0-000 and 0497-221-14-0-000, respectively), as shown on Attachment A, which is made a part of this Order. Parcel 0497-221-13-0-000 is currently used for wastewater disposal to land. Parcel 0497-221-14-0-000 contains the food processing operations, unpaved access roads, employee parking, four residential houses, and the domestic water supply well that provides the water to both the cheese manufacturing plant and the residences. The Discharger reports that the cheese manufacturing plant has been in operation for over ten years. Operations of the cheese manufacturing plant results in the discharge of up to 10,000 gallons of wastewater per day to the

currently vacant parcel. The Discharger has proposed to discontinue this practice and restrict wastewater discharge to one Surface Impoundment. For the purposes of this Order, the Surface Impoundment, the cheese manufacturing plant, and related piping and appurtenances will be referred to herein as the Facility. Land use within 1,000 feet of the Facility includes residential, dairy, and agriculture.

4. Enforcement History

On December 10, 2007, the Executive Officer ordered the Discharger to submit Technical Reports pursuant to California Water Code (CWC), section 13267 to determine if discharges from the Facility have polluted or threaten to pollute groundwater. The groundwater data submitted in response to this Order indicate that the Discharger's current discharge practice has likely caused or contributed to groundwater pollution with respect to iron, nitrates, specific conductance, total dissolved solids (TDS), and volatile organic compounds (VOCs).

5. Order History

These are new Waste Discharge Requirements (WDRs) for the Facility.

6. Reason for Action

The Discharger's wastewater discharge to land is not currently regulated by WDRs. The disposal of wastewater to land surface and percolation to groundwater at the volume and concentration reported in the RWD has likely caused groundwater quality to exceed water quality objectives (WQOs). The continued operation of the Facility must be protective of groundwater quality and beneficial uses. To that end, the Water Board is requiring the Discharger to contain Facility wastewater in a lined Class II Surface Impoundment in accordance with California Code of Regulations (CCR), title 27, section 20210.

7. Wastewater Characterization

Wastewater discharged from the Facility consists of water and cleaning solution used for cleaning the cheese-making equipment and the rinsate from the milk delivery truck discharge spigots. Currently, the solids washed off of the equipment, the water and cleaning solution used to clean the equipment, and the rinsate from the milk delivery truck discharge spigots are commingled in an underground storage tank, pumped to a nearby vacant parcel, and discharged to the ground.

Wastewater from the Facility was sampled by Water Board staff on February 9, 2007. Two samples were collected: one of the effluent flowing from the discharge pipe, and one of the wastewater that had ponded at the discharge location. The Discharger collected an additional wastewater sample from the Facility on December 18, 2008. Analytical results from this sampling event were provided to Water Board

staff on February 2, 2009. The analytical results of all sampling efforts are presented in Table 1.

8. Waste Classification

Based on the analytical results presented in Table 1, the discharge from the Facility is classified as a designated waste. Designated waste is defined in CWC, section 13173, subdivision (b) as "nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan." Continued discharge of waste at these concentrations, specifically chloride, total and fecal coliform, fluoride, iron, pH, specific conductance, total dissolved solids, and volatile organic compounds, without containment or treatment will continue to violate water quality objectives for the receiving water.

9. Waste Management Unit Classification

The discharge from this Facility must be fully contained in a Class II waste management unit, as defined in CCR, title 27, section 20250. Residual solids are to be removed from the Surface Impoundment as part of routine maintenance. Any solids collected from the discharge must be disposed at a Class II waste management unit.

10. Description of Surface Impoundment

CCR, title 27, section 20210 requires that a Class II Surface Impoundment be designed to completely contain the waste. The Surface Impoundment must be: (a) double-lined with a no less than 1×10^{-6} cm/sec permeability, (b) equipped with a leachate collection and removal system (LCRS), (c) able to contain the additional volume of water from a 1,000-year, 24-hour storm event, in addition to the maximum design volume, while maintaining two feet of freeboard, (d) able to withstand seismic shaking from a maximum credible earthquake, and (e) installed, tested, and inspected in accordance with an accepted Construction Quality Assurance Plan.

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AND HECTOR HUERTA
CHEESE PROCESSING FACILITY
CLASS II SURFACE IMPOUNDMENT
San Bernardino County**

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WDID NO. 6B360704003**

Table 1 – Wastewater Discharge Sample Results

| Constituent | Units | Ponded Effluent Concentration, 2/6/2007 | Effluent Discharge Pipe Concentration, 2/9/2007 | Discharge Concentration, 12/18/2008 | MCL |
|--------------------------------|------------|---|---|-------------------------------------|---------------------------|
| Ammonia – Nitrogen | mg/L | 85 | 24 | 6.1 | NE |
| Barium | µg/L | 130 | 160 | 110 | 1,000 |
| BOD (Biological Oxygen Demand) | mg/L | 12,000 | >2,500 | 2,200 | NE |
| Calcium | mg/L | 210 | 220 | 120 | NE |
| COD (Chemical Oxygen Demand) | mg/L | 15,000 | 26,000 | 3,900 | NE |
| Chloride | mg/L | 6,600 | 2,600 | 1,500 | 250 |
| Coliform, Fecal | MPN/100 ml | >1,600 | NA | NA | 1.1MPN/100ml ² |
| Coliform, Total | MPN/100 ml | >1,600 | Present ¹ | NA | 1.1MPN/100ml ² |
| Fluoride | mg/L | 400 | 180 | 0.4 | 2 |
| Hardness | mg/L | 700 | 670 | 410 | NE |
| Iron | µg/L | 3,900 | 2,000 | 170 | 300 |
| Kjeldahl Nitrogen | mg/L | 290 | 140 | 76 | NE |
| Magnesium | mg/L | 41 | 30 | 23 | NE |
| Manganese | µg/L | 15 | <50 | 13 | 50 |
| Nitrate (As N) | mg/L | 3.0 | 4.1 | 0.8 | 10 |
| Orthophosphate Phosphorous | mg/L | 260 | 220 | 19 | NE |
| pH | units | 3.96 | 4.49 | 7.0 | 6.5-8.5 ² |
| Potassium | mg/L | 440 | 320 | 110 | NE |
| Sodium | mg/L | 3,800 | 1,900 | 970 | NE |
| Specific Conductance | µmhos/cm | 18,000 | 10,000 | 5,700 | 900 |
| Sulfate | mg/L | 260 | 230 | 190 | 250 |
| TDS (Total Dissolved Solids) | mg/L | 18,000 | 9,800 | 5,100 | 500; 1,000; 1,500 |
| Total Phosphorous | mg/L | 130 | 82 | 29 | NE |
| TSS (Total Suspended Solids) | mg/L | 490 | 720 | 160 | NE |
| Zinc | µg/L | 240 | 130 | 27 | 5,000 |
| Volatile Organic Compounds: | | | | | |
| 3&4-Methylphenol | µg/L | <10 | 15 | | NE |
| Acetone | µg/L | 4,200 | 63 | 150 | NE |
| Bis(2-ethylhexyl)- phthalate | µg/L | 17 | <10 | NA | 2 |
| Bromodichloromethane | µg/L | <5 | 1 | <5.0 | 80 |
| Chloroform | µg/L | 34 | 16 | <5.0 | 80 |

Notes: Bolded values indicate an exceedance of the State maximum contaminant level.

1 Indicates total coliform was detected in the sample.

2 Per the Water Quality Control Plan, Lahontan Region (Basin Plan).

MCL

µg/L

mg/L

MPN/100 ml

NA

NE

= Maximum contaminant level.

= Micrograms per liter.

= Milligrams per liter.

= Most probably number per 100 milliliters.

= Not analyzed.

= MCL not established for this constituent.

11. Engineered Alternative to the Prescriptive Standard for the Surface Impoundment

CCR, title 27, includes prescriptive standards for waste management unit construction and also allows for engineered alternatives to such standards. CCR, title 27, section 20080, subdivisions (b) and (c), require that alternatives shall only be approved where the Discharger demonstrates that: (a) the construction of prescriptive standard is not feasible because it is unreasonably and unnecessarily burdensome and will cost substantially more than alternatives which meet the criteria, or is impractical and will not promote attainment of applicable performance standards; and (b) there is a specific engineered alternative that is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment.

The Discharger has proposed an engineered alternative to the prescriptive standard for the Surface Impoundment. However, the proposed design does not provide equivalent protection against water quality impairment because the proposed design is not large enough to contain the volume of the proposed discharge and the proposed design does not include a leachate collection and removal system, as required by CCR, title 27, for Class II Surface Impoundments. The Water Board rejects the Discharger's proposal for an engineered alternative and requires the Discharger to submit a proposed design for the Surface Impoundment that meets the requirements of CCR, title 27.

12. Action Leakage Rate

An action leakage rate (ALR) is based on design dimensions and specifications of a Surface Impoundment, and a 1992 United States Environmental Protection Agency (USEPA) guidance document, *Action Leakage Rates for Leak Detection Systems, Supplemental Background Document for the Final Double Liners and Leak Detection Systems Rule for Hazardous Waste Landfills, Waste Piles, and Surface Impoundments*. An industry standard ALR of no more than 20 gallons/day/acre through the upper liner of the double-lined Surface Impoundment into a leachate collection sump must be included in the Surface Impoundment Design Plans for this Facility.

This Order requires the Discharger to immediately take steps to locate and repair leak(s) in the liner system and notify the Water Board if the ALR is exceeded and to cease discharge and submit a time schedule for installation of a new liner if repairs do not result in a leakage rate less than the ALR.

13. Climate

Precipitation in the area of the Facility is less than five inches annually. The average surface evaporation rate is approximately 80 inches annually according to the United

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States Department of Agriculture (USDA) Soil Conservation Service. The area typically has hot summers and mild winters. The Western Regional Climate Center, Barstow station, reports an average summer high of 109.6 degrees Fahrenheit and an average winter high of 64.2 degrees Fahrenheit.

14. Site Topography

The topography of the site is gently sloping downward to the east, with an elevation of 2,178 feet above mean sea level in the west and 2,175 feet above mean sea level in the east.

15. Site Geology

Surficial soils at the Facility are sandy soils. The soils in the vicinity of the current wastewater discharge to land are indurated (cemented) to an unknown depth, likely due to salt-cementation when liquids evaporate and leave residual salt in soil pore spaces. Subsurface soils are poorly sorted, fine- to coarse-grained sand to sandy gravel, with some cobble layers.

The Lenwood-Lockhart fault zone, Lenwood Section, is approximately two miles south of the facility and is the closest Holocene fault. Dextral slip is between 0.2 and 1.0 millimeters per year (mm/yr), but can occur at greater values when triggered by other seismic events.

16. Site Hydrogeology and Hydrology

The Facility site is located approximately ¾ mile north of the Mojave River, but the site is not located within a 100-year floodplain of the river. Groundwater beneath the Facility is encountered at approximately 65 feet below ground surface.

17. Groundwater Quality

The Discharger has been discharging wastewater to ground for over a decade. The Discharger conducted an investigation to determine if discharges from the Facility have polluted or threaten to pollute groundwater. As part of that investigation, five monitoring wells were installed in and around the current area of discharge. The groundwater data submitted as a result of that investigation indicate that the Discharger's current practice has likely caused or contributed to groundwater pollution with respect to iron, nitrates, specific conductance, total dissolved solids (TDS), and volatile organic compounds (VOCs). Sampling results from this groundwater investigation are presented in Table 2. Due to a limited data set, the extent of the Discharger's contribution to groundwater pollution has not yet been fully determined. Groundwater flow velocity has not yet been determined at this site. Regional groundwater flow direction is believed to be influenced by the nearby

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Mojave River, but is overall to the east-southeast. However, it is evident that the groundwater in the vicinity of the Facility has been negatively impacted.

Because the current discharge is essentially upgradient of the proposed Surface Impoundment location, additional monitoring wells will need to be installed to adequately characterize the background water quality upgradient of the proposed Surface Impoundment.

Table 2. Groundwater Investigation Results

| | Units | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MCL |
|-----------------------------------|----------------|-------|-------|-------|-------|-------|-------------------------------|
| Screen Interval | ft bgs | 60-80 | 60-80 | 60-80 | 60-80 | 60-80 | |
| Depth to Water | ft | 61.65 | 60.52 | 63.50 | 62.10 | 64.28 | |
| Alkalinity, Total | mg/L | 280 | 120 | 260 | 220 | 180 | NE |
| Ammonia - Nitrogen | mg/L | 0.11 | <0.1 | <0.1 | <0.1 | <0.1 | NE |
| Barium | µg/L | 180 | <100 | 130 | 150 | 110 | 1000 |
| Bicarbonate | mg/L | 340 | 150 | 320 | 270 | 220 | NE |
| BOD (Biological Oxygen Demand) | mg/L | <5 | <5 | <5 | <5 | <5 | NE |
| COD (Chemical Oxygen Demand) | mg/L | 17 | 13 | 24 | 28 | 13 | NE |
| Chloride | mg/L | 200 | 65 | 250 | 150 | 170 | 250 |
| Coliform, Fecal | MPN/ 100 ml | <2 | 27 | 8 | 23 | <2 | 1.1MPN/ 100ml ¹ |
| Coliform, Total | MPN/ 100 ml | <2 | 27 | 8 | 9000 | 130 | 1.1MPN/ 100ml ¹ |
| Fluoride | mg/L | 0.6 | 0.7 | 0.7 | 0.5 | 0.6 | 2 |
| Iron | µg/L | 7400 | 3600 | 1400 | 2800 | 2400 | 300 |
| Manganese | µg/L | 230 | 81 | 59 | 68 | 79 | 50 |
| Nitrate (As N) | mg/L | 22 | 3.2 | 13 | 12 | 5.0 | 10 |
| Kjeldahl Nitrogen | mg/L | <0.1 | <0.1 | <0.1 | <0.1 | 0.11 | NE |
| Total Nitrogen | mg/L | 22 | 3.2 | 13 | 12 | 5.1 | NE |
| Orthophosphate Phosphorous | mg/L | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NE |
| pH | units | 7 | 7.6 | 7.4 | 7.4 | 7.2 | 6.5-8.5 ¹ |
| Total Phosphorous | mg/L | 0.18 | 0.13 | 0.06 | 0.06 | 0.12 | NE |
| Potassium | mg/L | 6.2 | 3.5 | 5.7 | 5.1 | 4.5 | NE |
| Sodium | mg/L | 170 | 100 | 200 | 140 | 140 | NE |
| Specific Conductance | umhos /cm | 1800 | 770 | 1900 | 1400 | 1300 | 900 |
| TDS (Total Dissolved Solids) | mg/L | 1100 | 460 | 1200 | 1100 | 790 | 500; 1,000; 1,500 |
| TSS (Total Suspended Solids) | mg/L | 100 | 80 | 49 | 53 | 85 | NE |
| Zinc | µg/L | 23 | 16 | 10 | <10 | <10 | 5000 |

Table 2. Groundwater Investigation Results (continued)

| | Units | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MCL |
|------------------------------------|--------|-------|-------|-------|-------|-------|-----|
| Screen Interval | ft bgs | 60-80 | 60-80 | 60-80 | 60-80 | 60-80 | |
| Depth to Water | ft | 61.65 | 60.52 | 63.50 | 62.10 | 64.28 | |
| Volatile Organic Compounds (VOCs): | | | | | | | |
| Acetone | µg/L | <5 | <5 | 11 | 12 | 6.6 | NE |
| Bromodichloro methane | µg/L | 2.7 | 0.58 | 1.1 | 1.6 | 1 | 80 |
| Bromoform | µg/L | <0.5 | <0.5 | <0.5 | 0.53 | <0.5 | 80 |
| Chloroform | µg/L | 17 | 3.3 | 3.5 | 12 | 5.1 | 80 |
| Dibromochloro methane | µg/L | 1.1 | 0.5 | 0.78 | 0.79 | 0.73 | 80 |

Notes:
 Bolded values indicate an exceedance of the MCL.
 1 = Per the Water Quality Control Plan, Lahontan Region (Basin Plan).
 µg/L = Micrograms per liter.
 mg/L = Milligrams per liter.
 MCL = Maximum contaminant level.
 NA = Not applicable.
 NE = MCL not established for this constituent.

Groundwater in the vicinity of the Facility is used primarily for domestic and agricultural uses. Water Board staff sampled the domestic groundwater supply well at the Facility on February 9, 2007. This well supplies potable water to four residences on the Facility property and to the cheese manufacturing plant. Private domestic wells, located south of the Facility and Community Boulevard that supply the residences to the southeast (SE) and south (S) of the Facility, were sampled on February 7, 2007, and February 14, 2008. The domestic groundwater supply well at the Facility was sampled again on December 18, 2008. Results of groundwater samples collected from the Facility domestic supply well and other domestic supply wells in the vicinity are presented in Table 3, Groundwater Quality Results, below.

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Table 3 – Groundwater Quality Results

| Date Sampled | | 2/9/2007 | 2/7/2007 | 2/14/2008 | 12/18/2008 | |
|--|------------|--|---|---|--|---------------------------|
| Constituent | Units | Facility Domestic Supply Well Concentration ¹ | Private Domestic Supply Well (Southeast) Concentration ¹ | Private Domestic Supply Well (South) Concentration ¹ | Facility Domestic Supply Well Concentration ¹ | MCL |
| Alkalinity, Total | mg/L | 180 | 150 | 150 | NA | NE |
| Ammonia - Nitrogen | mg/L | <0.1 | <0.1 | <0.5 | <0.1 | NE |
| Antimony | µg/L | <50 | <50 | <6 | NA | 6 |
| Arsenic | µg/L | <5 | <5 | <2 | NA | 10 |
| Barium | µg/L | 140 | 80 | <100 | 110 | 1,000 |
| Beryllium | µg/L | <5 | <5 | <1 | NA | 4 |
| Bicarbonate | mg/L | 180 | 150 | 180 | NA | NE |
| BOD | mg/L | <5 | <5 | <5 | <3 | NE |
| Cadmium | µg/L | <10 | <10 | <1 | NA | 5 |
| Calcium | mg/L | 120 | 87 | 59 | 100 | NE |
| Carbonate | mg/L | <5 | <5 | <5 | NA | NE |
| COD | mg/L | <7 | <7 | 23 | 38 | NE |
| Chloride | mg/L | 120 | 100 | 76 | 120 | 250 |
| Cobalt | µg/L | <20 | <20 | <10 | NA | NE |
| Coliform, Fecal | MPN/100 mL | NA | <2 | <2 | <1 | 1.1MPN/100ml ² |
| Coliform, Total | MPN/100 mL | Absent | <2 | <2 | <1 | 1.1MPN/100ml ² |
| Chromium | µg/L | <20 | <20 | <10 | NA | 50 |
| Copper | µg/L | <20 | <20 | <50 | NA | 1,300 |
| Fluoride | mg/L | 0.35 | 0.62 | 0.45 | 0.5 | 2 |
| Hardness | mg/L | 390 | 290 | 190 | 330 | NE |
| Heterotrophic Plate Count | CFU/mL | NA | NA | NA | 7.0 | NE |
| Hydroxide | mg/L | <5 | <5 | <5 | NA | NE |
| Iron | mg/L | <0.1 | 0.24 | <0.1 | <0.05 | 0.3 |
| Lead | µg/L | <5 | <5 | <5 | NA | 15 |
| Magnesium | mg/L | 22 | 16 | 9.8 | 18 | NE |
| Manganese | µg/L | <10 | <10 | <10 | <10 | 50 |
| Mercury | µg/L | <0.2 | <0.2 | <1 | NA | 2 |
| Methylene Blue Active Substance (MBAS) | mg/L | <0.1 | <0.1 | <0.1 | NA | 500 |

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Table 3 – Groundwater Quality Results (continued)

| Date Sampled | | 2/9/2007 | 2/7/2007 | 2/14/2008 | 12/18/2008 | |
|---|----------|--|---|---|--|----------------------|
| Constituent | Units | Facility Domestic Supply Well Concentration ¹ | Private Domestic Supply Well (Southeast) Concentration ¹ | Private Domestic Supply Well (South) Concentration ¹ | Facility Domestic Supply Well Concentration ¹ | MCL |
| Molybdenum | µg/L | <20 | <20 | <10 | NA | NE |
| Nickel | µg/L | <20 | <20 | <10 | NA | 100 |
| Nitrate (As N) | mg/L | 6.4 | 3.6 | 0.7 | 1.0 | 10 |
| Nitrite as N | mg/L | <0.4 | <0.4 | <400 | NA | 1 |
| Kjeldahl Nitrogen | mg/L | 0.26 | 0.26 | <1 | <0.1 | NE |
| Ortho Phosphate Phosphorous | mg/L | <0.15 | <0.15 | NA | 0.065 | NE |
| pH | units | 7.04 | 7.26 | 7.6 | 7.3 | 6.5-8.5 ² |
| Total Phosphorous | mg/L | <0.05 | 0.061 | 0.22 | 0.09 | NE |
| Potassium | mg/L | 4.5 | 3.9 | 3.0 | 3.7 | NE |
| Selenium | µg/L | <5 | <5 | <5 | NA | 50 |
| Silver | µg/L | <10 | <10 | <10 | NA | 100 |
| Sodium | mg/L | 100 | 120 | 100 | 87 | NE |
| Specific Conductance | µmhos/cm | 1100 | 1100 | 800 | 1100 | 900 |
| Sulfate | mg/L | 200 | 210 | 140 | 200 | 250 |
| Thallium | µg/L | <10 | <10 | <1 | NA | 2 |
| Total Dissolved Solids (TDS) | mg/L | 700 | 660 | 520 | 730 | 500; 1,000; 1,500 |
| Total Suspended Solids (TSS) | mg/L | <5 | <5 | <2 | <5 | NE |
| Vanadium | µg/L | <20 | <20 | 8.4 | NA | NE |
| Zinc | mg/L | 0.022 | <0.020 | <0.050 | 0.011 | 5.0 |
| Semi Volatile Organic Compounds (SVOCs): | | | | | | |
| Bis (2-ethylhexyl) phthalate | µg/L | 24 | <10 | <10 | NA | 2 |
| Di-n-butyl phthalate | µg/L | <10 | 10 | <10 | NA | NE |

Notes: Bolded values indicate an exceedance of the State maximum contaminant level (MCL).

1 = Depths of the screen intervals are not known.

2 = Per the Water Quality Control Plan, Lahontan Region (Basin Plan).

CFU/mL = Colony forming unit per milliliter.

MCL = Maximum contaminant level.

µg/L = Micrograms per liter.

mg/L = Milligrams per liter.

µmhos/cm = Micromhos per centimeter.

MPN/100 ml = Most probably number per 100 milliliters.

NA = Not analyzed.

NE = MCL not established for this constituent.

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18. Authorized Disposal Site

The only authorized disposal location is the Surface Impoundment. The Discharger must design a Surface Impoundment that complies with the requirements of a Class II Waste Management Unit, per CCR, title 27, section 20310.

19. Water Sources

The Facility has an on-site water well and the Discharger intends to use this water supply both for the Facility and for domestic use. The water quality sampling results from this well are presented in Table 3.

20. Water Quality Protection Standard

The Water Quality Protection Standard (WQPS) consists of constituents of concern (including monitoring parameters), concentration limits, Monitoring Points, and the Point of Compliance. The standard applies over the active life of the Surface Impoundment, closure period, and the compliance period. The constituents of concern, Monitoring Points, and Point of Compliance are described in Monitoring and Reporting Program (MRP) No. R6V-2010-0019, which is attached to and made part of this Order. This Order includes a time schedule for the Discharger to propose concentration limits (WQPS) for all constituents of concern.

21. Technical and Monitoring Reports

The Discharger must submit technical and monitoring reports in compliance with this Order as described in MRP No. R6V-2010-0019. The fact that the Discharger is discharging wastes that has affected and may continue to affect groundwater quality and is subject to waste discharge requirements issued by the Lahontan Water Board supports the requirement that the Discharger submit technical and monitoring reports in compliance with this Order.

22. Statistical Methods

Statistical analysis of monitoring data is necessary for the earliest possible detection of a measurably significant evidence of a release of waste from the Facility. CCR, title 27, section 20415, requires statistical data analyses to determine a "measurably significant" evidence of a release from the Unit. MRP No. R6V-2010-0019 includes methods for statistical analyses. The monitoring parameters listed in this Order are believed to be the best indicators of a release from the Facility.

23. Land Uses

The land uses in the surrounding area are predominantly agricultural, dairy, and residential. There are several domestic and agricultural wells within 1,000 feet of the Facility. The nearest residence is located approximately 650 feet southeast of the southeastern boundary of the facility.

24. Protection From Storm Events

The Discharger must provide information to demonstrate that the Surface Impoundment is designed to contain the additional volume of water from a 1,000-year, 24-hour storm event, in addition to the maximum design volume, while maintaining two feet of freeboard, per CCR, title 27, section 20320, Table 4.1.

25. Receiving Waters

The receiving waters are the surface waters of the Middle Mojave Hydrologic Area of the Mojave Hydrologic Unit (DWR designation 628.30) and the groundwaters of the Middle Mojave River Valley Groundwater Basin (DWR designation 6-41).

26. Lahontan Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan) which became effective on March 31, 1995. This Order implements the Basin Plan.

27. Beneficial Surface Water Uses

The present and potential designated beneficial uses of the surface waters of the Middle Mojave Hydrologic Area (DWR Unit No. 628.30) of the Mojave Hydrologic Unit as set forth and defined in the Basin Plan are:

- a. (MUN) - Municipal and Domestic Supply;
- b. (AGR) - Agricultural Supply;
- c. (GWR) - Groundwater Recharge;
- d. (POW) - Hydropower Generation;
- e. (REC-1) - Water Contact Recreation;
- f. (REC-2) - Noncontact Water Recreation;
- g. (WARM) - Warm Freshwater Habitat;
- h. (COLD) - Cold Freshwater Habitat; and
- i. (WILD) - Wildlife Habitat.

28. Beneficial Groundwater Uses

The present and potential designated beneficial uses of the groundwater in the Middle Mojave River Valley Groundwater Basin (DWR designation 6-41), as set forth in the Basin Plan, are:

- a. (MUN) - Municipal and Domestic Supply;
- b. (AGR) - Agricultural Supply;
- c. (IND) - Industrial Service Supply;
- d. (FRSH) - Freshwater Replenishment; and
- e. (AQUA) – Aquaculture.

29. Other Considerations and Requirements for Discharge

Pursuant to California Water Code, section 13241, the requirements of this Order take into consideration:

- a. Past, present, and probable future beneficial uses of water.

This Order identifies existing groundwater quality, and past, present, and probable future beneficial uses of water, as described in finding numbers 17, 27 and 28, respectively. Provided discharge is contained pursuant to CCR, title 27, section 20250, the proposed discharge will not adversely affect present or probable future beneficial uses of groundwater.

- b. Environmental characteristics of the hydrographic unit under consideration, including the quality of groundwater available thereto.

Finding number 17 describes the environmental characteristics and quality of groundwater available. The requirements of this Order will require control measures to prevent future effects on groundwater quality and may result in actual improvement to groundwater.

- c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.

The requirements of this Order, including the lining of the Surface Impoundment, are protective of groundwater quality. Potential discharges upgradient include dairies and agriculture. The Water Board will use its authority, potential enforcement actions, and these waste discharge requirements to ensure protection of water quality from the discharge. The requirements of this Order will prevent future discharges of nitrate, total dissolved solids, and volatile organic compounds (VOCs) to groundwater and, thus, will prevent further degradation of groundwater.

d. Economic considerations

Water quality objectives established in the Basin Plan for the Middle Mojave River Valley Groundwater Basin do not subject the Discharger to economic disadvantage as compared to other similar discharges in the Region. This Order will require the Discharger to submit plans compliant with the requirements of CCR, title 27, and is reasonable.

e. The need for developing housing within the region.

The Discharger is not responsible for developing housing within the region. This Order provides for capacity to collect, store, and evaporate wastewater in the Surface Impoundment.

f. The need to develop and use recycled water.

There is no identified opportunity to use recycled water for the purposes of food processing.

30. Constituents of Concern

The Constituents of Concern (COCs) consist of total and fecal coliforms, iron, nitrite/nitrate as nitrogen, total dissolved solids, and volatile organic compounds.

31. Detection Monitoring Program

The Discharger must comply with the detection monitoring program (DMP) provisions of CCR, title 27, section 20420, with respect to groundwater, unsaturated zone monitoring, and in accordance with Monitoring and Reporting Program No. R6V-2010-0019. All monitoring must be conducted in accordance with a Sampling and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Water Board's Executive Officer.

32. Evaluation Monitoring Program

An evaluation monitoring program (EMP) may be required, pursuant to CCR, title 27, section 20425, in order to evaluate evidence of a release if detection monitoring and/or verification procedures indicate evidence of a release. If there is evidence of a release, based on the data collected, the Discharger must submit an engineering feasibility study for corrective action pursuant to CCR, title 27, section 20420, subdivision (k)(6), and must conduct a COC scan meeting CCR, title 27, subdivision (k)(1), and must submit a Report of Waste Discharge amendment, under CCR, title 27, section 20420, subdivision (k)(5), that proposes suitable revisions to MRP No. R6V-2010-0019 to establish an EMP meeting CCR, title 27, section 20425, and that

includes the justification for any extension beyond the 90 days allowed prior to making the submittals required under paragraphs (b), (c), and (d) of that section in response to the release.

33. Corrective Action Program

A corrective action program (CAP) to remediate released wastes from the Surface Impoundment may be required pursuant to CCR, title 27, sections 20385 and 20430, if results of an EMP prove the presence of a release from the Surface Impoundment.

34. Surface Impoundment Closure Specifications

At closure of the Surface Impoundment, all residual wastes, including liquids, sludges, precipitates, settled solids, liner materials, and adjacent natural geologic materials contaminated by wastes must be completely removed and discharged to a facility permitted to receive such wastes. If, after reasonable attempts to remove contaminated natural geologic materials, the Discharger demonstrates that removal of all remaining contamination is infeasible, the Surface Impoundment must be closed as a landfill pursuant to requirements contained in CCR, title 27, section 21400.

35. Closure of the Surface Impoundment

The Discharger has not submitted a preliminary closure plan for the Surface Impoundment. This Order requires the Discharger to submit a preliminary closure plan for the Surface Impoundment.

36. Known or Reasonably Foreseeable Release from the Surface Impoundment

The Discharger has not submitted a corrective action estimate to address a known or reasonably foreseeable release, including a workup of the total likely maximum cost of remediating a reasonably foreseeable release, pursuant to CCR, title 27, section 20390, subdivision (b). In addition, the analysis must include a proposed corrective action financial assurance mechanism (to cover the estimated corrective action cost) meeting CCR, title 27, sections 22220 through 22222 and 22225 *et seq.* This Order will require the Discharger to submit a corrective action estimate for a known or reasonably foreseeable release.

If there is measurably significant evidence of a release, the Discharger must submit an engineering feasibility study for corrective action pursuant to CCR, title 27, section 20420, subdivision (k)(6) and must conduct a COC scan meeting the requirements of CCR, title 27, section 20420, subdivision (k)(1). The Discharger must also submit an amended Report of Waste Discharge pursuant to CCR, title 27, section 20420, subdivision (k)(5), that proposes suitable revisions to the MRP to establish an EMP meeting CCR, title 27, section 20425. If necessary, the amended Report of Waste

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Discharge must include the justification for any extension beyond the 90 days allowed prior to making the submittals required under CCR, title 27, section 20425, subdivisions (b), (c), and (d).

37. Financial Assurance

The Discharger has not submitted sureties for closure of the Surface Impoundment, nor for a corrective action estimate to address a known or reasonably foreseeable release from the Surface Impoundment. This Order will require the Discharger to provide adequate financial assurance for closure of the Surface Impoundment and a corrective action estimate for a known or reasonably foreseeable release from the Surface Impoundment.

38. California Environmental Quality Act

This project is subject to the provisions of the California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et seq.) in accordance with CCR, title 14, section 15378. The County of San Bernardino is the CEQA Lead Agency for this project under the CEQA Guidelines.

An initial study for this site was conducted in March 2010 to recognize the existing facility and to construct a Class II Surface Impoundment by the County of San Bernardino, in accordance with the provisions of CEQA. Based on the initial study, the County prepared a Mitigated Negative Declaration (State Clearinghouse Number 2010031058) and certified it on May 11, 2010.

The Water Board, acting as a CEQA Responsible Agency in compliance with CCR, title 14, section 15096, subdivision (g)(2), evaluated the potentially significant impacts to water quality identified in the initial study/MND. The Water Board has determined that additional mitigation measures are necessary to prevent potentially significant water quality impacts and nuisance conditions as a result of wastewater discharge to the Surface Impoundment. Mitigation measures include designing and constructing lined facilities in accordance with CCR, title 27 for a Class II Surface Impoundment to contain the wastewater. This Order also requires a groundwater and unsaturated zone monitoring program that includes a water quality protection standard. The Water Board finds these mitigation measures, and the monitoring of the effectiveness of the mitigation measures, as specified in this Order, are adequate to reduce water quality impacts to less than significant.

39. Notification of Interested Parties

The Water Board notified the Discharger and all known interested agencies and persons of its intent to adopt WDRs for this Facility.

40. Consideration of Interested Parties

The Lahontan Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger must comply with the following:

I. RECEIVING WATER LIMITATION

The Discharger shall not cause the existing water quality to be degraded. Under no circumstances shall the Discharger cause the presence of the following substances or conditions in surface waters or groundwaters of the Middle Mojave Hydrologic Area and Middle Mojave River Valley Groundwater Basin.

- A. Bacteria – Waters designated as MUN, the medium concentration of coliform organisms, over any seven-day period, must be less than 1.1 MPN/100ml.
- B. Chemical Constituents – Waters designated as MUN must not contain concentrations of chemical constituents in excess of the MCL or Secondary MCL (SMCL) based upon drinking water standards specified in the following provisions of CCR, title 22: Table 64431-A of Section 64431 (Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of Section 64444 (Organic Chemicals), Table 64449-A of Section 64449 (SMCLs – Consumer Acceptance Limits), and Table 64449-B of Section 64449 (SMCLs – Consumer Acceptance Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Waters designated as AGR must not contain concentrations of chemical constituents that adversely affect the water for beneficial uses (e.g. agricultural purposes).

Waters must not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

- C. Radioactivity – Waters designated as MUN must not contain concentrations of radionuclides in excess of limits specified in CCR, title 22, section 64442, Table 64442, and section 64443, Table 64443, including future changes as the changes take effect.
- D. Taste and Odors – Waters must not contain taste or odor-producing substances in concentrations that cause a nuisance or that adversely affect beneficial uses. For waters designated as MUN, at a minimum, concentrations must not exceed adopted SMCLs specified in Table

64449-A of section 64449 (SMCLs – Consumer Acceptance Limits) and Table 64449-B of section 64449 (SMCLs – Consumer Acceptance Ranges) of CCR, title 22, including future changes as the changes take effect.

- E. Color – Waters must not contain color-producing substances from tracers in concentrations that cause a nuisance or that adversely affect beneficial uses.
- F. Toxic Substances – Any presence of toxic substances in concentrations that individually, collectively, or cumulatively cause a detrimental physiological response in humans, plants, animals, or aquatic life is prohibited.

II. REQUIREMENTS AND PROHIBITIONS

A. General

- 1. Following **March 30, 2011**, no discharge must occur outside of the Surface Impoundment.
- 2. The discharge must not cause or threaten to cause a condition of pollution or nuisance as defined in California Water Code, section 13050.
- 3. There must be no discharge, bypass, or diversion of wastewater from the collection, conveyance, or disposal facilities to adjacent land areas or surface waters.
- 4. Surface drainage within the Surface Impoundment must be contained in the Surface Impoundment. No water contained within the Surface Impoundment is to be discharged outside the Surface Impoundment. The Discharger must maintain a Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program and Reporting Requirements in accordance with State Water Resources Control Board Order No. 97-03-DWQ, and future state-wide general industrial stormwater permits.
- 5. All facilities used for the collection, conveyance, or disposal of waste must be adequately protected against overflow, washout, inundation, structural damage, or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 1,000 years (CCR, title 27, section 20320, Table 4.1).

6. The discharge of hazardous waste to the Surface Impoundments or generation of hazardous waste due to evaporation in the Surface Impoundments is prohibited.
7. The discharge of solid wastes, leachate, wastewater, or any other deleterious materials to the waters of the Middle Mojave Hydrologic Area and Middle Mojave River Valley Groundwater Basin is prohibited.
8. The discharge of waste, except to the authorized Surface Impoundment, is prohibited.
9. The discharge of waste, as defined in CWC, section 13050, subdivision (d), that causes a violation of any narrative water quality objective contained in the Basin Plan, including the Nondegradation Objective, is prohibited.
10. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited.
11. The discharge must not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Surface Impoundment if such waste constituents could migrate to waters of the State – in either liquid or gaseous phase – and cause a condition of nuisance, degradation, contamination, or pollution.
12. Per CCR, title 27, section 20240, subdivision (c), all new surface impoundments must be designed, constructed, and operated to ensure that wastes will be a minimum of five feet above the highest anticipated elevation of underlying groundwater.
13. The integrity of the proposed Surface Impoundment must be maintained throughout the life of the Facility and must not be diminished as a result of any maintenance operation.
14. Discharge of non-hazardous solid waste, as defined in CCR, title 27, section 20220, to the Surface Impoundment is prohibited.
15. The Discharger must maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with these waste discharge requirements.

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16. At closure, the Surface Impoundment must be closed in accordance with a Final Closure Plan approved by the Water Board Executive Officer.
17. The Discharger must at all times maintain adequate and viable financial assurances acceptable to the Water Board Executive Officer for costs associated with closure and corrective action for all known or reasonably foreseeable releases.
18. Wind speed and direction will be checked and logged just prior to removing solids from the Surface Impoundment or performing other activities that could generate dust that creates a nuisance as defined in California Water Code section 13050. Activities at the Facility that could generate dust that would create a nuisance must not be performed if wind speeds are in excess of 25 miles per hour.

B. Surface Impoundment

1. The Surface Impoundment freeboard, the vertical distance between the liquid surface elevation and the lowest part of the pond dike or the invert of an overflow structure, must be a minimum of two feet at all times, as specified in CCR, title 27, section 20375.
2. All lined facilities must be effectively sealed to prevent the exfiltration of liquids. For this project, "effectively sealed" facilities are Class II waste management units that are designed and constructed to meet the requirements of CCR, title 27, sections 20310, 20320, and 20330.
3. The design plan must include a requirement for UV damage prevention (treatment or replacement) for the uppermost liner.
4. Best Management Practices, good housekeeping measures, and other measures implemented, including but not limited to treating with an odor-neutralizing agent, will be implemented to minimize the release of objectionable odors. If meteorological conditions cause objectionable off-site odors, the Discharger must immediately take operational steps to mitigate the cause of such odors.

C. Leachate Collection and Removal System

A leachate collection and removal system (LCRS) is required to be constructed per CCR, title 27, section 20340.

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1. The LCRS must be placed between the inner and outer liner of the Surface Impoundment.
2. The depth of the leachate in each leachate collection sump must be kept at the minimum depth needed to ensure efficient sump dewatering pump operation.
3. The LCRS must be operated to function without clogging throughout the life of the project.
4. The LCRS must be tested at least once annually to demonstrate proper operation.
5. Should any measurable daily volume of leakage above the action leakage rate be detected, the liner must be repaired.
6. Any leachate collected in the LCRS must be returned to the Surface Impoundment or disposed of properly at a Class II Waste Management Unit.

D. Detection Monitoring Program

The Discharger must maintain a DMP as required in CCR, title 27, sections 20385, subdivision (a)(1) and section 20420.

E. Evaluation Monitoring Program

The Discharger must establish an EMP whenever there is evidence of a release from the Surface Impoundment as required by CCR, title 27, section 20385, subdivision (a)(2) or (3). The Discharger must maintain the EMP as long as there is measurably significant evidence of a release from the Surface Impoundment as required in CCR, title 27, section 20425. The EMP must be utilized to delineate within 90 days of initiating an EMP the nature and extent of the release, as well as to develop, propose, and support corrective action measures to be implemented in a CAP.

F. Corrective Action Program

The Discharger must institute a CAP as required in CCR, title 27, section 20430, following completion of the EMP, in response to a measurably significant evidence of a release.

III. WATER QUALITY MONITORING AND RESPONSE PROGRAMS

A. Water Quality Protection Standard

1. The Discharger must submit a report of waste discharge to the Water Board at least 140 days before initiating discharge to the Surface Impoundment any new constituents of concern. Before a new discharge commences, the Discharger must estimate the concentration for such constituents within the wastewater stream and submit written statistical method(s) in order to detect a release of such constituents.
2. At any given time, the concentration limit for each monitoring parameter and constituent of concern must be equal to the background data set of that constituent. The background data set for each monitoring point/constituent pair should be comprised of at least eight data points, collected quarterly.
3. If the Discharger or Water Board Executive Officer determines that concentration limits were or are exceeded, the Discharger may immediately institute verification procedures upon such determination as specified below or submit an amended RWD within 90 days of such determination in order to establish an evaluation monitoring program. In the event of a release, unless the amended RWD (proposing an EMP) proposes and substantiates a longer period, the Discharger will only have 90 days, once the Water Board authorizes the initiation of the EMP, to complete the delineation, develop a suite of proposed corrective action measures, and submit a proposed corrective action program (CAP) for adoption by the Water Board.
4. Monitoring Wells and/or unsaturated zone samples must be used to obtain background data and to detect a release from the Facility.

B. Statistical Methods

1. The Discharger must use approved statistical data analysis methods to evaluate Point of Compliance data in order to determine measurably significant evidence of a release from the Surface Impoundment. Approved methods may include an intrawell statistical analysis approach. Viable methods include, but are not limited to, a parametric upper prediction limit, a gamma upper prediction limit, and a Shewhart Cumulative Sum (CUSUM) control chart, including a pass 1-of-3 retesting approach. Viable statistical methods, including the retesting approach, must include those

which can meet or beat United States Environmental Protection Agency's (U.S. EPA's) Reference Power Curve.

2. The Discharger must determine, within 45 days after completion of sampling, whether there is measurably significant evidence of a release from the Surface Impoundment at each Monitoring Point. The analysis must consider all monitoring parameters. The Executive Officer may make an independent finding that there is measurably significant evidence of a release or physical evidence of a release.
3. If there is measurably significant evidence of a release, the Discharger must immediately notify the Water Board by certified mail (see notification procedures contained in MRP No. R6V-2010-0019. Subsequently, the Discharger may immediately initiate verification procedures as specified in section III.D., "Verification Procedures," whenever there is a determination by the Discharger or Executive Officer that there is measurably significant evidence of a release.
4. If the Discharger does not use verification procedures to evaluate evidence of a release, and there is confirmation that there is measurably significant evidence of a release, then the Discharger is required to submit, within 90 days of such a confirmation, an amended RWD in order to establish evaluation monitoring (see subsection II.C, entitled "Evaluation Monitoring Program") or make a demonstration to the Water Board that there is a source other than the Surface Impoundment that caused evidence of a release (see notification procedures contained in MRP No. R6V-2010-0019, section IV.G., "Unscheduled Reports to be Filed With the Water Board").

C. Physical Evidence of a Release

The Discharger must determine whether there is physical evidence of a release from the Surface Impoundment. Physical evidence may include unexplained volumetric changes in the Surface Impoundment, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, visible signs of pipeline rupture, unexplained water table mounding beneath or adjacent to the Facility, concentration of constituents of concern in soil gas, which may pose a threat to groundwater quality, or any other change to the environment that could reasonably be expected to be the result of a release from the Surface Impoundment (see notification procedures

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contained in MRP No. R6V-2010-0019, section IV.G., "Unscheduled Reports to be Filed With the Water Board").

D. Verification Procedures

1. The Discharger must immediately initiate verification procedures, as specified below, whenever there is a determination by the Discharger or Executive Officer that there is evidence of a release. If the Discharger declines the opportunity to conduct verification procedures, the Discharger must submit a technical report, as described in section III.E., below, under the heading Technical Report Without Verification Procedures.
2. The verification procedure must only be performed for the constituent(s) that has shown a measurably significant evidence of a release and must be performed for those Monitoring Points at which a release is indicated.
3. The Discharger must conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event, must conduct a discrete retest in which only data obtained from the resampling event must be analyzed to verify evidence of a release, or must propose a pass 1-of-3 retesting approach using quarterly samples, as an engineered alternative.
4. The Discharger must report to the Water Board, by certified mail, the results of the verification procedure, as well as all concentration data collected for use in the retest, within seven days of the last laboratory analysis.
5. If the Discharger or Executive Officer verify evidence of a release, the Discharger is required to submit a technical report pursuant to CWC, section 13267, subdivision (b), within 90 days of such a determination that there is, or was, a release. The report must propose an evaluation monitoring program (see subsection II.E., entitled "Evaluation Monitoring Program"), or make a demonstration to the Water Board that there is a source other than the Surface Impoundment that caused evidence of a release [see notification procedures contained in MRP No. R6V-2010-0019, section IV.G., "Unscheduled Reports to be Filed With the Water Board"].

E. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures after there has been a determination made for evidence of a release, a technical report must be submitted pursuant to CWC, section 13267, subdivision (b). The report must propose an evaluation monitoring program or attempt to demonstrate that the release did not originate from the Surface Impoundment.

F. Monitoring and Reporting

1. Pursuant to CWC, section 13267, subdivision (b), the Discharger must comply with Monitoring and Reporting Program No. R6V-2010-0019 as specified by the Water Board Executive Officer. The Monitoring and Reporting Program may be modified by the Water Board Executive Officer.
2. The Discharger must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the Monitoring and Reporting Program.

IV. PROVISIONS

A. Standard Provisions

The Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment C, which is made part of this Order.

B. Claim of Copyright or Other Protection

Any and all reports and other documents submitted to the Lahontan Water Board pursuant to this request will need to be copied for some or all of the following reasons: (1) normal internal use of the document, including staff copies, record copies, copies for Board members and agenda packets, (2) any further proceedings of the Lahontan Water Board and the State Water Board, (3) any court proceeding that may involve the document, and (4) any copies requested by members of the public pursuant to the Public Records Act or other legal proceeding.

If the Discharger or its contractor(s) claims any copyright or other protection, the submittal must include a notice, and the notice will accompany all documents copied for the reasons stated above. If

copyright protection for a submitted document is claimed, failure to expressly grant permission for the copying stated above will render the document unusable for the Lahontan Water Board's purposes and will result in the document being returned to the Discharger as if the task had not been completed.

C. Action Leakage Rate

If leachate generation in an LCRS of the Surface Impoundment exceeds, or is equal to, the required action leakage rate (ALR) of 20 gallons/day/acre, the Discharger must immediately take steps to locate and repair leak(s) in the liner system and comply with the notice of evidence response to exceeding the ALR requirements presented in section IV.G., Unscheduled Reports to be Filed With the Water Board, of MRP No. R6V-2010-0019. If repairs do not result in a leakage rate less than the required ALR, the Discharger must immediately cease the discharge of waste, including leachate, to the Surface Impoundment and notify the Water Board. The notification shall include a timetable for remedial action to repair the upper liner of the Surface Impoundment or action necessary to reduce leachate production.

D. Closure Plan

The preliminary closure plans must be updated if there is a substantial change in operations or costs for closure. By **October 30, 2011 and yearly thereafter**, as part of the required annual report, a report must be submitted to the Water Board indicating conformance with existing operations. Pursuant to CCR, title 27, section 21780, a final closure plan shall be submitted two years prior to the anticipated date of closure for any or all parts of the Facility. The final plan must be prepared by or under the supervision of either a California registered civil engineer or a certified engineering geologist.

E. Modifications to the Surface Impoundment

If the Discharger intends to expand the Facility or the capacity of the Surface Impoundments, a new Report of Waste Discharge must be filed **no later than 140 days prior** to the anticipated change, containing a detailed plan for Facility expansion. This plan must include, but is not limited to, a time schedule for studies, design, and other steps needed to provide additional capacity, and must be done in accordance with an accepted construction quality control plan.

V. TIME SCHEDULE

A. Effective Dates for General Requirements and Prohibitions

Section II, Requirements and Prohibitions, A. General, numbers 2, 7, 9, 10, 15, and 18 are **effective immediately**. Section II, Requirements and Prohibitions, A. General, numbers 1, 3, 4, 5, 6, 8, 11, 12, 13, 14, 16, and 17 are effective on **April 1, 2011**.

B. Submittal of Plans

1. Surface Impoundment Design Plans

No later than **December 30, 2010**, the Discharger must submit design plans for the Surface Impoundment in accordance with the requirements of CCR, title 27, sections 20310 and 20320, including a leachate collection and removal system, unsaturated zone monitoring system, and monitoring well locations, to be accepted by the Water Board's Executive Officer.

2. Work Plan for Surface Impoundment Construction

No later than **December 30, 2010**, the Discharger must submit a work plan to construct the Surface Impoundment, leachate collection and removal system, unsaturated zone monitoring system, and monitoring wells, to be accepted by the Water Board's Executive Officer.

3. Odor Control Plan

No later than **January 30, 2011**, the Discharger must submit an Odor Control Plan for the Surface Impoundment, to be accepted by the Water Board's Executive Officer. The Odor Control Plan must identify the potential sources and causes of the odors, provide a narrative description of the best management practices (BMPs) and other measures that will be implemented to treat and neutralize odors, and provide a detailed description of all odor monitoring and inspecting activities including the requirements of MRP No. R6V-2010-0019, section II.C.2 and section IV.D.6. In addition, the plan must discuss how the Discharger will address public complaints regarding odors.

**GREEN VALLEY FOODS PRODUCTS, INC., - 28 -
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4. Monitoring and Reporting Plan and Sampling and Analysis Plan

No later than **January 30, 2011**, the Discharger must submit a Monitoring and Reporting Plan and a Sampling and Analysis Plan, to be accepted by the Water Board's Executive Officer, including procedures for sampling the Surface Impoundments, the leachate collection and removal system, and the monitoring wells.

5. Detection Monitoring Plan

No later than **January 30, 2011**, the Discharger must submit a Detection Monitoring Plan, to be accepted by the Water Board's Executive Officer, proposing Monitoring Parameters and procedures for responding to a release, per CCR, title 27, section 20420.

6. Closure Plan and Cost Estimate

No later than **January 30, 2011**, the Discharger must submit a closure plan, to be accepted by the Water Board's Executive Officer, indicating procedures for clean closure of the Surface Impoundment, pursuant to CCR, title 27, section 21400, as well as detailed cost estimates for closure, per CCR, title 27, section 21090.

C. Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument

By **January 30, 2011**, the Discharger must submit a plan for addressing a known or reasonably foreseeable release from the Surface Impoundment in accordance with the requirements in CCR, title 27, sections 20380, subdivision (b) and 22222. The known or reasonably foreseeable release plan must include a cost estimate to implement the plan and a proposed financial assurance instrument meeting CCR, title 27, sections 22220 to 22222 and 22225-*et seq.* to be acceptable by the Executive Officer. The known or reasonably foreseeable release plan and cost estimate to implement the plan must be prepared by, or under the supervision of, a California registered professional geologist or a California registered professional engineer.

D. Financial Assurance Documents

By **January 30, 2011**, and **yearly thereafter** with the annual report, the Discharger must submit Instruments of Financial Assurance acceptable to the Water Board Executive Officer and adequate to cover the costs of

closure and a reasonably foreseeable release from the Facility. An increase may be necessary due to inflation, a change in regulatory requirements, a change in the approved closure plan, or other unforeseen events.

E. Completion of Construction

1. The Surface Impoundment and associated monitoring systems must be installed, per the accepted plans, no later than **March 30, 2011**.
2. No later than **April 30, 2011**, the Discharger must submit a technical report discussing the installation of the monitoring system. The report shall summarize all work activities associated with the installation of the monitoring system. The report must be certified by a registered civil engineer or a registered professional geologist. It must contain sufficient information to verify that construction was in accordance with State and/or County well standards.

F. Final Construction Quality Assurance Report

Following the completion of construction of the lined Surface Impoundment, the final documentation required in CCR, title 27, section 20324, subdivision (d)(1)(C), must be submitted to the Water Board for review and acceptance. This report must be submitted to the Water Board by **April 30, 2011** after completion of construction activities. The report must be certified by a registered civil engineer or a certified engineering geologist. It must contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications and with the prescriptive standards and performance goals of CCR, title 27.

G. Water Quality Protection Standard

No later than **April 30, 2013**, the Discharger must propose for acceptance by the Water Board staff a list of monitoring parameters and constituents of concern for the aquifer, including a data analysis method, and a Water Quality Protection Standard, which includes concentration limits that define background water quality for all constituents of concern and for each Point of Compliance. The report must be certified by a registered civil engineer or a registered professional geologist.

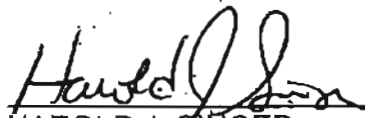
**GREEN VALLEY FOODS PRODUCTS, INC., - 30 -
AND HECTOR HUERTA
CHEESE PROCESSING FACILITY
CLASS II SURFACE IMPOUNDMENT
San Bernardino County**

**BOARD ORDER NO.
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The table below is a summary of all plans to be submitted:

| Plan | Due Date |
|---|-------------------|
| Design Plan for Surface Impoundment | December 30, 2010 |
| Work Plan for Surface Impoundment Construction | December 30, 2010 |
| Odor Control Plan | January 30, 2011 |
| Monitoring and Reporting Plan | January 30, 2011 |
| Sampling and Analysis Plan | January 30, 2011 |
| Detection Monitoring Plan | January 30, 2011 |
| Closure Plan and Cost Estimate | January 30, 2011 |
| Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument | January 30, 2011 |
| Monitoring System Installation Report | April 30, 2011 |
| Final Construction Quality Assurance Report | April 30, 2011 |
| Water Quality Protection Standard | April 30, 2013 |

I, HAROLD J. SINGER, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Board, Lahontan Region, on May 13, 2010.


HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. General Location Map
B. Plot Plan
C. Standard Provisions for Waste Discharge Requirements

**GREEN VALLEY FOODS PRODUCTS, INC.,
AND HECTOR HUERTA
CHEESE PROCESSING FACILITY
San Bernardino County**

**ATTACHMENT A
Location Map**

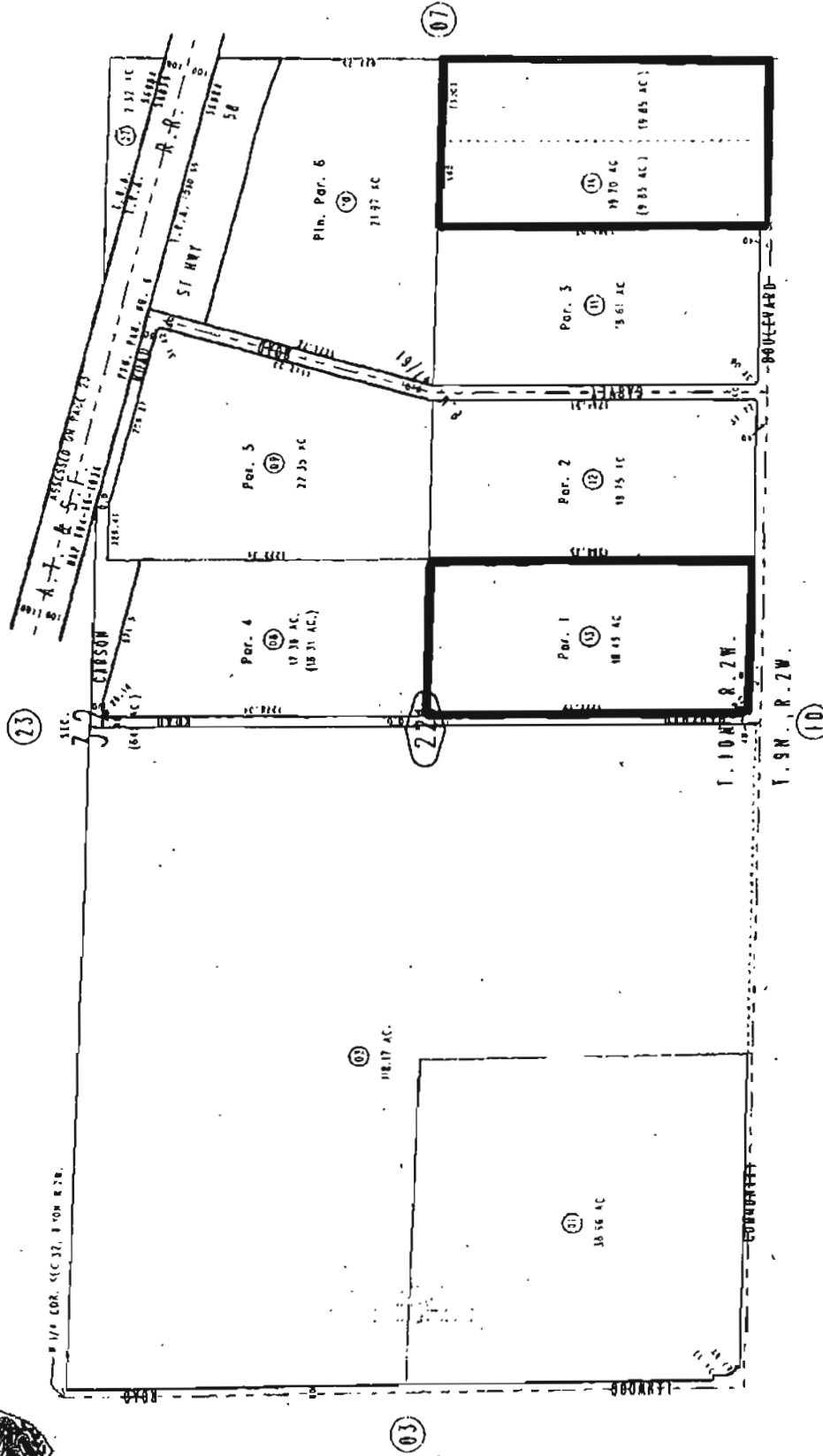
**BOARD ORDER NO.
R6V-2010-0019
WDID NO. 6B360704003**

THIS MAP IS FOR THE PURPOSE
OF AD VALOREM TATION ONLY

S.1/2 Sec.32, T.10N.,R.2W., S.B.B.&M.

**Barslow Unified
Tax Rate Area
56056,56084**

0497 - 22

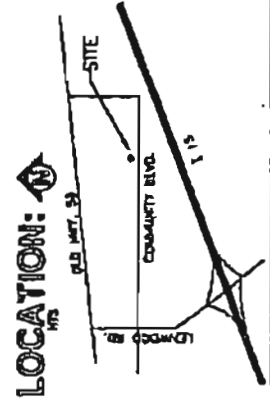
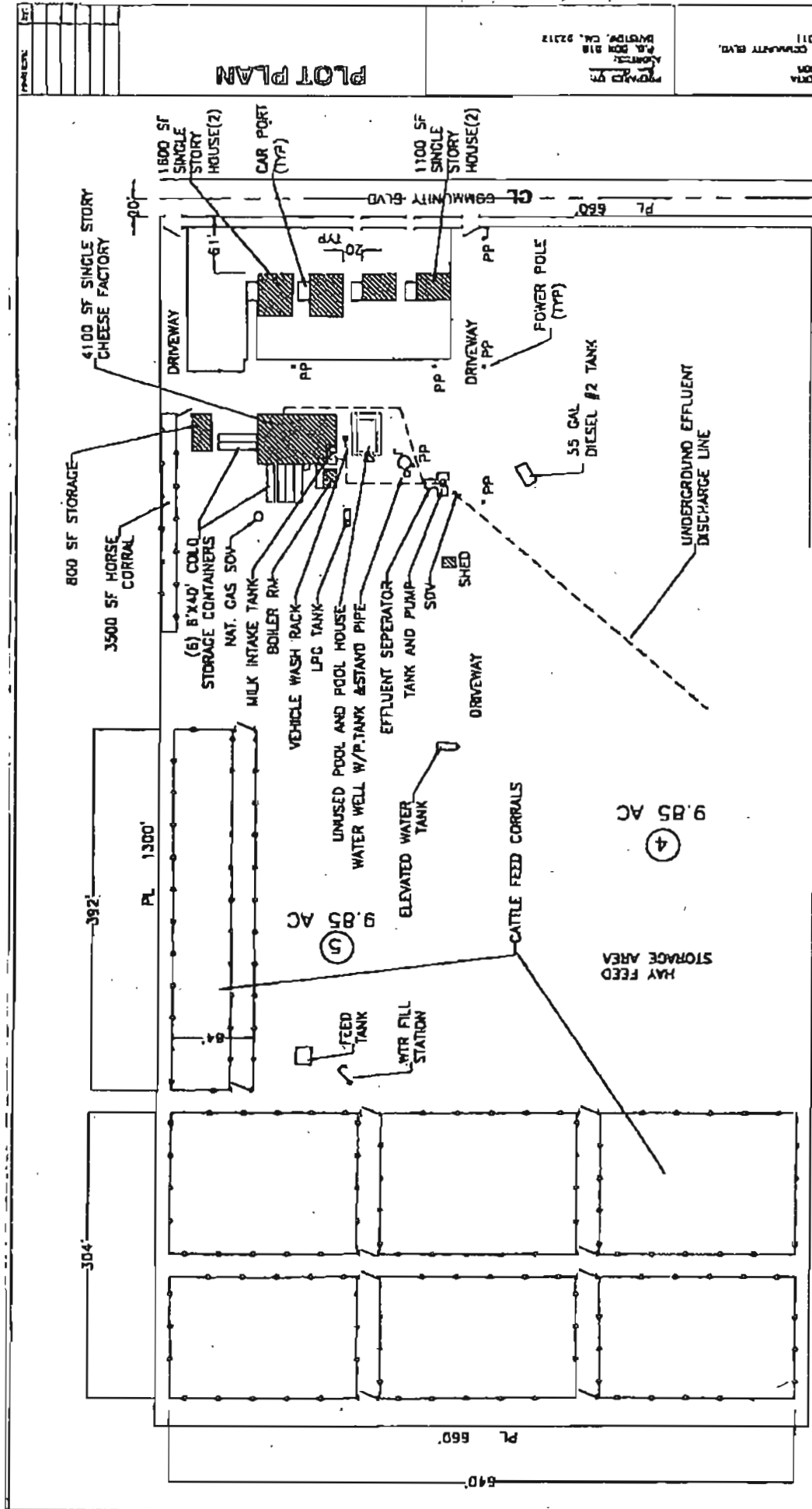


February 2004

Parcel Map No. 4377, P. 4 47/61

**Assessor's Map
Book 0497 Page 22
San Bernardino County**

2/1/2004
2/1/2004



LOCATION:
SCALE: 1"=100'

SITE DATA:
APN: 047-231-04-0000
047-231-05-0000
SITE LOCATION:
SITING: 11/10/09
SAN BERNARDINO COUNTY
ADDRESS: 22400 AND 22404 COMMUNITY BLVD.
BOSTON, CA 92111
AREA OF SITE: 16.7 AC

OWNER: HECTOR HUERTA
22400 AND 22404 COMMUNITY BLVD.
BOSTON, CA 92111
PREPARED BY:
DATE: 11/10/09
SCALE: 1"=100'

PROJECT NO.
DATE
BY
CHECKED BY
APPROVED BY

PLOT PLAN

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MONITORING AND REPORTING PROGRAM NO. R6V-2010-0019
WDID NO. 6B360704003**

**FOR
GREEN VALLEY FOODS PRODUCTS, INC., AND HECTOR HUERTA,
CHEESE PROCESSING FACILITY,
CLASS II SURFACE IMPOUNDMENT**

San Bernardino County

I. WATER QUALITY PROTECTION STANDARD

A Water Quality Protection Standard (WQPS) is required by California Code of Regulations (CCR), title 27, to assure the earliest possible detection of a release from the Surface Impoundment to the underlying soil, surface water, and/or groundwater. The WQPS shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Board Executive Officer shall review and approve the WQPS, or any modification thereto, for each monitored medium.

The WQPS shall:

- a. Identify all distinct bodies of groundwater that could be affected in the event of a release from the Surface impoundment. This list shall include all groundwater bearing zones.
- b. Include a map showing the monitoring points and background monitoring points for the detection monitoring program. The map shall show the surface trace of the Surface Impoundment's point of compliance (along the downgradient boundary of the Unit), in accordance with CCR, title 27, section 20405.
- c. Evaluate the perennial direction(s) of groundwater movement within the groundwater bearing zones.

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the WQPS concentration limits to provide season-specific concentration limits (background data sets) for each constituent of concern at each monitoring point.

II. MONITORING

The Discharger must comply with the Detection Monitoring Program (DMP) monitoring provisions contained in California Code of Regulations (CCR), title 27, sections 20385 through 20430. The Discharger must also monitor the wastewater flow, wastewater effluent quality, the Surface Impoundment wastewater, and the Surface Impoundment. In addition to satisfying the monitoring requirements of CCR, title 27, the Discharger must also perform the following monitoring:

A. Wastewater Flow Monitoring

The Discharger must measure and record the following:

1. The volume of flow, in gallons per day of wastewater flow to the Surface Impoundment;
2. The maximum daily flow rate in gallons per day to the Surface Impoundment; and,
3. The cumulative total of wastewater flow to the Surface Impoundment, in gallons per month; and
4. Yearly, calibrate the wastewater flow meters.

B. Wastewater Monitoring

All wastewater samples collected under this Monitoring and Reporting Program (MRP) must be analyzed to determine the concentrations of constituents of concern and monitoring parameters described in Table 1, Attachment A, which is made part of this MRP. All samples, with the exception of field parameters, are to be analyzed by a California state-certified laboratory.

Quarterly, the Discharger must collect a liquid composite grab sample of wastewater from within the Surface Impoundment. A minimum of three grab samples from the Surface Impoundment must be collected from at a depth of one foot, opposite the inlet, in a quiescent surface area and composited into one sample by the laboratory. The samples must be analyzed to determine the concentrations of constituents of concern and monitoring parameters described in Table 1 (Attachment A). Data must be collected in accordance with the accepted discharge plan for waste discharged to the Surface Impoundment.

C. Surface Impoundment Monitoring

1. Dikes and Liners

- a. Weekly, the integrity of the Surface Impoundment dikes and liners must be inspected. Should the inspection indicate that any unauthorized discharge has occurred, or may occur, the Water Board must be notified within 24 hours, followed by confirmation in writing.
- b. Weekly, measure and record the freeboard, as measured from the top of the lowest part of the dike to the wastewater surface in the Surface Impoundment. If the Surface Impoundment is dry, indicate that it is dry in the monitoring report.

2. Odor Monitoring

The Discharger must implement the approved Odor Control Plan for the Surface Impoundments. Daily, the Discharger must inspect the Surface Impoundment for nuisance odors and document these inspections. Documentation shall include a description of any odors detected. Odor control measures such as the addition of any chemicals to control odors must be documented daily in a permanent log book kept on site.

3. Leachate Collection and Recovery System

The Discharger must conduct the following inspections and testing of the leachate collection and recovery system (LCRS):

- a. Weekly, visual inspections for liquid in the leakage detection sumps must be conducted. The results of these inspections must be recorded in a permanent log book kept onsite.
 - i. Any volume of liquid pumped out of the leakage detection sumps must be recorded along with date, time, and discharge location, in a permanent log book kept onsite.
 - ii. Upon detection of leachate in a previously dry LCRS (defined here as an event), the Discharger shall immediately collect a grab sample of the leachate and shall sample and analyze the grab samples of the leachate for the constituents of concern and monitoring

parameters identified in Table 1 (Attachment A) during each sampling event.

- b. If liquid is detected in a collection sump in a volume that exceeds the action leakage rate (20 gallons per acre per day), the Water Board must be notified within 24 hours and a sample must be collected and analyzed for the constituents of concern and monitoring parameters identified in Table 1 (Attachment A).
- c. Annually, each LCERS shall be tested to demonstrate proper operation. The results of the testing shall be submitted in the annual monitoring reports. The annual report shall include a description of the method used to test each LCERS.

4. Sludge Monitoring

Annually, in the last quarter of each year, two (2) representative grab samples of the bottom sludge of the Surface Impoundment, if present, must be collected, and analyzed for the following constituents:

| <u>Parameter</u> | <u>Units</u> | <u>Method</u> |
|------------------|--------------|---|
| Title 22 metals | mg/L | CCR, title 22, section 66261.24, subdivision (a)(2)(A), Table II, list of inorganic persistent and bioaccumulative toxic substances and their soluble threshold limit concentration (STLC) and total threshold limit concentration (TTLC) values. |

5. Dust Control

During solids removal activities and Surface Impoundment construction activities, the air must be monitored. Any activities that generate dust that creates a nuisance must cease when wind speeds exceed 25 miles per hour.

D. Detection Monitoring

Monitoring of the groundwater and unsaturated zone must be conducted in accordance with the Detection Monitoring Program (DMP) to provide the best assurance of the early detection of any new releases from the

Surface Impoundment. A Monitoring and Reporting Plan and Sampling and Analysis Plan must be submitted 60 days prior to the installation of unsaturated zone monitoring probes and groundwater monitoring wells. No discharge may occur prior to the Water Board Executive Officer's acceptance of these plans. All samples, with the exception of field parameters, are to be analyzed by a California state-certified laboratory. Monitoring must be completed as follows:

1. Unsaturated Zone Monitoring

Quarterly, the Discharger must monitor the unsaturated zone beneath the Surface Impoundment, and all soil-pore liquid samples collected under this MRP must be analyzed to determine the concentrations of constituents of concern and monitoring parameters described in Table 1 (Attachment A). If moisture content is detected above 30 percent by volume, field verification testing must be performed, and the Discharger must notify the Water Board and report physical evidence of a release (see notification procedures in Section IV.G., "Unscheduled Reports to be Filed With the Water Board").

a. Monitoring Points

The unsaturated zone monitoring program will consist of a system of probes to adequately monitor the vadose zone beneath the Surface Impoundment. A work plan to install the unsaturated zone monitoring probes must be submitted for acceptance by the Water Board Executive Officer by December 30, 2010.

b. Monitoring Parameters and Constituents of Concern

The monitoring parameters and constituents of concern (COCs) for unsaturated zone monitoring are those listed in this MRP, Table 1 (Attachment A).

c. Concentration Limits

The concentration limits for all man-made constituents in soil-pore liquids shall be the method detection limit. The Discharger must, as part of the WQPS, establish concentration limits that define background concentrations for all monitoring parameters and constituents of concern.

d. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks.

Performance checks must be a comparison of quarterly results of the unsaturated zone monitoring network testing with earlier tests made under comparable conditions to verify proper operation of equipment.

2. Groundwater Monitoring

a. Monitoring Points

The Point of Compliance, as defined in CCR, title 27, section 20405, subdivision (a), is "a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit."

Groundwater monitoring wells must be installed at monitoring points upgradient of the Surface Impoundment and along the Point of Compliance as part of the DMP. The groundwater monitoring program will consist of a system of wells to adequately monitor groundwater beneath the Facility, per CCR, title 27, section 20415. A workplan to install the background and Point of Compliance groundwater monitoring wells must be submitted for acceptance by the Executive Officer by December 30, 2010.

b. Monitoring Parameters

Groundwater samples must be collected from each groundwater monitoring well installed as part of the DMP and submitted for laboratory analyses quarterly for the analytes total and fecal coliform, iron, nitrate/nitrite as nitrogen, total dissolved solids (TDS), pH, and volatile organic compounds, as specified in Table 1 (Attachment A).

c. Constituents of Concern

Groundwater samples must be collected and submitted for laboratory analyses at all monitoring points once every five years for all monitoring parameters and COCs listed in Appendix I and II of 40 CFR, Part 258.

d. Concentration Limits

The Discharger needs to collect background water quality data for the monitoring parameters and constituents of concern listed in Table 1 (Attachment A). These data must be reported to the Water Board Executive Officer by **April 30, 2013**, in the required WQPS. The Discharger must collect at least eight quarters of groundwater quality data to determine background concentration limits for the monitoring parameters and constituents of concern. The Discharger must submit a complete water quality protection standard, which includes concentration limits that define background water quality for all monitoring parameters and constituents of concern, and the Point of Compliance monitoring points.

For any constituent that is naturally occurring at this site, its concentration limit at a given monitoring point is the average of the suite of at least eight background monitoring points collected pursuant to this subsection.

The concentration limits for each man-made organic constituent that is not proven to have originated from a source other than the Facility is the laboratory detection limit for that constituent.

e. Depth to Groundwater

Quarterly, prior to sampling and purging, the Discharger must measure and record the depth below the ground surface and elevation above mean sea level of the static groundwater surface in the groundwater monitoring wells. The Discharger shall use these measurements, which shall be accurate to the nearest 0.01 foot, to determine and prepare a groundwater surface map and groundwater flow direction, pursuant to section II.D.2.g., "Aquifer Characteristics."

f. Groundwater Purging

Quarterly, the Discharger must collect samples from each groundwater monitoring well. The wells must be purged of at least three well volumes until the temperature, electrical conductivity, and the pH of extracted well water have stabilized to within +/- five (5) percent. Samples must be

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San Bernardino County**

**MONITORING AND REPORTING
PROGRAM NO. R6V-2010-0019
WDID NO. 6B360704003**

collected and analyzed using U.S. EPA methods. The samples must be analyzed to determine the concentrations of constituents of concern described in Table 1 (Attachment A). Groundwater must also be measured for:

- i. Electrical conductivity (Ec) (in micromhos per centimeter [umhos/cm] units),
- ii. pH (in pH units),
- iii. Temperature (in either degrees Fahrenheit or degrees Centigrade), and
- iv. Turbidity (in nephelometric turbidity units [NTUs]).

g. Aquifer Characteristics

Quarterly, the Discharger must calculate, record, and report the groundwater gradient, the direction of the gradient, and the velocity of groundwater flow. Quarterly, the groundwater potentiometric surface must be illustrated on an 8.5" x 11" or an 11" x 17" copy of a site plan, showing the locations of the Facility, Surface Impoundment, the point of compliance, and monitoring wells, as well as the parameters listed below in the Table – Aquifer Characteristics.

Table – Aquifer Characteristics

| Parameter | Units |
|-----------------------------------|---------------------------|
| Depth to Groundwater | Feet below ground surface |
| Static Water Level | Feet above mean sea level |
| Slope of Groundwater Gradient | Feet/Feet |
| Direction of Groundwater Gradient | Degrees from True North |
| Velocity of Groundwater Flow | Feet/Year |

- h. Quarterly, the Discharger must graph time-series plots of the analytical results from the unsaturated zone monitoring and groundwater monitoring at each monitoring point to show any trends in constituent concentrations through time. Time-series plots must also include, as horizontal lines, the constituents' maximum contaminant level (MCL) (if an MCL has been established), and the WQPS concentration limit.
- i. Annually, sampling and monitoring data collected in association with any monitoring wells constructed for

groundwater monitoring of the Surface Impoundment must be reported in the annual report in tabular and graphical form. Each table must summarize the historical and most recently detected constituent concentrations for all wells sampled, and compare these data to both the WQPS and the Maximum Contaminant Level (MCL) established for each monitoring parameter/COC. Each such graph must be plotted using raw data, and at a scale appropriate to show trends or variations in water quality. For graphs showing the trends of similar constituents, the scale must be the same.

E. Operation and Maintenance

A brief summary of any operational problems and maintenance activities must be submitted to the Water Board with each monitoring report for the Discharger's operations. This summary must discuss:

1. Any modifications, additions, or major maintenance to the wastewater conveyance system, odor treatment, or disposal facilities.
2. Any major problems occurring in the wastewater conveyance system, odor treatment, or disposal facilities.
3. The calibration of any wastewater flow measuring devices.

III. DATA ANALYSIS

All data analyses methods (statistical and non-statistical) must meet the requirements of the California Code of Regulations, title 27, sections 20415, subdivisions (e)(8) and (9).

A. Statistical Data Analysis Method

In order to determine if any new releases have occurred from the Surface Impoundment, evaluation of data will be conducted using statistical methods. The Discharger must propose, in the Water Quality Protection Standard, the statistical test to use for comparing detection monitoring well groundwater data to background monitoring well groundwater data.

B. Non-statistical Data Analysis Method

In order to determine if any new releases have occurred from the Surface Impoundment, evaluation of data will be conducted using non-statistical methods. Non-statistical analysis shall be as follows:

1. Physical Evidence

Physical evidence can include vegetation loss, soil discoloration, or groundwater mounding. Each quarterly report shall comment on these physical elements.

2. Time-Series Plots

Quarterly, the Discharger shall graph time-series plots of the historical and most recent analytical results from the unsaturated zone monitoring and groundwater monitoring to show any trends in constituent concentrations through time. Time series plots must include applicable MCL or WQPS established for each respective constituent.

IV. REPORTING REQUIREMENTS

The Discharger must comply with the following reporting requirements:

A. General Provisions

The Discharger must comply with Attachment B, "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made a part of this MRP.

B. Violations

If monitoring data indicate violation of WDRs, the Discharger must provide information indicating the cause of violation(s) and action taken or planned to bring the discharge into compliance.

C. Failure to Furnish Reports

Any person failing or refusing to furnish technical or monitoring reports or falsifying any information provided therein is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under section 13268 of the California Water Code.

D. Quarterly Reports

Monitoring reports, including the preceding information, must be submitted to the Water Board on the **30th day of the month following each quarter**, per the following schedule:

| Sampling and Reporting Frequency | Quarterly Period | Report Date Due |
|--|-------------------------|--------------------|
| Quarterly | January 1 – March 31 | April 30 |
| Quarterly | April 1 – June 30 | July 30 |
| Quarterly | July 1 – September 30 | October 30 |
| Quarterly | October 1 – December 31 | January 30 |

Each quarterly report must include the following:

1. Results of sampling and laboratory analyses for each groundwater and unsaturated zone monitoring point, including statistical limits for each monitoring parameter and an identification of each sample that exceeds its respective statistical limit at any given monitoring point;
2. A description and graphical presentation of the velocity and direction of groundwater flow under/around the Surface Impoundment, based upon water-level elevations taken during the collection of the water quality data submitted in the report;
3. A map and/or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points, and the Point of Compliance along the downgradient boundary of the Facility;
4. The Surface Impoundment monitoring, flow monitoring, effluent monitoring, and an evaluation of the effectiveness of the leachate monitoring and control facilities, and the runoff/runon control facilities;

5. Data collected in accordance with the approved Monitoring and Reporting Plan and Sampling and Analysis Plan for unsaturated zone monitoring probes and groundwater monitoring wells;
6. A description of any odor problems detected and any odor mitigation measures implemented to control odors in the Surface Impoundment, including any chemical additives by name and volume of chemical added.
7. A letter transmitting the essential points of each report must accompany each report. The letter must include a discussion of any violations found since the last report was submitted and must describe actions taken or planned for correcting those violations; and,
8. If the Discharger has previously submitted a detailed time schedule for correcting violations, a reference to the correspondence transmitting this schedule will be satisfactory. If no violations have occurred since the last submittal, this must be stated in the letter of transmittal.

E. Annual Monitoring Report

Annual Monitoring Reports must be submitted to the Water Board no later than **April 30** of each year. The annual report can be combined with the monitoring report for the last reporting period of that year. If so, the report must include (for the last reporting period) the information under Section IV.D. and the following information:

1. Results of groundwater sampling analysis of the COCs, including statistical limits for each groundwater monitoring point;
2. Time series data plots of the past three years of groundwater, soil gas, and soil moisture analysis. Time-series plots must also include appropriate MCL or WQPS established for each respective constituent;
3. A map showing the groundwater elevation isocontours and monitoring points.
4. Graphical and tabular data for the monitoring data obtained for the previous calendar year (January – December). Each table must summarize the historical and most recent detected constituents concentrations for all wells sampled, and compare these data to

both the WQPS and MCL established for each monitoring parameter/COC. Each such graph must be plotted using raw data, and at a scale appropriate to show trends or variations in water quality. For graphs showing trends of similar constituents, the scale must be the same.

5. Calibration methods and any flow discrepancies of the wastewater flow meters after calibration is performed. Copies of calibration worksheets or other such documentation that calibration of wastewater flow meters was performed must be provided.
6. The compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the discharge requirements.
7. Evidence that adequate financial assurance for closure and corrective action for all known or reasonably foreseeable releases is still in effect. Evidence may include a copy of the renewed financial instrument or a copy of the receipt for payment of the financial instrument. Evidence of adequate financial assurance must be signed by the Corporate Officer.
8. Evidence that the financial assurance amount is adequate or increase the amount of financial assurance by an appropriate amount if necessary, due to inflation, a change in the approved closure plan, or other unforeseen events.
9. The Discharger must review the preliminary closure plan, post-closure maintenance plan, and corrective action plan for all known or reasonably foreseeable releases annually to determine if significant changes in the operation of the Facility warrant an update to any of these plans. Changes to these plans must be submitted to the Water Board in the annual report.

F. Five-Year Constituent of Concern Monitoring Program

Pursuant to CCR, title 27, section 20420, subdivision (g), every five years the Discharger must sample for COCs with successive direct monitoring efforts being carried out alternatively during January 1 through June 30 of one five-year sampling event and July 1 through December 31 of the next five-year sampling event, and every fifth year, thereafter. The first five-year COC sampling event must take place during the first **January 1 through June 30 period of discharge to the Surface Impoundments** and reported no later than 45 days following the monitoring period.

G. Unscheduled Reports to be Filed With the Water Board

The following reports must be submitted to the Water Board as specified below:

1. Release from the Surface Impoundment

The Discharger must perform the procedures contained in this subsection whenever there is evidence of a release from the Surface Impoundment.

a. Physical or Measurably Significant Evidence of a Release from the Surface Impoundment

The Discharger must immediately notify the Water Board verbally whenever a determination is made that there is physical or measurably significant evidence of a release from the Surface Impoundment. This verbal notification must be followed by written notification via certified mail within seven days of such determination. Upon such notification, the Discharger may initiate verification procedures or demonstrate that another source other than the Surface Impoundment caused evidence of a release (see below).

The notification must include the following information:

- i. Surface Impoundment that may have released or be releasing;
- ii. General information including the date, time, location, and cause of the release;
- iii. An estimate of the flow rate and volume of waste involved;
- iv. A procedure for collecting samples and description of laboratory tests to be conducted;
- v. Identification of any water bearing media affected or threatened;
- vi. A summary of proposed actions; and

- vii. For a measurably significant evidence of a release – the monitoring parameters and/or COCs that are involved in the measurably significant evidence of a release from the Surface Impoundment; or
- viii. For physical evidence of a release – physical factors that indicate physical evidence of a release..

b. Other Source That May Cause Evidence of a Release From the Surface Impoundment

The Discharger may make a demonstration that a source other than the Surface Impoundment caused evidence of a release. For this case, the Discharger must notify the Water Board of the intention to make this demonstration. The notification must be sent to the Water Board by certified mail within seven days of determining physical or measurably significant evidence of a release.

2. Exceeding the Action Leakage Rate

Exceeding the Action Leakage Rate in Section IV.C of this Board Order is an Adverse Condition. The Discharger must immediately notify the Water Board verbally within 24 hours whenever a determination is made that leakage into the LCRS exceeds the Action Leakage Rate (20 gallons per acre per day). This verbal notification must be followed by written notification via certified mail within 7 days of such determination. This written notification must be followed by a technical report via certified mail within 30 days of such determination. The technical report must describe the actions taken to abate the Adverse Condition and must describe any proposed future actions to abate the Adverse Condition.

3. Evaluation Monitoring

The Discharger must, within 90 days of verifying a release, submit a technical report pursuant to California Water Code (CWC) section 13267, subdivision (b), proposing an Evaluation Monitoring Program (EMP). If the Discharger decides not to conduct verification procedures, or decides not to make a demonstration that a source other than the Surface Impoundment is responsible for the release, the release will be considered verified.

**GREEN VALLEY FOODS PRODUCTS, INC., - 16 - MONITORING AND REPORTING
AND HECTOR HUERTA PROGRAM NO. R6V-2010-0019
CHEESE PROCESSING FACILITY WDID NO. 6B360704003
CLASS II SURFACE IMPOUNDMENT
San Bernardino County**

The Discharger must, within 90 days of determining a "measurably significant" evidence of a release, submit to the Water Board an amended report of waste discharge to establish an evaluation monitoring program meeting the provisions of CCR, title 27, section 20420, subdivision (k)(5) and section 20425. The report must include the following information:

- a. COC Concentrations – the maximum concentration of each COC at each Monitoring Point as determined during the most recent COC sampling event [i.e., under CCR, title 27, section 20420, subdivision (g) or (k)(1)]. Any COC that exceeds its background limit is to be retested at that monitoring point. Should the results of the retest verify that the COC is above the background limit, then that COC will then become a monitoring parameter at all monitoring points;
- b. Proposed Monitoring System Changes – any proposed changes to the water quality monitoring systems at the Surface Impoundment necessary to meet the provisions of CCR, title 27, section 20425;
- c. Proposed Monitoring Changes – any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods used at the Facility necessary to meet the provisions of CCR, title 27, section 20425; and
- d. Proposed Delineation Approach – a detailed description of the measures to be taken by the Discharger to assess the nature and extent of the release from the Surface Impoundment.

4. Engineering Feasibility Study Report

The Discharger must, within 180 days of verifying any release, submit a Technical Report discussing conclusions and recommendations from the DMP and the EMP. The report must include an Engineering Feasibility Study along with a proposed corrective action program (CAP) [CCR, title 27, section 20420, subdivision (k)(6)].

H. Technical Reports


Pursuant to California Water Code, section 13267, subdivision (b):

1. By **April 30, 2011**, the Discharger must submit a technical report discussing the installation of the monitoring system. The report shall summarize all work activities associated with the installation of the monitoring system. The report must be certified by a registered civil engineer or a registered professional geologist. It must contain sufficient information to verify that construction was in accordance with State and/or County well standards.

The California Department of Water Resources (DWR) has established 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 74-81* (December 1981). These standards, and any more stringent standards adopted by the state or county, pursuant to CWC, section 13801, apply to all monitoring wells.

2. By **April 30, 2013**, the Discharger must submit for acceptance by the Water Board Executive Officer a proposed data analysis method and a Water Quality Protection Standard with proposed constituent concentration limits established from collection of at least eight data points from an appropriate background data source for each monitoring parameter and COC and at each monitoring point in each monitored medium. The report must be certified by a registered civil engineer or a registered professional geologist.

Ordered by:


HAROLD J. SINGER
EXECUTIVE OFFICER

Dated: **May 13, 2010**

Attachments: A. Table 1, Monitoring Parameters and Constituents of Concern
B. General Provisions for Monitoring and Reporting, September 1, 1994

**GREEN VALLEY FOODS PRODUCTS, INC.,
AND HECTOR HUERTA
CHEESE PROCESSING FACILITY
San Bernardino County**

**Monitoring and Reporting
Program No. R6V-2010-0019
WDID No. 6B360704003**

**Table 1
Monitoring Parameters and Constituents of Concern**

| Parameter | Units | Monitoring and Reporting Frequency |
|---|--------------|---|
| Constituents of Concern | | |
| Coliform, Fecal | MPN/100 ml | Quarterly |
| Coliform, Total | MPN/100 ml | Quarterly |
| Iron | mg/L | Quarterly |
| Nitrate/Nitrite as Nitrogen | mg/L | Quarterly |
| Total Dissolved Solids (TDS) | mg/L | Quarterly |
| Volatile Organic Compounds (VOCs) | ug/L | Quarterly |
| Monitoring Parameters | | |
| Ammonia as Nitrogen | mg/L | Annually |
| Arsenic | mg/L | Annually |
| Barium | mg/L | Annually |
| Bicarbonate | mg/L | Annually |
| Biochemical Oxygen Demand (BOD) | mg/L | Annually |
| Boron | mg/L | Annually |
| Cadmium | mg/L | Annually |
| Calcium | mg/L | Annually |
| Carbonate | mg/L | Annually |
| Chemical Oxygen Demand (COD) | mg/L | Annually |
| Chloride | mg/L | Annually |
| Chromium, Total | mg/L | Annually |
| Copper | mg/L | Annually |
| Fluoride | mg/L | Annually |
| Hardness as CaCO ₃ | mg/L | Annually |
| Kjeldahl Nitrogen, Total | mg/L | Annually |
| Lead | mg/L | Annually |
| Magnesium | mg/L | Annually |
| Manganese | mg/L | Annually |
| Nickel | mg/L | Annually |
| Odors | mg/L | Annually |
| Orthophosphate Phosphorous | mg/L | Annually |
| Phosphorous, Total | mg/L | Annually |
| Potassium | mg/L | Annually |
| Sodium | mg/L | Annually |
| Sulfate | mg/L | Annually |
| Total Suspended Solids (TSS) | mg/L | Annually |
| Zinc | mg/L | Annually |
| Semi-volatile Organic Compounds (SVOCs) | ug/L | Annually |

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. **SAMPLING AND ANALYSIS**

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
 - i. Standard Methods for the Examination of Water and Wastewater
 - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS**a. Sample Results**

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

- a.** For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b.** Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c.** The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d.** Monitoring reports shall be signed by:
 - i.** In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
 - ii.** In the case of a partnership, by a general partner;
 - iii.** In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
 - i. Name and telephone number of individual who can answer questions about the report.
 - ii. The Monitoring and Reporting Program Number.
 - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDORS

file: general pro mrp

EXHIBIT NO. 2



Matthew Rodriguez
Secretary for
Environmental Protection

California Regional Water Quality Control Board Lahontan Region

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • FAX (530) 544-2271
<http://www.waterboards.ca.gov/lahontan>



Edmund G. Brown Jr.
Governor

November 1, 2011

Hector Huerta, President
Green Valley Foods Products Inc.
25684 Community Boulevard
Barstow, CA 92311

CERTIFIED MAIL: 7009 0820 0001 6630 1184

ADMINISTRATIVE CIVIL LIABILITY COMPLAINT NO. R6V-2011-0082 FOR HECTOR HUERTA AND GREEN VALLEY FOODS PRODUCTS, INC., SAN BERNARDINO COUNTY, WDIID NO. 6B360704003

Enclosed please find Administrative Civil Liability Complaint No. R6V-2011-0082 issued pursuant to California Water code section 13323, alleging violations by Hector Huerta and Green Valley Foods Products, Inc. (Dischargers), of waste discharge requirements prescribed by Board Order No. R6V-2010-0019 related to the failure to submit required plans and/or reports. The Complaint proposes that the Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) assess an administrative civil liability against the Dischargers in the amount of **\$235,674** pursuant to California Water Code section 13268. Also enclosed is a Waiver of Hearing form for this matter.

Unless waived, a hearing before the Lahontan Water Board or a Lahontan Water Board Hearing Panel (Hearing Panel) will be held on this Complaint pursuant to Water Code section 13323. At the hearing, the Lahontan Water Board will consider whether to affirm, reject, or modify the proposed civil liability (either decrease or increase the liability up to the maximum penalty provided for by law), or refer the matter to the Attorney General to have a Superior Court consider enforcement. If this matter proceeds to hearing, the Prosecution Team reserves the right to seek an increase in the civil liability amount to cover the costs of enforcement incurred subsequent to the issuance of this Administrative Civil Liability Complaint through hearing. The enforcement costs can be considered as an additional factor as justice may require.

The Dischargers may contest the proposed administrative civil liability at the hearing or, in the alternative, may waive its right to the hearing. Should the Dischargers choose to waive their right to a hearing, an authorized agent must sign the enclosed Waiver of Hearing form and return it to the Lahontan Water Board's South Lake Tahoe office by **5:00 p.m. on November 28, 2011**. If the Lahontan Water Board does not receive the waiver and full payment of the liability by this date and time, the matter will be heard before the Lahontan Water Board or a Hearing Panel within 90 days of the Complaint's issuance date. An agenda containing the date, time, and location of the hearing will be mailed to the Dischargers at least 10 days prior to the hearing date. Public hearing procedures are enclosed for this matter.

California Environmental Protection Agency



If you have any questions regarding this matter, please contact Lisa Scorallo at (530) 542-5452, or Scott C. Ferguson at (530) 542-5432.



Lauri Kemper, P.E.
Assistant Executive Officer

Enclosures:

1. Administrative Civil Liability Complaint No. R6V-2011-0082
2. Waiver of Hearing Form
3. Public Hearing Procedures for Administrative Civil Liability Complaint No. R6V-2011-0082

cc: John Driscoll
John Stamford
Robert Conaway
Christina Byrne
Donald Troy
D. Norman Diaz
Dean and Brandee Vizzo
Mark Orr
Hill's Ranch, Inc.
Help Hinkley
Paul and Linda Hensley
Joan Bird
Travis Godeaux/Natural Resources Conservation Service
Terri S. Williams, REHS/San Bernardino County Environmental Health Services
Greg Bennett/San Bernardino County Land Use Services
Harold J. Singer, Executive Officer/Lahontan Regional Water Quality Control Board
Kim Niemeyer, Staff Counsel/State Water Resources Control Board, Office of Chief Counsel
Ann Carroll, Staff Counsel/State Water Resources Control Board, Office of Enforcement
Lisa Scorallo/Lahontan Regional Water Quality Control Board
Brianna Bergen/Lahontan Regional Water Quality Control Board
Chris Seney/Nursery Products, LLC

File: T:/Green Valley Food ACL-Cover Letter
File Under: SLT Office: 6B360704003
File Under: VVL Office: 6B360704003

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

| | | |
|--|---|---------------------------------------|
| In the Matter of |) | |
| Green Valley Foods Products, Inc. and |) | COMPLAINT NO. R6V-2011-0082 |
| Hector Huerta, |) | FOR |
| San Bernardino County, |) | ADMINISTRATIVE CIVIL LIABILITY |
| <u>WDID No. 6B360704003</u> |) | |

**GREEN VALLEY FOODS PRODUCTS, INC. AND HECTOR HUERTA,
ARE HEREBY GIVEN NOTICE THAT:**

1. Green Valley Foods Products, Inc. and Hector Huerta (collectively Dischargers) operate a cheese production facility, which processes milk (both liquid and solid) into rounds of Mexican style hard cheese known as Cotija. The cheese production facility is located on two parcels, owned by Hector Huerta, located at 25684 and 36293 Community Boulevard, Barstow, San Bernardino County, California (Assessor's Parcel Numbers 0497-221-14-0000 and 0497-221-13-0000, respectively). A map showing both parcels is attached hereto as Attachment A, and incorporated herein by this reference.
2. An underground pipeline transports untreated wash water (waste) from the cheese production facility located at 25684 Community Boulevard to the unimproved parcel located at 36293 Community Boulevard. The waste consists of water and cleaning solution used for cleaning the cheese-making equipment and the rinsate from the milk delivery truck discharge spigots. The Dischargers discharge the waste directly to the land on the unimproved parcel where it is allowed to percolate. A site plan of the cheese production facility, underground pipeline, and waste disposal area (Facility) are attached hereto as Attachment B, and incorporated herein by this reference.
3. The Dischargers are alleged to have violated provisions of law and regulations for which the California Regional Water Quality Control Board, Lahontan Region (Water Board) may impose administrative civil liabilities pursuant to Water Code section 13268, subdivisions (a) and (b).

**STATEMENT OF PROHIBITIONS AND REQUIREMENTS APPLICABLE TO THE
DISCHARGERS**

4. On May 13, 2010, the Water Board adopted Board Order No. R6V-2010-0019 prescribing waste discharge requirements for the Facility's waste discharges. Board Order No. R6V-2010-0019 specifies prohibitions, specifications, and provisions

necessary to protect the beneficial uses of the surface and ground waters within the Middle Mojave River Valley Groundwater Basin.

5. Board Order No. R6V-2010-0019 requires the Dischargers to submit a series of plans and reports intended to result in the construction of an operational Class II surface impoundment and associated monitoring facilities by March 30, 2011. Table No. 1, below, identifies the required plans and reports, the deadlines for submission of those plans and reports, and the citation to the section in Board Order No. R6V-2010-0019 that requires the submission of those plans and reports.

Table No. 1 – Board Order No. R6V-2010-0019 Plan/Report Requirements

| Plan/Report | Due Date | Board Order Requirement No. |
|--|-------------------|------------------------------------|
| Design Plan for Surface Impoundment | December 30, 2010 | V.B.1. |
| Work Plan for Surface Impoundment Construction | December 30, 2010 | V.B.2. |
| Odor Control Plan | January 30, 2011 | V.B.3. |
| Monitoring and Reporting Plan | January 30, 2011 | V.B.4. |
| Sampling and Analysis Plan | January 30, 2011 | V.B.4. |
| Detection Monitoring Plan | January 30, 2011 | V.B.5. |
| Closure Plan and Cost Estimate | January 30, 2011 | V.B.6. |
| Known or Reasonably Foreseeable Release Plan | January 30, 2011 | V.C. |
| Monitoring System Installation Report | April 30, 2011 | V.E.2. |
| Final Construction Quality Assurance Report | April 30, 2011 | V.F. |

ALLEGED VIOLATIONS OF PROHIBITIONS AND REQUIREMENTS APPLICABLE TO THE DISCHARGERS

6. The Dischargers failed to submit plans and reports as required by Board Order No. R6V-2010-0019, Requirements V.B.1 through V.B.6, V.C, V.E.2, and V.F as identified in Table 2, below. The days of violation are calculated from the day after the due date of each respective plan and/or report through October 31, 2011, the issuance date of this Complaint.

Table No. 2 – Board Order Requirements and Days of Violation

| Violation No. | Plan/Report | Board Order Requirement No. | Days of Violation |
|----------------------|-------------------------------------|------------------------------------|--------------------------|
| 1 | Design Plan for Surface Impoundment | V.B. 1. | 305 |

| | | | |
|--------------|---|--------|--------------|
| 2 | Work Plan for Surface Impoundment Construction | V.B.2. | 305 |
| 3 | Odor Control Plan | V.B.3. | 273 |
| 4 | Monitoring and Reporting Plan with a Sampling and Analysis Plan | V.B.4. | 273 |
| 5 | Detection Monitoring Plan | V.B.5. | 273 |
| 6 | Closure Plan and Cost Estimate | V.B.6. | 273 |
| 7 | Known or Reasonably Foreseeable Release Plan | V.C. | 273 |
| 8 | Monitoring System Installation Report | V.E.2. | 182 |
| 9 | Final Construction Quality Assurance Report | V.F. | 182 |
| Total | | | 2,339 |

FACTUAL BASIS FOR THE ALLEGED VIOLATIONS

7. Board Order No. R6V-2010-0019, Requirement No. V.B.1 requires that the final design plans for the surface impoundment be submitted by December 30, 2010. The Dischargers submitted draft design plans for the surface impoundment in May 2009 and June 2010. Water Board staff responded to both submittals and identified deficiencies in the design plans that needed to be addressed prior to the Water Board staff's acceptance of the plans. Water Board staff has yet to receive any of the plans or reports required by Board Order No. R6V-2010-0019, and identified in Table Nos. 1 and 2, above.
8. On January 28, 2011, Water Board staff issued a Notice of Violation (NOV) to the Dischargers for the failure to submit the Design Plan for the Surface Impoundment and the Work Plan for Surface Impoundment Construction (Violation Nos. 1 and 2, respectively). Water Board staff received a letter dated February 15, 2011 from the Dischargers' project manager, John Stamford, stating that the Dischargers had submitted the design plans that month (February 2011) and that the Dischargers were "waiting for Design Plan approval." Water Board staff have not received any design plans from the Dischargers.
9. On May 31, 2011, Water Board staff issued a second NOV to the Dischargers for the failure to submit any of the plans or reports required by Board Order No. R6V-2010-0019, and identified in Table No. 2, above.

10. The Dischargers responded to the May 31, 2011 NOV via letter dated June 24, 2011. The Dischargers requested additional time (90 to 120 days) to study a possible alternative to the surface impoundment design for wastewater disposal.
11. On September 2, 2011, the Discharger submitted a new, but incomplete, Report of Waste Discharge that proposed an alternative to the surface impoundment design. By letter dated September 30, 2011, Water Board staff informed the Dischargers that its September 2, 2011 Report of Waste Discharge is incomplete and identified the information necessary to complete the Report of Waste Discharge.

**WATER CODE SECTIONS UPON WHICH ADMINISTRATIVE CIVIL LIABILITY IS
BEING ASSESSED FOR THE ALLEGED VIOLATIONS**

12. Pursuant to Water Code section 13268, subdivision(b), any person failing or refusing to furnish technical or monitoring program reports as required by an order issued by the Water Board pursuant to Water Code section 13267, subdivision (b), may be liable in an amount that shall not exceed \$1,000 for each day in which the violations occurs.

FACTORS CONSIDERED IN DETERMINING ADMINISTRATIVE CIVIL LIABILITY

13. Pursuant to Water Code section 13327, in determining the amount of any civil liability, the Regional Water Board is required to take into account the nature, circumstances, extent, and gravity of the violations, whether the discharges are susceptible to cleanup or abatement, the degree of toxicity of the discharges, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violations, and other matters that justice may require.
14. On November 17, 2009, the State Water Resources Control Board adopted Resolution No. 2009-0083 amending the Water Quality Enforcement Policy (Enforcement Policy). The Enforcement Policy was approved by the Office of Administrative Law and became effective on May 20, 2010. The Enforcement Policy establishes a methodology for assessing administrative civil liability. The use of this methodology addresses the factors that are required to be considered when imposing a civil liability as outlined in Water Code section 13327. The entire Enforcement Policy can be found at:

http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf
15. The required factors have been considered for the violations alleged herein using the methodology in the Enforcement Policy, as explained in detail in Attachment C.

MAXIMUM ADMINISTRATIVE CIVIL LIABILITY THAT MAY BE IMPOSED

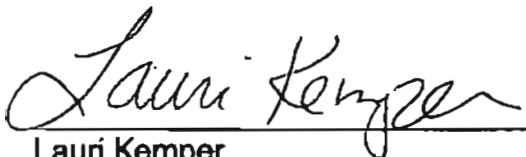
16. Pursuant to Water Code section 13268, subdivisions (a)(1) and (b)(1), the total maximum administrative civil liability that may be imposed for the violations alleged in this Complaint is \$2,339,000, as described in Attachment C.

PROPOSED ADMINISTRATIVE CIVIL LIABILITY AMOUNT

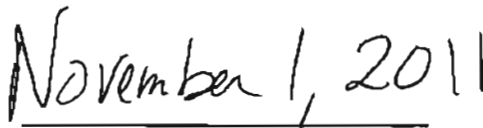
17. Based on consideration of the above facts, the applicable law, and after applying the administrative civil liability methodology, the Assistant Executive Officer of the Water Board proposes that civil liability be imposed administratively on the Dischargers in the amount of \$235,674.

California Environmental Quality Act

18. Issuance of this Complaint is an enforcement action and is, therefore, exempt from the California Environmental Quality Act (Pub. Res. Code § 21000 et seq.), pursuant to title 14, California Code of Regulations, section 15308 and section 15321, subsection (a)(2).



Lauri Kemper
Assistant Executive Officer



Date

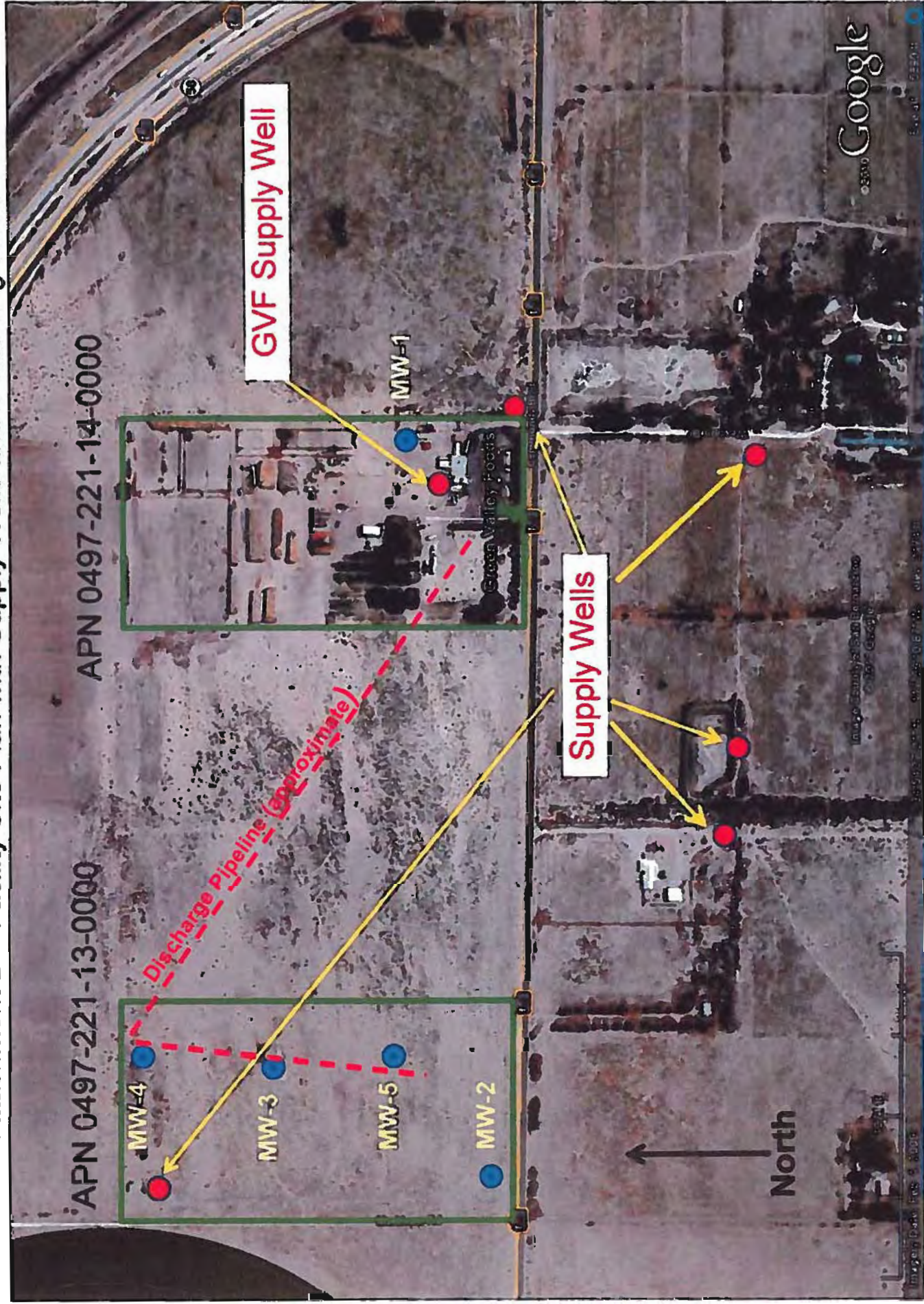
Attachments:

- A. Location Map
- B. Facility Site Plan
- C. Enforcement Policy Methodology
- D. Enforcement Policy Methodology Spreadsheet

Attachment A – Vicinity Map



Attachment B – Facility Site Plan with Supply Wells and Monitoring Wells



ATTACHMENT C

ADMINISTRATIVE CIVIL LIABILITY METHODOLOGY

Administrative civil liability may be imposed pursuant to the procedures described in Water Code section 13323. Water Code section 13327 identifies the factors the Water Board must consider in determining the amount of liability to be imposed.

The State Water Resources Control Board's Water Quality Enforcement Policy (Enforcement Policy) establishes a methodology for assessing administrative civil liability. Use of the methodology addresses the factors in Water Code section 13327. Attachment D and the following presents the administrative civil liability derived from the use of the administrative civil liability methodology in the Enforcement Policy. Attachment D is attached hereto and incorporated herein by this reference. Because Administrative Civil Liability Complaint No. R6V-2011-0082 only alleges non-discharge violations, Step Nos. 1 and 2 of the methodology are not addressed.

Step 3: Initial Liability Determination – Violation No. 1 and Violation No. 2

The per-day factor for Violation No. 1 and Violation No. 2 is **0.4**. This factor is determined by a matrix analysis based upon the Potential for Harm and the Deviation from Applicable Requirements.

- a. For Violation No. 1 and Violation No. 2, the Potential for Harm is determined to be **moderate**. The plans the Dischargers failed to submit are critical to the construction of the surface impoundment that will contain all of the Facility's waste discharge, which is currently discharged to land where it percolates. Given the Facility's waste characteristics and reported discharge volume, there is a significant potential for the ongoing discharge of waste from the Facility to degrade groundwater quality and adversely affect beneficial uses of the groundwater. The chances of groundwater quality degradation and adverse impacts to beneficial uses continue to increase each day the surface impoundment design plans and Work Plan for Surface Impoundment Construction are delayed.
- b. The Deviation from Applicable Requirements to submit the required plans is **major (lower level)**. The reason for the **major** designation is that the Water Board staff notified the Dischargers of their failure to submit the required plans associated with Violation No. 1 and Violation No. 2 in a January 26, 2011 Notice of Violation (NOV) and again in a May 31, 2011 NOV. The Dischargers gave no indication they were considering alternatives to the surface impoundment design until their Project Manager, John Driscoll, stated such in a June 24, 2011 letter. Additionally, it is not the Dischargers' prerogative to dictate the schedule under which they will comply with the waste discharge requirement specified by Board Order No. R6V-2010-0019, as Mr. Stamford did in his February 15, 2011 letter.

The Dischargers should have submitted the required Work Plan for Surface Impoundment Construction on time (December 30, 2010) and based it upon the final design plans that were also due December 30, 2010. The reason Water Board staff

is selecting the lower of the three values for the Deviation from Requirement is that staff did not immediately address the Dischargers' incorrect assertion that the final design plans had already been submitted, although late, and/or address the Dischargers' assertion that it was going to delay submitting the Work Plan for Surface Impoundment Construction until sometime following Water Board staff's acceptance of the updated design plans.

- c. There are 305 days of violations for Violation No. 1 and Violation No. 2, respectively for the period ending October 31, 2011, the issuance date of Administrative Civil Liability Complaint No. R6V-2011-0082. The statutory maximum amount per day per violation is \$1,000. Applying the per day factor for each violation, the number of days of violation for each violation, and the statutory maximum liability for each violation, yields an initial liability of **\$122,000** for Violation No. 1 and Violation No. 2, respectively.

Step 4: Adjustment Factors – Violation No. 1 and Violation No. 2

The Enforcement Policy allows for multi-day violations to be consolidated provided specific criteria are satisfied. The Enforcement Policy also describes three factors related to the violator's conduct that should be considered for modification of the initial liability amount: the violator's culpability; the violator's efforts to clean up or cooperate with regulatory authorities after the violation; and the violator's compliance history. After each of these factors is considered for the violations alleged, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

a. Multiple Day Violations

The Enforcement Policy provides for violations lasting more than 30 days, the Water Board may adjust the per-day basis for civil liability if certain findings are made and provided that the adjusted per-day basis is no less than the per-day economic benefit, if any, resulting from the violation.

The Dischargers have failed to submit the plans and work plan addressed by Violation No. 1 and Violation No. 2, respectively, for 305 days. The continuance of these violations does not result in an economic benefit that can be measured on a daily basis. The economic benefit is the one-time cost of having the design plans and Work Plan prepared. Therefore, an adjustment can be made.

The Water Board Prosecution Team recommends the alternate approach to civil liability calculation provided by the Enforcement Policy be applied. Using this approach, the calculation of days of violation will include the first day of violation, plus one additional day of violation for each five-day period up to the 30th day of violation, and thereafter, plus one additional day of violation for each 30-day period. Using this approach, the total days of violation for Violation No. 1 and Violation No. 2 is revised to 16 days for each violation.

This results in a Revised Initial Liability Amount as follows:

Revised Initial Liability = $(0.4) \times (16 \text{ days of violation}) \times (\$1,000) = \$6,400$

Violation No. 1 = \$6,400 and Violation No. 2 = \$6,400

b. Adjustment for Culpability

For culpability, the Enforcement Policy suggests an adjustment resulting in a multiplier between 0.5 to 1.5, with the lower multiplier for accidental incidents, and the higher multiplier for intentional or negligent behavior. In this case for both of Violation No. 1 and Violation No. 2, a Culpability multiplier of 1.2 has been selected for the reasons described below:

The Dischargers are ultimately responsible for ensuring compliance with the time schedule set forth in Board Order No. R6V-2010-0019. In a February 15, 2011 letter, Mr. Stamford incorrectly stated that the revised design plans for the surface impoundment had been submitted earlier that month (February 2011), which, if true, would have still been two-plus months late. Mr. Stamford informed Water Board staff in his February 15, 2011 letter, that the Dischargers' failure to submit the Work Plan for Surface Impoundment Construction was due to the Discharger's decision to delay developing and submitting the Work Plan until after they received Water Board approval of the revised design plans. However, as discussed above, it is not a discharger's prerogative to dictate the time schedule for complying with the Water Board's requirements. The Dischargers did not provide any other reason why they had failed to submit the revised design plans until Mr. Driscoll stated in a June 24, 2011 letter that the Dischargers were pursuing an alternative wastewater treatment and disposal plan. The reason the maximum multiplier has not been selected for these two violations is that Water Board staff did not immediately respond to Mr. Stamford's February 15, 2011 letter and the incorrect and inappropriate assertions it contained.

c. Adjustment for Cleanup and Cooperation

For cleanup and cooperation, the Enforcement Policy suggests an adjustment should result in a multiplier between 0.75 and 1.5. A lower multiplier is for situations where there is a high degree of cleanup and/or cooperation and a higher multiplier is for situations where cleanup and/or cooperation is minimal or absent. In this case for Violation No. 1 and Violation No. 2, a Cleanup and Cooperation multiplier of 1.3 has been selected for the reasons described below:

The Dischargers' level of cooperation has been less than forthcoming with respect to submitting the design plans and Work Plan that are the subject of Violation No. 1 and Violation No. 2. It was only after Water Board staff issued a NOV on January 26, 2011 that staff received any updated, although incorrect, information regarding the status of the design plans, as discussed above. Additionally, and as discussed above, Mr. Stamford also informed Water Board staff that the Dischargers did not intend to comply with the due date for the Work Plan for Surface Impoundment Construction. Instead, the Dischargers were going to wait until their revised plans

were accepted by the Water Board. So while the Dischargers did respond to Water Board staff's NOV, the response was incorrect and inappropriate, and did not move the Dischargers any closer to returning to compliance with Board Order No. R6V-2010-0019. Additionally, the Dischargers did not inform Water Board staff that they were considering alternatives to the surface impoundment until Water Board staff received Mr. Driscoll's June 24, 2011 letter.

d. Adjustment for History of Violations

The Enforcement Policy suggests that where there is a history of repeat violations, a **minimum** multiplier of 1.1 should be used for this factor. In this case for Violation No. 1 and Violation No. 2, a multiplier of 1.0 has been selected based upon absence of prior violations of Board Order No. R6V-2010-0019.

A review of the California Integrated Water Quality System (CIWQS) and Water Board files shows that Violation No. 1 and Violation No. 2, above, represent the first violations of Board Order No. R6V-2010-0019. Water Board did identify during its evaluation of this factor, the Dischargers' two prior violations associated with a Water Code section 13267 Order in 2008. Those violations were for a late and subsequently deficient groundwater investigation work plan related to the Facility's discharge practices. Violation No. 1 and Violation No. 2 are for failure to submit required plans and reports, rather than a late and deficient report. Therefore, there is no history of repeated violations related to Violation No. 1 and Violation No. 2, above.

Determination of Total Base Liability – Violation No. 1 and Violation No. 2

The Total Base Liability for the two violations is **\$9,984**, for Violation No. 1 and Violation No. 2, respectively. The Total Base Liability for each of the two violations is determined by multiplying the Initial Liability for each of the violations by the multipliers associated with each of the Adjustment Factors discussed above.

Total Base Liability = (Initial Liability) X (Culpability) X (Cleanup/Cooperation) X (History of Violations)

Total Base Liability Violation No. 1 = (\$6,400) X (1.2) X (1.3) X (1.0) = **\$9,984**

Total Base Liability Violation No. 2 = (\$6,400) X (1.2) X (1.3) X (1.0) = **\$9,984**

Step 3: Initial Liability Determination – Violation No. 3 through Violation No. 7

The per-day factor for Violation Nos. 3 through 7 is **0.4**. This factor is determined by a matrix analysis based upon the Potential for Harm and the Deviation from Applicable Requirements.

- a. For Violation Nos. 3 through 7, the Potential for Harm is determined to be **minor**. Failure to submit the plans, which are the subject of these five violations, do not have an immediate, if any, impact to beneficial uses.

- b. The Deviation from Applicable Requirements to submit the required plans is **major (high level)**. The reason for the **major** designation is that the plans addressed by Violation Nos. 3 through 7 are the second set of plans/reports required by Board Order No. R6V-2010-0019 that the Dischargers have failed to submit. These five violations occurred shortly after Water Board staff issued a NOV for Violation No. 1 and Violation No. 2, above.
- c. There are 273 days of violations for Violation No. 3, Violation No. 4, Violation No. 5, Violation No. 6 and Violation No. 7, respectively, for the period ending October 31, 2011, the issuance date for Administrative Civil Liability Complaint No. R6V-2011-0082. The statutory maximum amount per day per violation is \$1,000. Applying the per-day factor for each violation, the number of days of violation for each violation, and the statutory maximum liability for each violation, yields an initial liability of **\$109,200** for each of the five violations.

Step 4: Adjustment Factors for Violation No. 3 through Violation No. 7

a. Multiple Day Violations

The Enforcement Policy provides for violations lasting more than 30 days, the Water Board may adjust the per-day basis for civil liability if certain findings are made and provided that the adjusted per-day basis is no less than the per-day economic benefit, if any, resulting from the violation.

The Dischargers have failed to submit the multiple plans addressed by Violation Nos. 3 through 7, for 273 days for each violation. The continuance of these violations does not result in an economic benefit that can be measured on a daily basis. The economic benefit is the one-time cost of having the plans and reports prepared. Therefore, an adjustment can be made.

The Water Board Prosecution Team recommends that an alternate approach to civil liability calculation be used. However, the Prosecution Team believes that it is inappropriate to consolidate the number of days of violation to the maximum level allowed by the Enforcement Policy. Violation Nos. 3 through 7 represent the second set of plans and/or reports required by Board Order No. R6V-2010-0019 that the Dischargers failed to submit. Each plan and report required by Board Order No. R6V-2010-0019 is intended to move the Dischargers closer to completing an acceptable wastewater disposal system for their Facility. The calculation of the days of violation for these five violations includes the first day of violation, plus an additional day of violation for each 5-day period up to the 30th day of violation, and thereafter, plus one additional day of violation for each 15-day period. Using this approach, the total days of violation of for Violation Nos. 3 through 7, respectively, is revised 23 days for each violation.

This results in a Revised Initial Liability Amount as follows:

Revised Initial Liability = $(0.4) \times (23 \text{ days of violation}) \times (\$1,000) = 9,200$
\$9,200 per violation for Violation Nos. 3 through 7

b. Adjustment for Culpability

For Violation Nos. 3 through 7, a Culpability multiplier of 1.5 has been selected. The Dischargers are ultimately responsible for ensuring compliance with the time schedule specified by Board Order No. R6V-2010-0019. The Dischargers did not offer any updates or explanations of why they failed to submit the plans associated with Violation Nos. 3 through 7. The Dischargers' lack of activity regarding these plans resulted in Water Board staff issuing a second NOV, informing the Dischargers' of the steadily increasing potential liabilities. Mr. Driscoll's June 24, 2011 letter provided the first notification that the Dischargers were pursuing an alternative wastewater treatment and disposal system. In this case, unlike the situation with Violation No. 1 and Violation No. 2, there were no issues related to Water Board staff addressing incorrect and inappropriate assertions regarding the due dates for the plans associated with Violation Nos. 3 through 7.

c. Adjustment for Cleanup and Cooperation

For Violation Nos. 3 through 7, a Cleanup and Cooperation multiplier of 1.5 has been selected. The Dischargers have made no attempt to comply with the plan requirements associated with Violation Nos. 3 through 7, in spite of receiving a NOV for Violation No. 1 and Violation No. 2. The Dischargers provided no notice or other indication that they were contemplating an alternative wastewater treatment and disposal system until their June 24, 2011 letter, which was 144 days after the due dates associated with Violation Nos. 3 through 7.

d. Adjustment for History of Violations

For Violation Nos. 3 through 7, a History of Violation multiplier of 1.1 has been selected for each of the five violations. The five plans associated with these violations are the second set of deliverables the Dischargers have failed to submit in violation of Board Order No. R6V-2010-0019. The Dischargers are establishing a pattern of non-compliance with Board Order No. R6V-2010-0019. Through this set of violations, the Dischargers have now failed to submit seven different plans and/or reports required by the Board Order.

Determination of Total Base Liability – Violation Nos. 3 through 7

The Total Base Liability for Violation Nos. 3 through 7 is **\$22,770**, for each violation.

Total Base Liability = (Initial Liability) X (Culpability) X (Cleanup/Cooperation) X (History of Violations)

Total Base Liability (for each violation) = (\$9,200) X (1.5) X (1.5) X (1.1) = **\$22,770**

Step 3: Initial Liability Determination – Violation No. 8 and Violation No. 9

The per-day factor for Violation No. 8 and Violation No. 9 is **0.7**. This factor is determined by a matrix analysis based upon the Potential for Harm and the Deviation from Applicable Requirements.

- a. For Violation No. 8 and Violation No. 9, the Potential for Harm is determined to be **moderate**. The reports the Dischargers failed to submit are to document the completion of the surface impoundment monitoring system and to verify the surface impoundment was constructed in accordance with the Water Board-accepted design plans and specifications. The Dischargers have not submitted these two reports because the surface impoundment and its monitoring system have not been installed as of the date of this Complaint. The Dischargers continue to discharge waste from the Facility to land where the waste can infiltrate to the groundwater. This unauthorized waste discharge to land presents a significant risk of adverse impacts to groundwater quality and to the beneficial uses of groundwater. The longer the unauthorized wastewater discharge continues, the greater the risk of adverse impacts to groundwater quality and beneficial uses.
- b. The Deviation from Applicable Requirements to submit the required reports is **major (high level)**. The reason for the **major** designation is that the reports addressed by Violation No. 8 and Violation No. 9 are the third set of plans and/or reports required by Board Order No. R6V-2010-0019 that the Dischargers failed to submit. Additionally, and as discussed above, the reason the Dischargers failed to submit the reports addressed by Violation No. 8 and Violation No. 9, is that the Dischargers failed to complete the surface impoundment and its monitoring system as of the date of this Complaint. The surface impoundment and its monitoring system were to be completed no later than March 30, 2011 and in use by March 31, 2011, pursuant to Board Order No. R6V-2010-0019. Violation No. 8 and Violation No. 9 are the most recent examples of the Dischargers' continued lack of response to the Water Board's waste discharge requirements for the Facility.
- c. There are 182 days of violations for each of Violation No. 8 and Violation No. 9 for the period ending October 31, 2011, the issuance date of Administrative Civil Liability Complaint No. R6V-2011-0082. The statutory maximum amount per day per violation is \$1,000. Applying the per day factor for each violation, the number of days of violation for each violation, and the statutory maximum liability for each violation, yields an initial liability of **\$127,400** for each of the violations.

Step 4: Adjustment Factors for Violation No. 8 and Violation No. 9

a. Multiple Day Violations

The Enforcement Policy provides for violations lasting more than 30 days, the Water Board may adjust the per-day basis for civil liability if certain findings are made and provided that the adjusted per-day basis is no less than the per-day economic benefit, if any, resulting from the violations.

The Dischargers failed to submit the reports addressed by Violation No. 8 and Violation No. 9 for 182 days per violation. The continuance of these violations does not result in an economic benefit that can be measured on a daily basis. The economic benefit is the one-time cost of having the reports prepared. Therefore, an adjustment can be made. .

The Water Board Prosecution Team recommends that an alternate approach to civil liability calculation be used. However, the Prosecution Team believes that it is inappropriate to consolidate the number of days of violation to the maximum level allowed by the Enforcement Policy. Violation No. 8 and Violation No. 9 represent the third set of plans and/or reports required by Board Order No. R6V-2010-0019 that the Dischargers failed to submit. Additionally, the Dischargers' failure to submit the reports is a direct result of the Dischargers' failure to complete the required surface impoundment and monitoring system as required by Board Order No. R6V-2010-0019. The failure to complete the project and submit the required reports is continually increasing the risk of the waste discharge adversely affecting groundwater quality and beneficial uses. The calculation of days of violation for these two violations includes the first day of violation, plus an additional day of violation for each 5-day period up to the 30th day of violation, and thereafter, plus one additional day of violation for each 10-day period. Using this approach, the revised total days of violation for Violation No. 8 and Violation No. 9 is 22 days each.

This results in a Revised Initial Liability Amount as follows:

Revised Initial Liability = $(0.7) \times (22 \text{ days of violation}) \times (\$1,000) = \$15,400$
Violation No. 8 = \$15,400 and Violation No. 9 = \$15,400

b. Adjustment for Culpability

For Violation No. 8 and Violation No. 9, a Culpability multiplier of 1.5 has been selected. The Dischargers are ultimately responsible for ensuring compliance with the time schedule specified by Board Order No. R6V-2010-0019. The Dischargers did not offer any updates or explanations of why they failed to comply with the schedule to complete the surface impoundment and monitoring system. There was no communication from the Dischargers between Mr. Stamford's February 15, 2011 letter and Mr. Driscoll's June 24, 2011 letter. It is the Dischargers' responsibility to keep the Water Board updated on its progress, or lack thereof, towards complying with the Water Board's waste discharge requirements. No such communication occurred until Mr. Driscoll's June 24, 2011 letter, which informed Water Board staff that the Dischargers were pursuing an alternative wastewater treatment and disposal system and requested additional time to develop and evaluate an alternative wastewater treatment and disposal system.

c. Adjustment for Cleanup and Cooperation

For Violation No. 8 and Violation No. 9, a Cleanup and Cooperation multiplier of 1.5 has been selected. Water Board staff have seen no attempt on the Dischargers' part to comply with the reporting requirements associated with Violation No. 8 and Violation No. 9, or the related project completion requirements specified by Board Order No. R6V-2010-0019, in spite of being issued a NOV for Violation No. 1 and Violation No. 2, and a subsequent NOV for Violation Nos. 3 through 9. The Dischargers provided no notice or other indication that they were contemplating an alternative wastewater treatment and disposal system until Mr. Driscoll's June 24, 2011 letter, which was 53 days past the due dates associated with Violation No. 8 and Violation No. 9.

d. Adjustment for History of Violations

For Violation No. 8 and Violation No. 9, a History of Violation multiplier of 1.1 has been selected for each of the violations. The two reports associated with these violations are the third set of deliverables the Dischargers have failed to submit in violation of Board Order No. R6V-2010-0019. The Dischargers have established a pattern of non-compliance with Board Order No. R6V-2010-0019. The Dischargers have now failed to submit nine different deliverables required by the Board Order.

Determination of Total Base Liability – Violation No. 8 and Violation No. 9

The Total Base Liability for the two violations is **\$38,115**, for Violation No. 8 and Violation No. 9, respectively.

Total Base Liability = (Initial Liability) X (Culpability) X (Cleanup/Cooperation) X (History of Violations)

Total Base Liability Violation No. 8 = (\$15,400) X (1.5) X (1.5) X (1.1) = **\$38,115**

Total Base Liability Violation No. 9 = (\$15,400) X (1.5) X (1.5) X (1.1) = **\$38,115**

Step 5: Determination of Total Base Liability Amount – Violation No. 1 through Violation No. 9

The Total Base Liability Amount of **\$ 209,424** is determined by adding together the Total Base Liabilities for each of the nine violations identified, above.

Step 6: Ability to Pay and Ability to Continue Business

The Enforcement Policy provides that if the Water Board has sufficient financial information to assess the violator's ability to pay the Total Base Liability, or to assess the effect of the Total Base Liability on the violator's ability to continue in business, then the Total Base Liability amount may be adjusted downward.

The Water Board Prosecution Team has enough information to suggest that the Dischargers have the ability to pay the proposed liability, so that the burden of rebutting this presumption shifts to the Dischargers. The Dischargers own the properties listed in Table No. 1, below, which includes the two parcels where the Facility is located. Green Valley Foods Products, Inc. is a business that has the ability to generate revenue for the Dischargers.

Table No. 1 – Dischargers Property Holdings

| Owner | Assessor Parcel Number | Total Value | Land Type/Zoning |
|---------------|------------------------|-------------|--------------------------------|
| Hector Huerta | 0488121030000 | \$36,271 | Single Family Residence |
| Hector Huerta | 0488121040000 | \$14,609 | Vacant/Single Family Residence |
| Hector Huerta | 0494031610000 | \$25,424 | Vacant/Single Family Residence |
| Hector Huerta | 0497031080000 | \$74,778 | Single Family Residence |
| Hector Huerta | 0497031250000 | \$97,399 | Single Family Residence |

| | | | |
|---|---------------|--------------------|---|
| Hector Huerta | 049708109Z002 | \$23,523 | Building on Leased Land/Single Family Residence |
| Hector Huerta | 0497081090000 | \$313,309 | Livestock/Single Family Residence |
| Hector Huerta | 0497081270000 | \$27,744 | Single Family Residence |
| Hector Huerta | 0497091280000 | \$29,405 | Vacant/Single Family Residence |
| Hector Huerta D.B.A Green Valley Foods | 049722114P000 | \$529,673 | Manufacturing and Processing - Dairy |
| Hector S. Huerta | 0449013210000 | \$82,474 | Vacant/Single Family Residence |
| Hector S. Huerta | 0497221100000 | \$192,674 | Vacant/Single Family Residence |
| Hector S. Huerta | 0497221130000 | \$49,850 | Single Family Residence |
| Hector S. Huerta | 0497221140000 | \$396,133 | Food Processing |
| Green Valley Foods Products, Inc | 0497221010000 | \$116,798 | Field Crops |
| Green Valley Foods Products, Inc | 0497221020000 | \$2,012,295 | Field Crops |
| Total | | \$4,022,359 | |

Given the assets and sources of income described above, and without further information regarding the Dischargers' ability to pay, there is no basis for adjusting the proposed liability.

Step 7: Other Factors as Justice May Require

The Enforcement Policy provides that if the Water Board believes that the amount determined using the above factors is inappropriate, the liability amount may be adjusted under the provision for "other factors as justice may require," if express, evidence-supported findings are made. Additionally, the staff costs for investigating the violation should be added to the liability amount.

a. Adjustments for Other Factors as Justice May Require

The Water Board Prosecution Team has determined that the proposed liability amount is appropriate. Therefore, no adjustment is being made for other factors as justice may require.

b. Adjustment for Staff Costs

The Water Board Prosecution Team staff time incurred to prepare this Complaint and supporting information is estimated to be 175 hours. Based on an average cost to the State of \$150 per hour, the total staff cost is estimated to be \$26,250. As a

result, the Adjusted Total Base Liability is recommended to be adjusted upward by **\$26,250**, bringing the total proposed liability to **\$235,674**.

Step 8: Economic Benefit

The Enforcement Policy directs the Water Board to determine any Economic Benefit Amount of the violations based upon the best available information. The Enforcement Policy suggests that the Water Board compare the Economic Benefit Amount to the Adjusted Total Base Liability and ensure that the Adjusted Total Base Liability is at a minimum, 10 percent greater than the Economic Benefit Amount. Doing so should create a deterrent effect and will prevent administrative civil liabilities from simply becoming the cost of doing business.

The Dischargers have realized an economic benefit from failing to prepare and submit the plans and/or reports required by Board Order No. R6V-2010-0019. The economic benefit amount realized by the Dischargers is estimated to be **\$72,500**, based upon the estimated costs associated with each report as shown in Table No. 2, below. The Adjusted Total Base Liability Amount is greater than 110 percent of the economic benefit amount.

Table No. 2 – Plan/Report Estimated Costs

| Plan/Report Name | Estimated Cost |
|---|-----------------------|
| Design Plan for Surface Impoundment | \$0 |
| Work Plan for Surface Impoundment Construction | \$15,000 |
| Odor Control Plan | \$5,000 |
| Monitoring and Reporting Plan with a Sampling and Analysis Plan | \$5,000 |
| Detection Monitoring Plan | \$5,000 |
| Closure Plan and Cost Estimate | \$10,000 |
| Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument | \$10,000 |
| Monitoring System Installation Report | \$7,500 |
| Final Construction Quality Assurance Report | \$15,000 |
| Total | \$72,500 |

Step 9: Maximum and Minimum Liability Amounts

The maximum liability amount the Water Board may assess for the above-referenced violations pursuant to Water Code section 13268, subdivision (b), is \$1,000 per day of violation for each violation. Therefore, the maximum liability the Water Board may assess is **\$2,339,000**.

Water Code section 13268, subdivision (b) does not establish a minimum liability. However, the Enforcement Policy requires that:

The adjusted Total Base Liability shall be at least 10 percent higher than the Economic Benefit Amount so that liabilities are not construed as the cost of doing

business and that the assessed liability provides a meaningful deterrent to future violations.

Therefore, the minimum liability amount the Water Board must assess is **\$79,750**.

Step 10: Final Liability Amount

The Total Proposed Liability Amount is **\$235,674** based upon the considerations discussed in detail, above.

ATTACHMENT D - ENFORCEMENT POLICY METHODOLOGY SPREADSHEET

[illegible]

**WAIVER FORM
FOR ADMINISTRATIVE CIVIL LIABILITY COMPLAINT**

By signing this waiver, I affirm and acknowledge the following:

I am duly authorized to represent Hector Huerta and Green Valley Foods Products, Inc. (hereinafter "Dischargers") in connection with Administrative Civil Liability Complaint No. R6V-2011-0082 (hereinafter the "Complaint"). I am informed that California Water Code section 13323, subdivision (b), states that, "a hearing before the regional board shall be conducted within 90 days after the party has been served [with the complaint]. The person who has been issued a complaint may waive the right to a hearing."

☐ **(OPTION 1: Check here if the Dischargers waive the hearing requirement and will pay the liability.)**

- a. I hereby waive any right the Dischargers may have to a hearing before the Regional Water Board.
- b. I certify that the Dischargers will remit payment for the civil liability imposed in the total amount of **two hundred thirty-five thousand six hundred seventy-four dollars (\$235,674)** by check that references "ACL Complaint No. R6V-2011-0082" made payable in the amount of **\$235,674** to the "State Water Pollution Cleanup and Abatement Account." Payment must be received by the Regional Water Board by **5:00 p.m. on November 28, 2011** or the Regional Water Board may adopt an Administrative Civil Liability Order requiring payment.
- c. I understand the payment of the above amount constitutes a proposed settlement of the Complaint, and that any settlement will not become final until after the 30-day public notice and comment period mandated by the State Water Resources Control Board's Water Quality Enforcement Policy expires. Should the Regional Water Board receive significant new information or comments from any source (excluding the Water Board's Prosecution Team) during this comment period, the Regional Water Board's Assistant Executive Officer may withdraw the Complaint, return payment, and issue a new complaint. I understand that this proposed settlement is subject to approval by the Regional Water Board, and that the Regional Water Board may consider this proposed settlement in a public meeting or hearing. I also understand that approval of the settlement will result in the Dischargers having waived the right to contest the allegations in the Complaint and the imposition of civil liability.
- d. I understand that payment of the above amount is not a substitute for compliance with applicable laws and that continuing violations of the type alleged in the Complaint may subject the Dischargers to further enforcement, including additional civil liability.

☐ **(OPTION 2: Check here if the Dischargers waive the 90-day hearing requirement in order to extend the hearing date and/or hearing deadlines. Attach a separate sheet with the amount of additional time requested and the rationale.)**

I hereby waive any right the Dischargers may have to a hearing before the Regional Water Board within 90 days after service of the complaint, but I intend to request a hearing in the future. By checking this box, the Dischargers request that the Regional Water Board delay the hearing and/or hearing deadlines so that the Dischargers may have additional time to prepare for the hearing. It remains within the discretion of the Regional Water Board to agree to delay the hearing.

(Print Name and Title)

(Signature)

(Date)

EXHIBIT NO. 3



DRAWINGS AND SPECIFICATIONS

Green Valley Foods
Farm # 49
Tract # 563

Waste Storage Facility
Job Code: 313B
Engineering Class: III

Flexible Membrane
Job Code: 521A
Engineering Class: II

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Prepared by: Travis Godeaux
Engineer

Victorville Service Center
San Bernardino County

April, 2009



CALIFORNIA

NATURAL RESOURCES CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
VICTORVILLE, CALIFORNIA

Green Valley Foods
Waste Storage Facility (313B) Class III
Flexible Membrane (521A) Class II

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**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

Design Report

April 17, 2009

PROJECT: Pond with Flexible Membrane Liner

COOPERATOR: Green Valley Foods

CONTACT NUMBER: (951) 212-6121

JOB LOCATION: 25684 Community Blvd. Barstow, CA 92311

NRCS FIELD OFFICE: Victorville

RESOURCE CONSERVATION DISTRICT: Mojave Resource Conservation District

SUMMARY

The purpose of this project is to contain the daily effluent from the Green Valley Foods cheese processing plant. Currently the effluent is discharged to the land or drainage systems. After this project is complete all effluent will discharge into a storage pond which will be large enough to contain the effluent, normal annual rainfall, and a twenty five year storm event, plus it will have an additional two feet of freeboard capacity. Because evaporation in this area exceeds the amount of effluent and rainfall anticipated each year, the pond should dry out every summer by September.

ORIGIN OF REQUEST

Green Valley Foods has requested Conservation Technical Assistance from the NRCS in the design of this storage pond. The landowner indicated that the requirement of this pond by the Regional Water Quality Control Board was part of a new enforcement effort to require Class II wastewater standards for all dischargers that did not meet EPA municipal water quality standards.

DESCRIPTION OF PROBLEM

The effluent is estimated at 10,000 gallons per day year round. This number came from the landowner and has not been verified by a measuring device. The landowner claims that this is a high estimate. All this water needs to be stored until such time as the evaporation rate allows the pond to dry out. Also the pond needs to have a low enough permeability that it meets requirements for class II wastewater ponds.

ALTERNATIVES AND SOLUTIONS

Alternatives considered are as follows:

- A. Build a containment pond with an irrigation system of sprinklers in the pond to increase evaporation so that the pond can be smaller.
- B. Build a containment pond large enough to store the estimated effluent allowing only for surface evaporation.

The alternative B was selected because of the simplicity of the design and operation.

DESIGN CRITERIA

The proposed design is in accordance with Design Standards: (313 B) Waste Storage Facility and (521a) Flexible Membrane.

STORAGE

Storage calculations were made using a modified version of the NRCS California Dairy Planning Tool. Using the normal weather criteria plus an additional amount of daily water, this version of the Dairy Planning Tool calculates the average operating volume of the pond throughout the period of a year. It then adds a twenty five year storm event to the peak volume plus the volume occupied by 1 year of solids accumulation. This number is then compared to the storage capacity of the pond without the use of 2ft of freeboard volume. If the required number is less than what is available, then the pond is adequate.

LINERS

The pond will be lined with two synthetic liners with a specific discharge of less than 1×10^{-6} ft/sec each. These liners shall be constructed of High Density Polyethylene (HDPE). A one foot soil cover will be placed over the top liner and one foot of soil will be between the liners. The top liner will act as the primary container of the effluent and the second liner will serve as a back up in case of a leak in the first liner. In addition to the liner, a leak detection system and a groundwater monitoring system shall be designed and installed by a qualified third party as approved by the Regional Water Quality Control Board.

AIR VENTS

Although the soils are sandy and appear to have little organic content in them, the fact that this area has been used extensively for stacking manure justifies the need for airvents in the liner in case of underground gasses. The airvents on the bottom liner will vent gases that come from underground, while the airvents in the upper liner will be for gases arising from decomposition of the effluent between the liners if a leak does occur.

CONSTRUCTION

Construction shall be done by a licensed contractor that can meet the grades and dimensions. The liner must be delivered and installed by a qualified company that typically works with synthetic liner installation. A qualified third party approved by NRCS shall oversee the Quality Assurance of the pond construction and liner installation. The third party performing the Quality Assurance shall complete the Inspection and Testing Plan attached in this docket in addition to keeping applicable field notes and measurements.

OPERATION AND MAINTENANCE

Refer to the Operation and Maintenance section of the construction specifications for the project.

REFERENCES

FOTG Section 4

Modified Dairy Planning Tool Excel work sheet

ENGINEERING JOB CLASSIFICATION (based on Section 501 NEM)

| No. | Practice | Limiting Factor | (Units) | Job Class |
|-------|------------------------|------------------|---------------------------|-----------|
| 313 B | Waste Storage Facility | Storage X Height | 2.62 Acre-ft ² | III |
| 521a | Flexible Membrane | Head on lining | 4ft | II |

Prepared by: Travis Godeaux Date: April 17, 2009

Reviewed by: [Signature] Date: 4/30/09
Field Engineer
Area Engineer

Approved by: [Signature] Date: May 11, 2009
AREA IRRIGATION ENGINEER

Inspection / Testing Plan

The Owner/Operator, Green Valley Foods, is required to obtain the services of a Licensed Soils Testing Laboratory and others that have the necessary skills and ability to provide both engineering and testing services for the construction of a waste storage pond located near Barstow, California.

Engineering and testing services shall include the following: 1. certifying materials used on the project, 2. providing compaction and geomembrane liner testing, 3. Maintaining a Job Diary of work performed, equipment, and personnel on-site, 4. Photo documentation of work progression, 5. performing and documenting construction surveys, and 6. Following the Inspection/testing plan provided below.

The Owner/Operator shall provide to NRCS the name(s) of qualified individuals or companies that will provide those services a minimum of seven (7) days prior to beginning work.

Inspection and testing required for the installation of any monitoring systems required by the Regional Water Quality Control Board and designed by a third party are not part of this plan.

Upon completion of the pond installation, the owner/operator shall provide to NRCS three sets of As-Built drawings along with copies of all photo and written documentation for final certification.

DEFINITIONS

Periodic Inspection – Qualified Technician may leave the site and come back to inspect the work as needed.

Continuous Inspection – Qualified Technician needs to be on-site at all times while the work item is being performed monitoring contractors operations and testing for compliance.

Note: Use as a guide. All items requiring inspection/testing as shown on the plans are stated on the Practice Requirements and Construction Specifications may not be listed below. Consult the NRCS Representative if you have any questions regarding the Inspection/Testing Plan.

Inspection / Testing Plan

POND CONSTRUCTION

1) Clearing and grubbing – (Periodic Inspection)

- Limits of the work shall be staked in the field by a qualified surveyor/technician prior to the commencement of the clearing and grubbing operation.
- An adequate disposal area for the cleared and grubbed material shall be identified and approved by an NRCS representative prior to commencement of work. No burning is allowed on-site.
- The site shall be inspected upon the completion of the clearing and grubbing to determine that soils containing excess amounts of organic material, rock, and other debris have been removed.

1) Compaction of Earthfill – (Continuous Inspection)

- Survey control and layout for the pond shall be established and staked by a qualified surveyor/grade checker. Survey reference points, adequate to complete the installation of the pond, shall be maintained until completion of the project.
- Excavation and Earthfill of the pond embankment shall be continuously monitored to assure proper compaction method and adequate moisture is being applied in accordance with NRCS Specification 903. Earthfill.
- Inspector shall be licensed to use a nuclear gauge and provide documentation showing compaction and moisture testing (minimum one passing test per 6-inch lift) per ASTM D-698.
- Before beginning excavation/earthfill, the inspector/testing lab shall develop a minimum of one Moisture-Density Curve representing the borrow site.
- See Liner Soil Cover for earthfill requirements on material placed between and above the HDPE Liners.

GEOMEMBRANE POND LINER

1) Subgrade Preparation – (Periodic Inspection)

- Subgrade shall meet the requirements of specification 521a - section IV.
- Both the inspector and the installer of the liner shall approve the subgrade preparation prior to the liner being placed. The pond shall be measured to ensure the grades and lines are built in accordance with the plans. Compliance surveys shall be properly documented and recorded on the inspection / testing worksheet.

Inspection / Testing Plan

GEOMEMBRANE POND LINER (continued)

2) Shipping and storage. – (Periodic Inspection)

- The liner shall be shipped and stored according to the requirements of specification 521a - section III.
- The inspector shall be onsite while the material is being delivered and confirm the delivery and storage meets the previously mentioned specification requirements. Inspector shall maintain a record thru use of receipts and/or submittals documenting materials received meet NRCS specifications. Materials shall include but not limited to: Geotextile Fabric, Geomembrane HDPE Liner, pvc pipe, galvanized and/or stainless steel anchors, rock riprap, air vents, etc.

3) Placement of geotextile fabric – (Periodic Inspection)

- Inspector shall assure that the vent geotextile padding is installed in accordance with the construction drawings. The staples used to pin the geotextile fabric shall conform to manufacturer recommendations. Both the fabric and the pins are installed in accordance with manufacturer and NRCS requirements. Inspector shall check the following: minimum of three (3) feet width of fabric; adequate pinning has occurred to assure no movement of the fabric once installed; no sharp edges are sticking out that may puncture or damage the geomembrane liner; adequate overlap of the geotextile fabric is provided where material needs to be sliced.

4) Placement of HDPE Liner – (Continuous Inspection)

- The inspector shall record the name and contact information of the company installing the liner.
- Placement of the liner shall conform to specification 521a – section V. The inspector shall record the type of equipment and methods used to place the liner. The time of day of placement and the approximate outside temperature shall also be recorded.
- The method of seaming and testing shall be recorded on the inspection / testing plan worksheet. Inspector and/or the company installing the liner shall certify in writing that seaming and testing of both the liners for leaks were performed in accordance with manufacturer's recommendations and that there are no leaks. A record of all tests shall be kept and made deliverable to NRCS.
- Any area where mechanical attachments are used shall conform to specification 521a – section X. A photograph of each mechanical attachment shall be taken and properly labeled to document the date and location.

Inspection / Testing Plan

GEOMEMBRANE POND LINER (continued)

5) Liner Soil Cover – (Continuous Inspection)

- Inspector shall document the method used, per NRCS specification 521, and type of equipment used to spread the soil both between and over the two HDPE Liners.
- Earthfill placed between and above the geomembrane liners shall be visually inspected by the inspector for adequate compaction and moisture.
- After each liner or liner soil cover has been installed, a qualified surveyor/grade checker/technician shall check for compliance of soil thickness and grades in accordance with the drawings.

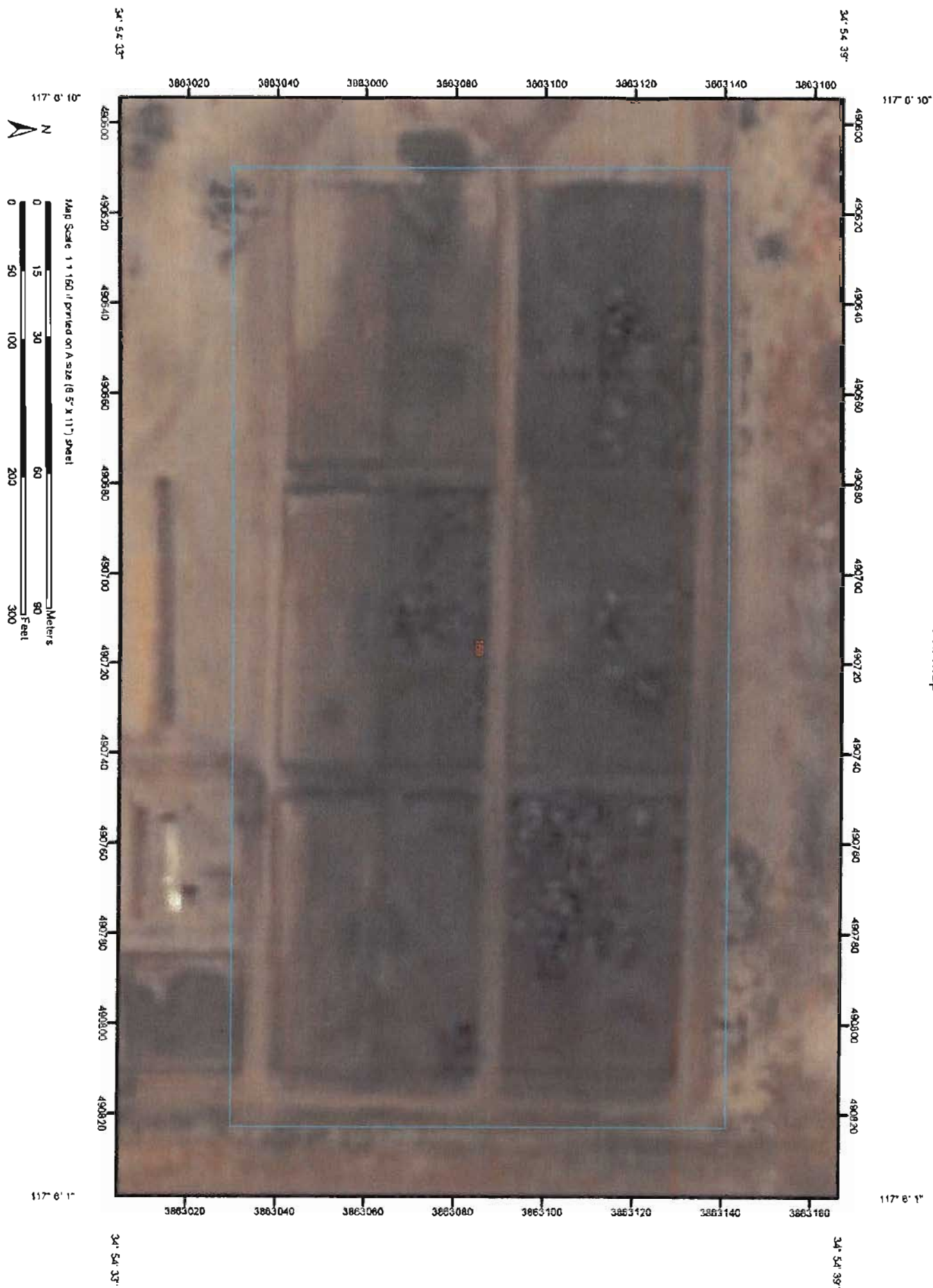
PIPELINE

1) Waste Transfer Line – (Periodic Inspection)

- Inspector shall check waste transfer line extension into pond is installed according to NRCS drawing. Inspection shall include installation of: pvc pipe, thrust blocks, 2-inch air vent, pipe anchors, rock riprap, and pond fill markers.

Soil Report

Custom Soil Resource Report Soil Map



San Bernardino County, California, Mojave River Area

169—VICTORVILLE SANDY LOAM

Map Unit Setting

Elevation: 2,200 to 2,800 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days

Map Unit Composition

Victorville and similar soils: 85 percent
Minor components: 5 percent

Description of Victorville

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Available water capacity: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability (nonirrigated): 7e
Ecological site: COARSE LOAMY BOTTOM (R030XF034CA)

Typical profile

0 to 16 inches: Sandy loam
49 to 60 inches: Clay loam

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Flood plains

Custom Soil Resource Report

| Engineering Properties— San Bernardino County, California, Mojave River Area | | | | | | | | | | | | | |
|--|-------|---|----------------|------------------|---------------|----------------|----------------------------------|--------|-------|-------|-------|--------------|------------------|
| Map unit symbol and soil name | Depth | USDA texture | Classification | | Fragments | | Percentage passing sieve number— | | | | | Liquid limit | Plasticity index |
| | | | Unified | AASHTO | >10 Inches | 3-10 Inches | 4 | 10 | 40 | 200 | | | |
| In | | | | | Pct | Pct | | | | | | Pct | |
| 169—VICTORVILLE SANDY LOAM | | | | | | | | | | | | | |
| Victorville | 0-16 | Sandy loam | SM | A-2, A-4 | 0 | 0 | 90-100 | 75-95 | 50-65 | 25-50 | 20-25 | NP-5 | |
| | 16-35 | Stratified sandy loam to fine sandy loam | SM | A-4, A-2 | 0 | 0 | 85-95 | 75-95 | 50-65 | 25-50 | 20-25 | NP-5 | |
| | 35-49 | Stratified sand to sandy loam | SP-SM, SM | A-1, A-2, A-3 | 0 | 0 | 85-95 | 75-95 | 35-65 | 5-25 | ~ | NP | |
| | 49-60 | Clay loam, loam | CL | A-6 | 0 | 0 | 90-100 | 90-100 | 80-90 | 65-80 | 25-40 | 10-20 | |

Engineering Calculations

Dairy Waste Storage Pond Design

Producer: Green Valley Foods
 Date: 03/20/09

Entered by: TGG
 Checked by: _____

| | Flushed Freestall | Flushed Lanes | Scraped Freestall | Scraped Drylot | Animal Weight lbs | Daily Waste ft ³ /day |
|-----------------------------|----------------------|------------------|----------------------|-------------------|-------------------------|--|
| Milking Cows | | | | | 1,400 | |
| Dry Cows | | | | | 1,500 | |
| Bred Heifers | | | | | 1,100 | |
| Heifers, 1 year to breeding | | | | | 775 | |
| Calves, 3 months to 1 year | | | | | 500 | |
| Calves, birth to 3 months | | | | | 150 | |

Days of Storage _____ days
 Net Daily Water Use per Milking Cow _____ gal/cow/day
 Other Daily Fresh Water added to the pond _____ gal/day
 25 year 24 hour Storm Rainfall 2.3 inches
 Manured surfaces draining to the pond _____ acres
 Concrete surfaces draining to the pond _____ ft²
 Roof surfaces draining to the pond _____ ft²

Storage Volume Calculations

1) Animal Waste Volume

Manure Waste to be stored in the Pond _____ 3 ft³/day
 Manure Waste handled dry and not stored in the Pond _____ ft³/day
 Total Manure waste volume for the storage period of _____ days = _____ ft³

2) Barn Water Volume

Wash Water used during the Storage Period of _____ days = _____ ft³
 Other Fresh Water used during the Storage Period of _____ days = _____ ft³
 Total = _____ ft³

3) Rainfall and Runoff Volume

| | 25 YR. STORM | NORMAL | |
|--|--------------|------------|---------------------|
| Runoff Volume from Manured Surfaces | | | ft ³ |
| Runoff Volume from Concrete Surfaces | | | ft ³ |
| Runoff Volume from Roof Surfaces | | | ft ³ |
| Rainfall on Pond Surface | 17,250 | 32,925 | ft ³ |
| Rainfall Subtotals | 17,250 | 32,925 | ft ³ |
| Total Rainfall Influence (25 Yr. + Normal) | | 50,175 | ft ³ |
| Evaporation Credit | | 537,707 | ft ³ |

4) Total Required Volume (See Year Pond Volume tab if using this method) 145,090 ft³

Dairy Waste Storage Pond Design

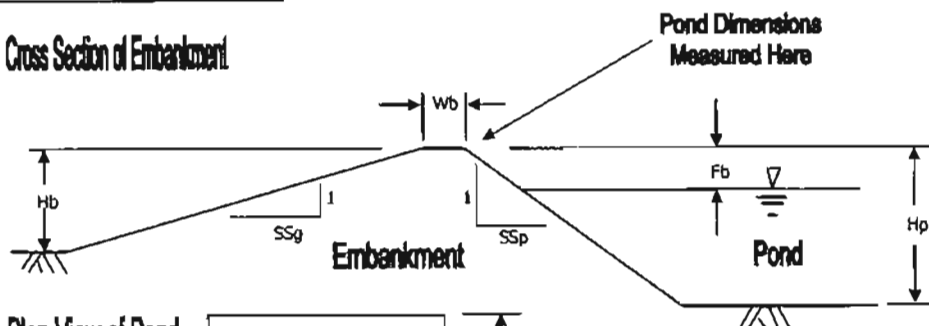
Producer: Green Valley Foods

Date: 03/20/09

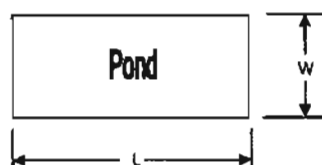
Entered by: TGG

Checked by: _____

Cross Section of Embankment



Plan View of Pond



| | | | Pond 1 | Pond 2 | Pond 3 |
|------------|---|------------------|--------|--------|--------|
| Hb | Embankment Height | ft | 2.75 | | |
| Wb | Embankment Top Width | ft | 10 | | |
| Fb | Freeboard | ft | 2 | | |
| Hp | Depth of Pond (Freeboard + Design Depth) | ft | 4 | | |
| SSg | Side Slope (Ground Side) | 'X' Horiz:1 Vert | 3 | | |
| SSp | Side Slope (Pond Side) | 'X' Horiz:1 Vert | 4 | | |
| L | Pond Length (measured at top inside edge of embankment) | ft | 300 | | |
| W | Pond Width (measured at top inside edge of embankment) | ft | 300 | | |
| C:F | Cut : Fill Ratio | 'X' Cut:1 Fill | 1.3 | | |

| | | | Pond 4 | Pond 5 | Pond 6 |
|------------|---|------------------|--------|--------|--------|
| Hb | Embankment Height | ft | | | |
| Wb | Embankment Top Width | ft | | | |
| Fb | Freeboard | ft | | | |
| Hp | Depth of Pond (Freeboard + Design Depth) | ft | | | |
| SSg | Side Slope (Ground Side) | 'X' Horiz:1 Vert | | | |
| SSp | Side Slope (Pond Side) | 'X' Horiz:1 Vert | | | |
| L | Pond Length (measured at top inside edge of embankment) | ft | | | |
| W | Pond Width (measured at top inside edge of embankment) | ft | | | |
| C:F | Cut : Fill Ratio | 'X' Cut:1 Fill | | | |

Dairy Waste Storage Pond Design

Producer: Green Valley Foods

Entered by: TGG

Date: 03/20/09

Checked by: _____

| Volumes | Pond 1 | Pond 2 | Pond 3 | |
|------------------------------|----------|--------|--------|-----------------|
| Pond Storage Capacity | 152,395 | | | ft ³ |
| Additional Required Storage | none | | | ft ³ |
| Cumulative Storage is: | Adequate | | | |
| Dimensions | | | | |
| Footprint Length | 337 | | | ft |
| Footprint Width | 337 | | | ft |
| Bottom Length | 268 | | | ft |
| Bottom Width | 268 | | | ft |
| Bank Full Surface Area | 90,000 | | | ft ² |
| Surface Area at Max Capacity | 80,656 | | | ft ² |
| Earthwork | | | | |
| Total Cut | 3,451 | | | cy |
| Potential Available Fill | 2,654 | | | cy |
| Total Fill Needed | 2,466 | | | cy |
| Excess Material* | 189 | | | cy |

* Negative numbers indicate imported material is required.

| Volumes | Pond 4 | Pond 5 | Pond 6 | |
|------------------------------|--------|--------|--------|-----------------|
| Pond Storage Capacity | | | | ft ³ |
| Additional Required Storage | | | | ft ³ |
| Cumulative Storage is: | | | | |
| Dimensions | | | | |
| Footprint Length | | | | ft |
| Footprint Width | | | | ft |
| Bottom Length | | | | ft |
| Bottom Width | | | | ft |
| Bank Full Surface Area | | | | ft ² |
| Surface Area at Max Capacity | | | | ft ² |
| Earthwork | | | | |
| Total Cut | | | | cy |
| Potential Available Fill | | | | cy |
| Total Fill Needed | | | | cy |
| Excess Material* | | | | cy |

* Negative numbers indicate imported material is required.

Summary Conclusion:

| | | |
|------------------------|---------|-----------------|
| Combined Pond Capacity | 152,395 | ft ³ |
| Required Pond Capacity | 145,090 | ft ³ |

| |
|---|
| Combined Pond Capacity is ADEQUATE |
|---|

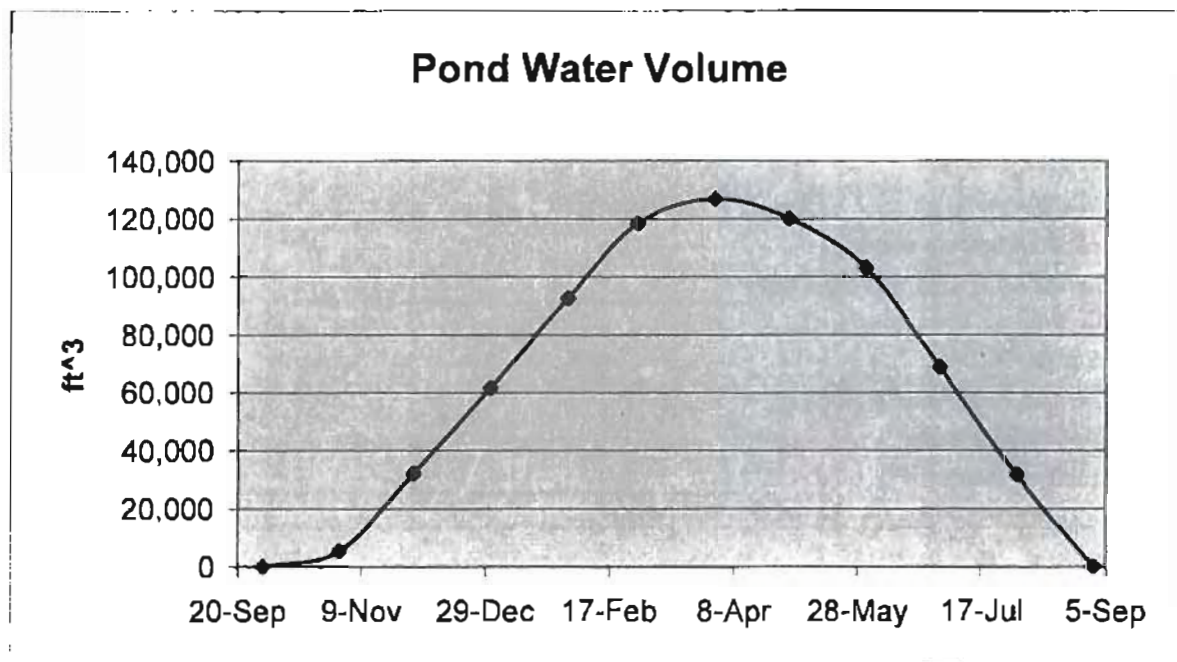
Required Pond Volume at Target Use

max + 25 yr storm + solids

Average Daily
Water Use 10,000 gallons

Required Volume = 145,090

| | Water Use Input ft ³ | Rainfall Input (ft ³) | Evaporation Output (ft ³) | Irrigation as % of 1 year supply | Irrigation Output (ft ³) | Nitrogen Applied (tons) | Volume (ft ³) |
|--------|------------------------------------|--------------------------------------|--|---|--|-------------------------------|------------------------------|
| 30-Sep | 40,104 | 1,950 | 53,771 | 0% | 0 | 0.0 | 0 |
| 31-Oct | 41,441 | 1,575 | 37,639 | 0% | 0 | 0.0 | 5,377 |
| 30-Nov | 40,104 | 2,700 | 16,131 | 0% | 0 | 0.0 | 32,049 |
| 31-Dec | 41,441 | 4,125 | 16,131 | 0% | 0 | 0.0 | 61,484 |
| 31-Jan | 41,441 | 5,625 | 16,131 | 0% | 0 | 0.0 | 92,419 |
| 28-Feb | 37,431 | 4,575 | 16,131 | 0% | 0 | 0.0 | 118,293 |
| 31-Mar | 41,441 | 4,650 | 37,639 | 0% | 0 | 0.0 | 126,745 |
| 30-Apr | 40,104 | 1,650 | 48,394 | 0% | 0 | 0.0 | 120,105 |
| 31-May | 41,441 | 600 | 59,148 | 0% | 0 | 0.0 | 102,999 |
| 30-Jun | 40,104 | 975 | 75,279 | 0% | 0 | 0.0 | 68,799 |
| 31-Jul | 41,441 | 2,100 | 80,656 | 0% | 0 | 0.0 | 31,684 |
| 31-Aug | 41,441 | 2,400 | 80,656 | 0% | 0 | 0.0 | 0 |
| Total | 487,934 | 32,925 | 537,707 | 0% | 0 | 0.0 | |



Pond Design Factors

Producer: Green Valley Foods
 Date: 03/20/09

Entered by: TGG
 Checked by: _____

Percent moisture in fresh manure
 Total waste, cu.ft./day per 1000 lb. animal
 Total waste (wet), lb./day per 1000 lb. animal
 Density of fresh waste, feces and urine
 Runoff Curve Number for manured areas
 Runoff Curve Number for concrete areas
 Runoff Curve Number for roof areas
 25 Year 24 Hour Storm Rainfall

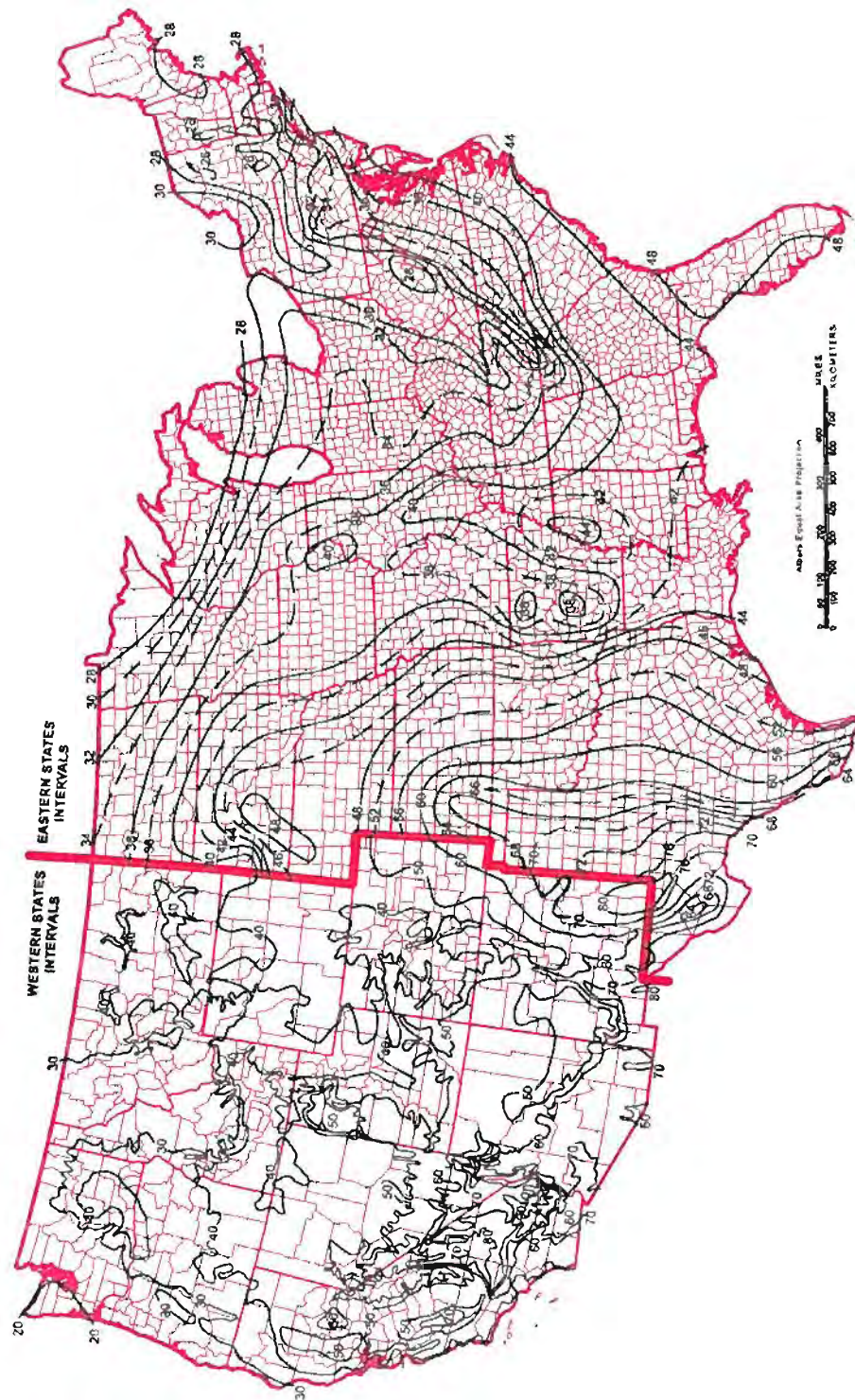
| | |
|------|-------------|
| 88% | |
| 1.37 | cu.ft./day |
| 85 | lb./day |
| 62 | lb./cu. ft. |
| 90 | |
| 97 | |
| 100 | |
| 2.3 | inches |

| Location: Barstow | | | | | | | | |
|--|----------------------------|--------------------------|---------------------------------------|-------------------------------------|---|---------------------------------------|---------------------------------------|-------------------------------------|
| Normal Runoff Determination Chart - Enter values ONLY for months waste water must be stored. | | | | | | | | |
| | Monthly* Precip. in. | Monthly* Evap. in. | % Runoff** Corral Surfaces % | Runoff Corral Surfaces in. | % Runoff** Concrete Surfaces % | Runoff Concrete Surfaces in. | % Runoff** Roofed Surfaces % | Runoff Roofed Surfaces in. |
| January | 0.75 | 2.40 | 14 | 0.11 | 43 | 0.32 | 100 | 0.75 |
| February | 0.61 | 2.40 | 19 | 0.12 | 45 | 0.27 | 100 | 0.61 |
| March | 0.62 | 5.60 | 12 | 0.07 | 34 | 0.21 | 100 | 0.62 |
| April | 0.22 | 7.20 | 10 | 0.02 | 40 | 0.09 | 100 | 0.22 |
| May | 0.08 | 8.80 | 10 | 0.01 | 30 | 0.02 | 100 | 0.08 |
| June | 0.13 | 11.20 | 10 | 0.01 | 33 | 0.04 | 100 | 0.13 |
| July | 0.28 | 12.00 | 10 | 0.03 | 25 | 0.07 | 100 | 0.28 |
| August | 0.32 | 12.00 | 10 | 0.03 | 10 | 0.03 | 100 | 0.32 |
| September | 0.26 | 8.00 | 13 | 0.03 | 45 | 0.12 | 100 | 0.26 |
| October | 0.21 | 5.60 | 10 | 0.02 | 40 | 0.08 | 100 | 0.21 |
| November | 0.36 | 2.40 | 10 | 0.04 | 46 | 0.17 | 100 | 0.36 |
| December | 0.55 | 2.40 | 20 | 0.11 | 43 | 0.24 | 100 | 0.55 |
| Total (in.) | 4.39 | 80.00 | | 0.60 | | 1.67 | | 4.39 |

*Input data for design storage period months only.

**Use runoff percentage values from the NRCS Agricultural Waste Handbook, 10C, (5-31).

ANNUAL FREE WATER SURFACE EVAPORATION FIGURE 10C-27



SOURCE:
DATA PROVIDED BY SCS FIELD PERSONNEL MAP PREPARED USING
AUTOMATED MAP CONSTRUCTION, NATIONAL CARTOGRAPHIC CENTER,
FORT WORTH, TEXAS 1991

REVISED MARCH 1991 1004655

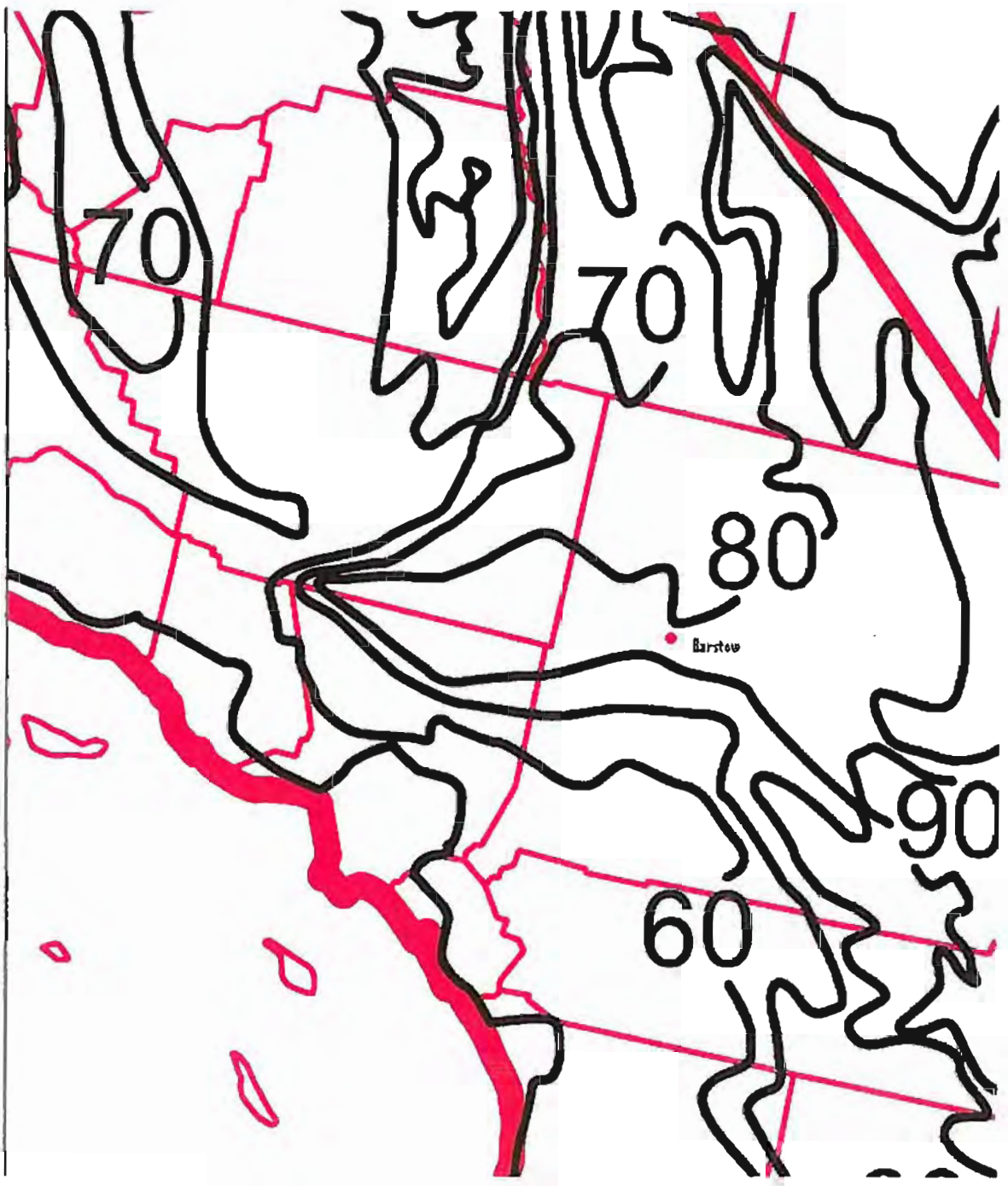


Table 10C-1 Adjusted approximate mean monthly free water surface evaporation for selected stations

| Station name — May Nov thru thru Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Oct Apr | Lat. Long | | Percent of annual | | | | | | | | | | | | | | | |
|---|-----------|---------|-------------------|---|----|----|----|----|----|----|----|---|---|---|----|----|--|--|
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Fairhope, AL | 30°32' | 87°55' | 4 | 5 | 7 | 10 | 12 | 13 | 12 | 11 | 9 | 8 | 5 | 4 | 65 | 35 | | |
| Bartlett Dam, AZ | 33°40' | 111°38' | 3 | 4 | 6 | 9 | 12 | 14 | 14 | 11 | 10 | 8 | 5 | 4 | 69 | 31 | | |
| Bacus Ranch, CA | 34°57' | 118°11' | 3 | 3 | 7 | 9 | 11 | 14 | 15 | 15 | 10 | 7 | 3 | 3 | 72 | 28 | | |
| Sacramento, CA | | | 2 | 3 | 6 | 8 | 12 | 15 | 16 | 15 | 11 | 7 | 3 | 2 | 76 | 24 | | |
| Wagon Wheel Gap, CO | 37°48' | 106°58' | | | | | 14 | 16 | 14 | 12 | 11 | 7 | | | 74 | 26 | | |
| Hartford, CT | | | 3 | 3 | 6 | 10 | 13 | 14 | 15 | 14 | 9 | 6 | 4 | 3 | 71 | 29 | | |
| Tamiami Trail, FL | 25°45' | 80°50' | 5 | 6 | 9 | 10 | 11 | 10 | 11 | 10 | 9 | 8 | 6 | 5 | 59 | 41 | | |
| Experiment, GA | 33°16' | 84°17' | 4 | 5 | 7 | 10 | 12 | 13 | 13 | 11 | 9 | 7 | 5 | 4 | 65 | 35 | | |
| Moscow, U of I, ID | 46°44' | 116°58' | | | | 7 | 12 | 14 | 19 | 18 | 12 | 6 | | | 81 | 19 | | |
| Pocatello, ID | | | 2 | 2 | 6 | 8 | 12 | 15 | 19 | 14 | 11 | 6 | 3 | 2 | 77 | 23 | | |
| Ames, IA | 42°00' | 98°39' | | | | 10 | 15 | 16 | 15 | 13 | 9 | 8 | 3 | | 76 | 24 | | |
| Toronto Dam, KS | 37°45' | 95°55' | 2 | 3 | 7 | 10 | 13 | 13 | 15 | 14 | 9 | 8 | 4 | 2 | 72 | 28 | | |
| Tribune, KS | 38°28' | 101°46' | | | | 9 | 12 | 14 | 16 | 14 | 10 | 7 | | | 73 | 27 | | |
| Madisonville, KY | 37°19' | 87°29' | | | | 11 | 13 | 14 | 14 | 13 | 10 | 8 | | | 72 | 28 | | |
| Urbana, IL | 40°06' | 88°14' | | | | 9 | 13 | 15 | 15 | 14 | 10 | 7 | 4 | | 75 | 25 | | |
| Woodworth S. F., LA | 31°08' | 92°28' | 3 | 4 | 7 | 9 | 12 | 13 | 13 | 13 | 9 | 8 | 5 | 4 | 68 | 32 | | |
| Caribou, ME | 46°52' | 68°01' | 2 | 3 | 5 | 8 | 15 | 16 | 16 | 14 | 9 | 7 | 3 | 2 | 77 | 23 | | |
| Rochester, MA | 41°47' | 70°55' | | | | 8 | 13 | 15 | 15 | 13 | 9 | 5 | | | 70 | 30 | | |
| E. Lansing Hort. Fin, MI | 42°43' | 84°28' | | | | 9 | 14 | 15 | 16 | 14 | 10 | 6 | 2 | | 75 | 25 | | |
| Scott, MS | 33°36' | 91°05' | 3 | 4 | 7 | 10 | 13 | 14 | 13 | 12 | 9 | 7 | 5 | 3 | 68 | 32 | | |
| Weldon Spr. Fin, MO | 38°42' | 90°44' | | | | 10 | 12 | 14 | 14 | 13 | 11 | 8 | 4 | | 72 | 28 | | |
| Bozeman Agr. C., MT | 45°40' | 111°09' | | | | 8 | 12 | 14 | 19 | 17 | 10 | 6 | | | 78 | 22 | | |
| Medicine Ck Dam, NE | 40°23' | 100°13' | | | | 10 | 12 | 14 | 15 | 14 | 11 | 8 | | | 74 | 26 | | |
| Boulder City, NV | 35°59' | 114°51' | 3 | 4 | 6 | 9 | 12 | 14 | 15 | 13 | 10 | 7 | 4 | 3 | 71 | 29 | | |
| Topaz Lake, NV | 38°41' | 119°02' | | | | 8 | 12 | 14 | 16 | 14 | 11 | 7 | 3 | | 74 | 26 | | |
| Elephant Bte Dam, NM | 33°09' | 107°11' | 3 | 4 | 8 | 11 | 14 | 15 | 12 | 11 | 8 | 7 | 4 | 3 | 67 | 33 | | |
| El Vado Dam, NM | 36°36' | 106°44' | | | 10 | 10 | 15 | 14 | 15 | 12 | 9 | 6 | | | 71 | 29 | | |
| Aurora Res Fin, NY | 42°44' | 76°39' | | | | 13 | 15 | 17 | 14 | 10 | 7 | | | | 76 | 24 | | |
| Chapel Hill, NC | 25°55' | 79°06' | 3 | 5 | 8 | 10 | 12 | 13 | 13 | 12 | 9 | 7 | 5 | 3 | 66 | 34 | | |
| Wooster Exp Sta, OH | 40°47' | 81°36' | | | | 9 | 13 | 15 | 15 | 14 | 10 | 7 | | | 74 | 26 | | |
| Canton Dam, OK | 36°05' | 98°36' | 3 | 4 | 7 | 10 | 11 | 13 | 14 | 14 | 9 | 7 | 5 | 3 | 68 | 32 | | |
| Detroit Pwr. Hse, OR | 44°43' | 122°15' | 1 | 2 | 4 | 7 | 12 | 15 | 22 | 18 | 11 | 5 | 2 | 1 | 83 | 17 | | |
| Redfield, SD | 44°53' | 98°23' | | | | 10 | 13 | 15 | 17 | 16 | 11 | 7 | | | 79 | 21 | | |
| Neptune, TN | 36°19' | 87°11' | 2 | 4 | 7 | 11 | 12 | 14 | 14 | 13 | 9 | 7 | 4 | 3 | 69 | 31 | | |
| Grapevine, TX | 32°58' | 97°03' | 3 | 4 | 7 | 9 | 10 | 12 | 15 | 14 | 10 | 7 | 5 | 4 | 68 | 32 | | |
| Welasco, TX | 26°09' | 97°48' | 4 | 5 | 7 | 9 | 11 | 11 | 13 | 13 | 10 | 7 | 6 | 4 | 65 | 35 | | |
| Utah Lake, UT | 40°22' | 111°54' | | | 6 | 9 | 13 | 15 | 18 | 15 | 11 | 7 | | | 79 | 21 | | |
| Templeau Dam, WI | 44°00' | 91°25' | | | | | 14 | 16 | 16 | 14 | 10 | 8 | | | 78 | 22 | | |
| Heart Mountain, WY | 44°41' | 108°57' | | | | 7 | 13 | 14 | 16 | 15 | 10 | 6 | | | 74 | 26 | | |

Source: Adapted from Evaporation Atlas for the Contiguous 48 United States, NOAA Technical Report NWS 33, Table 3-Adjusted mean monthly Class A pan evaporation for selected stations, 1966-70.

Quantity Calculations

Quantity Estimate

Earthwork = $3,451 \text{ yd}^3$ – from Dairy Planning Tool (Pond Tab)
+ $(2 \times 300 \times 300 \times 1 \times 1.3) / 27$ (Volume of the two soil covers)
= **$12,118 \text{ yd}^3$**

Liner Material = (# of liners)*(width)*(length) = $2 \times (300 + 9 + 9) \times (300 + 9 + 9)$
= **$202,248 \text{ ft}^2$**

Type "C" Airvents = **22**

Type "D" Airvents = **22**

Geotextile padding under vents = $310' \times 3' \times 22 = \mathbf{20,460 \text{ ft}^2}$

Geotextile under rock rip rap = **8 ft^2**

Rock Rip Rap = **1 yd^3**

Engineers Cost Estimate

ENGINEER'S COST ESTIMATE:

Green Valley Foods
Waste Storage Facility - 313B
San Bernardino County, California

Date 3/20/2009

| Item No. | Description of Work | Spec. No. | Estimated Quantity | Unit | Unit Price | Amount |
|-------------|-------------------------------|-----------|-----------------------|------|---------------|--------------|
| 1 | HDPE synthetic liner - 40 mil | 521 A | 202,248 | SF | \$1.25 | \$252,810.00 |
| 2 | Earthwork | 903 | 12,118 | CY | \$3.00 | \$36,354.00 |
| 3 | Premanufactured Airvents | NA | 44 | EA | \$200.00 | \$8,800.00 |
| 4 | Rock Riprap | 907 | 1 | CY | \$350.00 | \$350.00 |
| 5 | Geotextile | 905 | 20460 | SF | \$0.25 | \$5,115.00 |
| TOTAL | | | | | | \$303,429.00 |

Practice Requirements

U.S DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
CALIFORNIA

**PRACTICE REQUIREMENTS
FOR
313B – WASTE STORAGE FACILITY - POND**

For: Business Name Green Valley Foods
Job Location 25684 Community Blvd, Barstow, CA 92311
County San Bernardino RCD Mojave Desert RCD Farm/Tract No. 49 / 563
Referral No. _____ Prepared By TGG Date 4-17-09

IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO OBTAIN ALL NECESSARY PERMITS AND/OR RIGHTS, AND TO COMPLY WITH ALL ORDINANCES AND LAWS PERTAINING TO THIS INSTALLATION.

Installation shall be in accordance with the following drawings, specifications and special requirements. NO CHANGES ARE TO BE MADE IN THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF THE NRCS TECHNICIAN.

1. Drawings, No. SB08-01
2. Practice Specifications 378, 521a, 903, 905, 907
3. Earthfill Compaction by Method: Method 4 per section VI of the 903 Specification
4. Special Requirements: 521a – The liner shall be handled and installed according to manufacturer recommendations and NRCS specifications. In case of a conflict between these two requirements the more restrictive requirement will apply. The HDPE liner shall be a minimum 40 mil. All materials shall conform to NRCS Material Specification 594 of part 642 of the National Engineering Handbook and all manufacturer recommendations. The delivery and installation of the liner shall be overseen for quality assurance according to the testing / inspection plan attached in this docket. 313b - A marking system shall be installed in the pond to indicate the 2ft freeboard mark and the top of liner mark. This shall be accomplished either by painting marks on the inlet pipe or by setting a free standing marker in the pond. All PVC pipes exposed to sunlight shall be painted with a UV resistant latex paint. The landowner is responsible for hiring a certified Hydrogeologist to develop and install a ground water monitoring system and a leak detection system which conforms to the requirements of the Regional Water Quality Control Board. 905 – The geotextile padding used to collect and transport gases to the airvents shall be at least three feet wide and centered on the vents. For ease of installation, these strips may be the width of an entire geotextile fabric roll. The fabric needs to be pinned according to manufacturer recommendations except that

NRCS, CA
October, 2003

no staples longer than 6 inches shall be used above the synthetic liner. 907 – The rock riprap shall conform to the gradation shown on the drawings. In lieu of rock riprap, clean concrete rubble, free of rebar and asphalt, may be used.

5. Special Maintenance Requirements: See attached Operations and Maintenance sheet

PRACTICE APPROVAL:

Job Classification: (Ref: Section 501 NEM)

Show the limiting elements for this job. This job is classified as, Class III

| Limiting elements: | Units |
|-------------------------|--------------------------------|
| <u>Storage X Height</u> | <u>2.62</u> ac-ft ² |
| <u>Head on lining</u> | <u>4</u> ft |

Design Approved by:


STATE CONSERVATION ENGINEER

Date:

May 11, 2009

LANDOWNER'S/OPERATOR'S ACKNOWLEDGEMENT:

The landowner/operator acknowledges that:

- He/she has received a copy of the construction drawings and specification, and that he/she has an understanding of the contents, and the requirements.
- He/she has obtained all the necessary permits.
- No changes will be made in the installation of the job without prior concurrence of the NRCS technician.
- Maintenance of the installed work is necessary for proper performance during the project life.

Accepted by: _____

Date: _____

PRACTICE COMPLETION:

I have made an on site inspection of the site (or I am accepting owner/contractor documentation), and have determined that the job as installed does conform to the drawings and practice specifications.

Completion Certification by:

/s/ _____

Date _____

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

313 - WASTE STORAGE FACILITY
OPERATION AND MAINTENANCE

Sponsor/Land user: Green Valley Foods Date: 3-20-09

Address: 25684 Community Blvd. Barstow, CA 92311

Location GPS Coordinates Map Datum: _____ E _____ N _____

Quad Sheet Name _____ SEC _____ T _____ R _____

A properly operated and maintained waste storage structure is an asset to your farm. This waste storage structure was designed and installed for temporary storage of animal waste. The estimated life span of this installation is at least 10 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

GENERAL RECOMMENDATIONS

- Do not allow human entry to any enclosed structure without safety equipment that includes ladders and breathing apparatus. Maintain appropriate warning signs.
- Safety stations should be inspected twice a year. Safety items such as ropes, ladders and swim rings should be replaced as necessary.
- Do not allow the operation of any equipment that exceeds the design load limit on or within twenty feet of the structure.
- Maintain all pumps, agitators, piping, valves and all other electrical and mechanical equipment in good operating condition by following the manufacturer's recommendations. Repair as necessary.
- Maintain grounding rods and wiring for all electrical equipment in good condition.
- Inspect haul roads and approaches to and from the waste storage facility frequently to determine the need for stabilizing materials.
- A thorough inspection of pond liners and concrete sumps, pits, walls, ramps, and floors for damage, separation and/or cracks should be made each time the pond is emptied. Repair any damage prior to refilling the pond.
- Do not dispose of dead animals, greases, syringes, or other non-animal waste products in the facility.
- All fences, railings, and/or warning signs shall be maintained to prevent unauthorized human or livestock entry.

- Annually inspect pond for damage from normal use. At no more than 3 to 6 month intervals open and close gates and valves to assure proper function. Immediately remove any blockage or obstructions and repair any damage.
- Inspect inlet, embankments and outlets after heavy rains for possible damage. Promptly repair any damage.
- Annually inspect the downstream toe of the embankment. If there are wet areas or seeps, contact the local NRCS office for additional assistance.
- Maintain vigorous growth of vegetative coverings. This includes reseeding, fertilization, and application of herbicides when necessary. Periodic mowing may also be needed to control height.
- Fill rills and gullies that occur on the embankments and/or spillway and re-vegetate.
- Maintain a grass filter strip around the perimeter of the pond to trap sediment.
- If fences are installed, they shall be maintained to prevent unauthorized or livestock entry.
- Immediately repair any vandalism, vehicular, or livestock damage.
- Repair spells, cracks and weathered areas in concrete surfaces.
- Repair or replace rusted or damaged metal and paint.
- Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.
- Remove woody vegetation from embankments.
- Avoid excessive travel on any portion of the system that will harm or destroy the vegetative cover.
- Apply insecticides for insect control as per manufacturer's recommendations and precautions, as needed.
- Operate system in a manner to minimize odors and air drift.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE

In order to clean sediments, use only small ATVs or other similar equipment combined with hand labor to remove accumulated solids. Do not dig into the soil cover with any heavy equipment. Inspect the pipe inlets and outlets regularly to see if they are functioning correctly and repair as needed. Maintain a silt fence around the perimeter of the pond in order to reduce soil which may blow over the embankment.

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR WASTE STORAGE FACILITY.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

521A – POND SEALING OR LINING

FLEXIBLE MEMEBRANE

OPERATION AND MAINTENANCE

Sponsor/Land user: **Green Valley Foods**

Date: **3-20-09**

Address: **25684 Community Blvd. Barstow, CA 92311**

Location GPS Coordinates Map Datum: _____ E _____ N _____

Quad Sheet Name _____ SEC _____ T _____ R _____

A properly operated and maintained pond lining or sealing is an asset to the farm. This system was designed and installed to reduce seepage in a pond. The estimated life span of this installation is at least 5 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program:

GENERAL RECOMMENDATIONS

- Maintain the soil covering on liners at the construction depth. Replace soil as needed.
- Equipment is permitted only on liners with a minimum soil cover of 12 inches. If equipment is allowed on the liner, avoid excessive speeds and sharp turns.
- Prevent all livestock from using any area of the pond which was sealed by artificial liners.
- Fences shall be maintained to provide warning and/or prevent unauthorized human or livestock entry.
- Settlement or cracks in the soil weaken earthen sections and may accelerate the development of flow paths that may result in structure failure. This should be investigated to determine the cause and immediately repaired.
- Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.
- Immediately remove any debris that may harm or reduce the effectiveness of sealants.

- Immediately repair any vandalism, vehicular, or livestock damage to any earthfills, spillways, or outlets or other apparatuses.

SPECIFIC RECOMMENDATIONS FOR YOUR POND LINING OR SEALING PROJECT

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE FOR YOUR POND LINING OR SEALING PROJECT.

Practice Specifications

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

313B - WASTE STORAGE FACILITY - POND

I. SCOPE

The work shall consist of constructing a waste storage pond and appurtenances to the lines, grades, and elevations as shown on the drawings or as staked in the field.

II. FOUNDATION PREPARATION

The entire pond area shall be cleared of all trees, brush, roots, sod, and soil containing excess amounts of organic matter, and other objectionable materials and disposed of at sites away from the area of work.

Cleaning and disposal methods shall be in accordance with applicable state and county laws with due regard to the safety of persons and property.

III. EXCAVATION

Excavated materials, if suitable, may be used in embankments or other fill areas. Excess material shall be wasted at locations noted on the drawings or as staked in the field.

IV. EMBANKMENTS

Construction of embankments under this practice shall conform to the requirements of Construction Specification No. 378 for Embankment Ponds.

V. INLET AND OUTLET STRUCTURES

When inlet and outlet structures are to be installed, the construction shall be in accordance with the details as shown on the drawings and with the applicable specifications listed on the "Practice Requirement" sheet.

Placement and compaction of the backfill around the pumpwell shall be accomplished in such a manner that the structure will not be damaged. The backfill will be compacted to approximately the same density required of the embankments.

VI. SEALING

When specified, the sides and bottom shall be covered by a sealing material. The sealing shall conform to Construction Specification 521-Pond Sealing, as specified on the "Practice Requirement" sheet.

VII. FENCING

When shown on the drawings, fencing shall conform to the requirements of Practice Specification 382, Fences.

VIII. VEGETATIVE COVER

Unless otherwise specified, a protective cover of vegetation shall be established on the disturbed area. The planting of vegetative materials shall conform to the requirements of Practice Specification 342, Critical Area Planting.

IX. SPECIAL MEASURES

Measures and construction methods shall be incorporated as needed and practical that enhance fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food and den trees.

X. CONSTRUCTION OPERATIONS

Construction operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits. The owner, operator, Contractor or other persons will conduct all work and operations in accordance with proper safety codes for the type of construction being performed with due regards to the safety of all persons and property.

The completed job shall be workmanlike and present a good appearance.

OPERATION AND MAINTENANCE ITEMS

A properly operated and maintained waste storage pond is an asset to your farm. This waste storage pond was designed and installed to provide temporary storage of animal waste. The estimated life span of this installation is at least 10 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

Maintain all pumps, agitators, piping, valves and other electrical and mechanical equipment in good operating

condition following the manufacturers' recommendations.

Maintain grounding rods and wiring of all electrical equipment in good working condition.

Prior to the storage season, empty the pond to provide storage capacity for the accumulation of animal wastes and precipitation during the storage period.

Fences and/or warning signs shall be maintained to provide warning and/or prevent unauthorized or livestock entry.

Immediately repair any vandalism, vehicular or livestock damage to any earthenfills, spillway, outlets or other appurtenances.

Maintain vigorous growth of vegetative coverings. This includes reseeding, fertilization and application of herbicides when necessary. Periodic mowing may also be needed to control height.

Immediately remove any foreign debris in or adjacent to the waste storage pond.

Settlement or cracks in the earthen sections should be investigated to cause and immediately repaired.

Other items specific to your project are listed on the "Practice Requirement" sheet.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

378 - POND

I. SCOPE

The work shall consist of constructing an earthfill embankment and appurtenances to the lines, grades, elevations and dimensions shown on the drawings or as staked in the field for the purpose to construct a pond.

II. FOUNDATION PREPARATION

The foundation area shall be cleared of trees, logs, stumps, roots, brush, boulders, sod, and rubbish, and shall be stripped to sufficient depth to remove all objectionable material. If needed to establish vegetation, the topsoil and sod shall be stockpiled and spread on the completed dam and spillways. Foundation surfaces shall be sloped no steeper than 1:1. The foundation area shall be thoroughly scarified before placement of the fill material. The surface shall have moisture added or it shall be compacted if necessary so that the first layer of fill material can be compacted and bonded to the foundation.

The cutoff trench and any other required excavation shall be excavated to the elevations and cross sections shown on the drawings or as staked in the field. Suitable excavated materials shall be used in the embankment fill. Compacted backfill shall not be placed in the trench until the engineer has inspected and approved the trench.

Existing stream channels in the foundation area shall be sloped no steeper than 1:1 and deepened and widened as necessary to remove all stones, gravel, sand, stumps, roots, and other objectionable material and to accommodate compaction equipment.

III. EARTHFILL PLACEMENT

Material

All fill materials shall be obtained from approved borrow pits and from excavations (if acceptable) required for other parts of the work. Fill materials shall contain no sod, brush, roots, or other perishable or unsuitable material. Cobbles and rock fragments having a maximum dimension of more than six inches shall be removed from the materials prior to compaction, and be disposed of or placed in areas designated by the Engineer.

Placement

Foundation areas shall be kept free of standing water when fill is being placed on them.

The placing and spreading of fill material shall be started at the lowest point of the foundation and the fill brought up in horizontal layers of such thickness that the required compaction can be obtained. The fill shall be constructed in continuous horizontal layers except where openings or sectionalized fills are required. In those cases, the slope of the bonding surface between the embankment in place and the embankment to be placed shall not be steeper than 3 horizontal to 1 vertical. The bonding surface shall be treated the same as that specified for the foundation so as to insure a good bond with the new fill.

The distribution and gradation of materials shall be such that there are no lenses, pockets, streaks, or layers of material. If it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the center and upstream parts of the fill. If zoned fills of substantially differing materials are specified, the zones shall be placed according to lines and grades shown on the drawings.

Selected backfill material shall be placed around structures, pipe conduits, and anti-seep collars at about the same rate on all sides of prevent damage from unequal loading.

Fill placed around structures will be brought up at approximately uniform height on all sides of the structure.

Moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, or removed, and material that is too dry shall have water added and mixed until the requirement is met.

The proper moisture content for compaction will be determined by inspection during the placement operation. The material should maintain a ball shape when squeezed in the hand. When specified, the moisture shall be maintained within 2 percentage points of optimum as determined by ASTM D-698.

As far as practicable, the material shall be brought to the proper water content in the borrow pits before

excavation. Supplemental water, when required, may be applied by sprinkling the materials on the fill. Uniform distribution of the moisture shall be obtained by discing, blading or other approved method prior to compaction.

Compaction

Construction equipment shall be operated over each layer of fill to insure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction.

Compaction shall meet the requirements of the method specified on the Practice Requirements sheet and as described below:

A. Sheepfoot roller - the maximum layer thickness shall be 8 inches before compaction. The roller shall have staggered, uniformly spaced tamping feet and be equipped with suitable cleaners. The weight of the roller shall not be less than 2,500 pounds per foot of width. The maximum speed of the compaction equipment shall be 3 miles per hour. The entire surface of each layer placed should receive 6 passes of this equipment to attain the necessary compaction.

B. Pneumatically tired equipment - The maximum layer thickness before compaction shall be 6 inches. A loaded scraper may be considered a pneumatic roller. The wheels of this equipment must pass over 90 percent of the surface of each lift before a new lift is placed.

C. Track laying equipment (bulldozer) - The maximum layer thickness before compaction shall be 4 inches. The tracks of the equipment must pass over 90 percent of the surface of each lift before a new lift is placed.

D. Compaction shall result in densities equal to or greater than 95 percent of the maximum obtained by laboratory compaction at optimum moisture of like soils in accordance with the procedure given in ASTM D-698, Procedure A.

E. Compaction shall result in densities equal to or greater than 90 percent of the maximum obtained by laboratory compaction at optimum moisture of like soils in accordance with the procedure given in ASTM D-1557, Procedure A.

Heavy compaction equipment shall not be operated within 2 feet of any structure. Hand directed tampers or compactors shall be used on areas not accessible to heavy compaction equipment, and within 2 feet of any structure. Fills compacted in this manner shall be placed in layers not greater than 4 inches in thickness before compaction, and shall meet the same density requirement as for the adjacent area.

Compliance with compaction requirements will be determined by the procedure given in ASTM D-1556 or D-2167 for methods D and E and by observation of performance for methods A, B, and C.

Fill not meeting the specified requirements shall be reworked or removed and replaced with acceptable fill.

Fill adjacent to structures, pipe conduits, and anti-seep collars shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tampers or plate vibrators.

The passage of heavy equipment will not be allowed (1) over cast-in-place conduits prior to seven days after placement of the concrete, or (2) over any type of conduit until the compacted backfill has been placed over the top surface of the structure equal to one-half the clear span width of the structure or pipe, or two feet whichever is greater.

Compaction of backfill adjacent to structures shall not be started until after the expiration of the following minimum time interval after placement of the concrete:

| | |
|---|---------|
| Walls and counterforts | 10 days |
| Anti-seep collars, conduits, and cantilever outlet, bents | 3 days |

IV. PRINCIPAL SPILLWAY (WHEN SPECIFIED)

Corrugated metal pipe shall conform to the requirements of ASTM B-745 or ASTM A-760, as appropriate. Other pipe materials shall conform to specifications suitable for the intended purpose. Anti-seep collars shall be of materials compatible with the pipe and shall be installed so that they are watertight. The pipe shall be installed according to the manufacturer's instructions. The pipe shall be firmly and uniformly bedded throughout its length and shall be installed to the line and grade shown on the drawings.

V. CONCRETE (WHEN SPECIFIED)

Concrete shall conform to the requirement of Construction specification 901 - Concrete.

VI. FOUNDATION AND EMBANKMENT DRAINS (WHEN SPECIFIED)

Foundation and embankment drains shall be placed to the line and grade shown on the drawings. Detailed requirements for drain material and any required pipe shall be shown on the drawings and in the specifications.

Trenches for the filter or filter drains shall be excavated to lines, shapes, and dimensions shown on the drawings. Over excavation disturbing the compacted

foundation will not be permitted, and any disturbed material shall be removed and replaced with compacted earth fill or filter material. The filter material shall be placed and tamped in place to the dimensions shown. When drain pipes are used, they will be installed on line and grade, without displacement due to placement of filter material.

The filter material shall conform to the following gradation unless otherwise specified.

| U.S. Standard Sieve Size | Percent Passing |
|--------------------------|-----------------|
| 2" | 85-90 |
| 3/4" | 50-90 |
| #16 | 15-50 |
| Less than #16 | 0-15 |

VII. EXCAVATED PONDS

Excavated material may be disposed of away from the job site or placed adjacent to the excavation at locations as shown on the drawings.

Where water storage will occur against fill material, only suitable material excavated from the pond shall be used, and compacted by one of the methods specified above.

The vegetative requirements shall apply to the waste fill area when such fill is within the area of work.

VIII. VEGETATIVE COVER

Unless otherwise specified, a protective cover of vegetative shall be established on the disturbed area. The planting of vegetative materials shall conform to the requirements of Practice Specifications 342, Critical Area Planting.

IX. FENCING (WHEN SPECIFIED)

The embankment, spillway, and other areas shall be fenced as shown on the drawings, and shall be installed in accordance with Practice Specifications 382, Fence.

X. SPECIAL MEASURES

Measures and construction methods shall be incorporated as needed and practical that enhance fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food and den trees.

XI. CONSTRUCTION OPERATIONS

Construction operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits. The owner, operator,

Contractor or other persons will conduct all work and operations in accordance with proper safety codes for the type of construction being performed with due regards to the safety of all persons and property.

The completed job shall be workmanlike and present a good appearance.

OPERATION AND MAINTENANCE ITEMS

A properly operated and maintained water impoundment structure is an asset to your farm. This structure was designed and installed to entrap and provide storage to runoff water for beneficial use. The estimated life span of this installation is at least 10 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

Periodically inspect the spillways and control gates for proper functioning for their ability to maintain the water level to design elevations.

Immediately remove any blockage or obstructions in spillways.

Maintain vigorous growth of vegetative coverings. This includes reseeding, fertilization, and application of herbicides when necessary. Periodic mowing may also be needed to control height.

If fences are installed, they shall be maintained to prevent unauthorized or livestock entry.

Removal of debris that may accumulate at the Pond and immediately upstream or downstream from the pond.

Immediately repair any vandalism, vehicular, or livestock damage to any earthfills, spillways, outlets or other appurtenance.

Make sure all structure drains are functional and soil is not being transported through the drainage system. The screens and/or rodent guards shall also be kept in place.

Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.

Other items specific to your project are listed on the "Practice Requirement" sheet.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

**521A - POND SEALING OR LINING
FLEXIBLE MEMBRANE**

I. SCOPE

The work shall consist of furnishing and installing a Flexible Membrane Liner, the necessary mechanical attachments, cover soil, and concrete pads as shown in the drawings or as specified herein.

II. MATERIALS

The liner, welding rod, vent covers, pipe boots, metal battens, bolts, embed channel, sealant and bentonite shall conform to the requirements of National Engineering Handbook, Section 642, Chapter 3, Material Specifications 594, Flexible Membrane Liner or 595, Geosynthetic Clay Liner, the Practice Requirements Sheet, and requirements shown on the drawings.

All lining materials shall be free of damage or defect. Each package delivered to the job site shall bear the name of the material, the manufacturer's name or symbol, the quantity therein, and the thickness or weight of the material.

III. SHIPPING AND STORAGE

The liner shall be shipped to the job site in a manner not to damage the rolls or panels. The liner shall be stored and protected from puncture, dirt, grease, excessive heat, or other damage. Rolls shall be stored on a prepared smooth surface (not wooden pallets) and shall be stacked no more than three rolls high. Palletized panels shall not be stacked on top of one another.

Damaged material shall be repaired or replaced at the contractor's expense. Damaged material that cannot be satisfactorily repaired to comply with the requirements of Material Specification 594 shall not be used and shall be removed from the job site.

IV. SUBGRADE PREPARATION

The area to be lined shall be drained and allowed to dry until the surface is firm and can support the equipment that must travel over it during installation of the lining.

All banks and fills in the area to be lined must be sloped no steeper than 3:1 for PVC and GCL liners. All other liner types may be placed on slopes no steeper than 2:1.

Slope the bottom of the pond towards the sides, at a minimum of 0.005 feet/feet.

Subgrade soils shall be uniformly compacted to provide a smooth, firm, and unyielding foundation. All subgrade surfaces shall be free of organic material, rocks greater than 3/8-inch for geomembrane liners and 1/2-inch for geosynthetic clay liners, angular rocks, hard clods, roots, stumps, or any other sharp objects. Surface deformations shall not exceed 1 inch with no sudden, sharp, or abrupt changes or break in grade.

Subgrade materials, not meeting the above requirements, shall be treated. The Engineer shall approve any treatment of the subgrade prior to installation.

Subgrade treatment may include a cushion or padding placed beneath the liner. The padding or cushion may be an 8-ounce or greater non-woven geotextile or a soil meeting the particle size and shape requirements of the subgrade. If a soil layer is used, the unacceptable subgrade shall be removed and suitable material provided and compacted to a minimum of 3 inches thick and to the lines and grades shown on the drawings.

Smooth the surface by rolling with a rubber-tired or steel wheel roller or cover with a cushion of fine soil.

When specified, an effective sterilant shall be applied to the subgrade at the rate recommended by the manufacturer.

An anchor trench shall be excavated completely around the area to be lined at the planned elevation of the top of the lining. The trench shall be a minimum of 18 inches deep and 18 inches wide. Location of the anchor trench shall be no closer than 3 feet from the crest of the berm. Material from the trench shall be stored to use as backfill of the trench. The corners of the trench shall be slightly rounded to avoid sharp bends in the liner.

Backfill soil shall be compacted by rolling with rubber-tired equipment or a manually directed power tamper to provide a stable anchor trench for the liner.

Any standing water, mud, or snow shall be removed prior to liner placement.

The Engineer will inspect and approve the subgrade prior to placement of any liner material.

V. PLACEMENT

Placement of the geotextile or soil padding and drains, if required, shall be completed prior to placement of the liner.

The liner shall not be placed during fog, precipitation, or in the presence of excessive winds. HDPE and LLDPE liners shall not be placed in temperatures less than 50 degrees Fahrenheit. PVC liners shall not be placed in temperatures less than 40 degrees Fahrenheit or greater than 105 degrees Fahrenheit. EPDM liners shall not be placed in temperatures less than 0 degrees Fahrenheit or greater than 120 degrees Fahrenheit.

The liner shall be deployed with a minimum of handling. Liner rolls shall be deployed using a spreader bar assembly attached to a front-end loader, track-hoe bucket, or by other method approved by the liner manufacturer. The liner shall be positioned with the seams up and down the slope. Position the liner to minimize folds with enough overlap to ensure proper seaming. Place sandbags to protect the liner from wind uplift forces. The liner shall be placed on a daily basis, seamed, and secured by the end of the workday. No construction equipment shall be allowed directly on the liner except for light ATV's, with ground pressure not exceeding 5 pounds per square inch, and generators to power the seaming equipment.

The liner shall be loosely laid over the foundation with sufficient slack (about 2 percent) to accommodate thermal expansion and contraction encountered during construction. Each panel shall be laid out and positioned to minimize the number and length of the liner field joints and to be consistent with accepted installation practice. The methods used to place panels shall minimize wrinkles especially along field seams. Wrinkles shall not exceed 6-inches in height or "fold over" during soil cover placement or other load application.

Approximately 36 inches of the top of the lining shall be placed in the anchor trench. The trench shall be

backfilled and compacted to the density of the adjacent soil.

For covered liners, the material to be used as a protective cover shall be free of large clods, sharp rocks, sticks, and other objects that can puncture the lining. The cover shall be placed to the specified depth without damage to the membrane.

VI. SEAMING METHODS

HDPE, LLDPE, and PP - The primary method of seaming shall be hot wedge fusion welding. Fillet extrusion welding shall be used for repairs, T-seams, and detail work. Hot Air Fusion or Chemical Fusion welding may be used for PP. Seaming shall not be attempted when the ambient sheet temperature is below 45 degrees Fahrenheit or above 90 degrees Fahrenheit.

PVC - Seams shall be joined using hot wedge fusion welding, hot air fusion welding, chemical fusion welding, or an adhesive. Special precautions, as recommended by the manufacturer, shall be taken for seam joining if the ambient sheet temperature is above 105 degrees Fahrenheit. Seam joining shall not be attempted when the ambient sheet temperature is below 40 degrees Fahrenheit or above 140 degrees Fahrenheit.

EPDM - Seams shall be joined using double-faced in-seam tape or a cover strip recommended by the manufacturer. Seaming shall not be performed when the ambient sheet temperature is below 0 degrees Fahrenheit or above 120 degrees Fahrenheit.

GCL - Seams shall be formed by overlapping the panels a minimum of 9 inches. A granular bead of clay similar to the material used in the clay liner shall be poured continuously along the seam at a minimum rate of 1/4 pound per linear foot of seam.

VII. SEAMING PROCEDURES

Seaming shall extend to the outside edge of the liner to be placed in the anchor trenches. Seaming shall not be conducted in the presence of moisture, dust, dirt, standing water, or soft subgrade. Seaming procedures shall be in accordance with the liner manufacturer specifications.

Hot wedge welding - Hot wedge welding shall be accomplished by a double-wedge fusion welder that produces a double track weld. Welding equipment and accessories shall be approved by the liner manufacturer. To produce acceptable seams for the

site-specific condition, the welder shall be calibrated at the beginning of each seaming period.

Fillet extrusion welding - Extrusion welding equipment and accessories shall be approved by the liner manufacturer. To produce acceptable seams for the site-specific condition, the extrusion welder shall be calibrated once per day at the beginning of each seaming period. To ensure proper bonding of the extrusion weld, edges of the patch material and the adjacent liner shall be properly abraded by a light grinding. This operation shall be done no more than 15 minutes before the welding operation. The abrasion shall remove no more than 10 percent of the material thickness.

Hot Air welding - Hot air welding shall be accomplished by a single or double tracked fusion welder. Welding equipment and accessories shall be approved by the liner manufacturer. To produce acceptable seams for the site-specific condition, the welder shall be calibrated at the beginning of each seaming period.

Chemical Fusion welding - The chemical fusion agent shall be applied to both panels by a squeeze bottle or paintbrush. The width of application shall be a minimum of 2 inches. Light pressure shall be applied by an acceptable roller to force intimate contact between the panels. Excess agent extruded from the seam shall be removed immediately.

Adhesive - The adhesive shall be applied to both panels by a paintbrush or other approved method. The adhesive shall cover the entire seam overlap. Light pressure shall be applied by an acceptable roller to force intimate contact between the panels. Excess adhesive from the seam shall be removed immediately. Adhesive shall be approved by the manufacturer and consist of material with a life expectancy similar to the liner material.

Inseam Tape - A primer shall be applied to both panels by a scrub pad or other approved method. The primer shall cover the entire seam overlap. Once the primer has flashed, install the tape on the bottom sheet, remove tape backing, place overlap, and roll it with light pressure to force intimate contact between the panels.

Cover Strip - A primer shall be applied to both panels by a scrub pad or other approved method. Close and roll the seam. Apply additional primer to cover the

entire seam overlap. Once the primer has flashed, install the cover strip and roll it with light to force intimate contact between the cover strip and the panels.

Seam overlap - Liner panels shall have a minimum overlap of 4 inches for hot wedge welding, hot air welding, chemical fusion welding, adhesive seams, inseam tape, and cover strip seams. A minimum overlap of 3 inches shall be used for extrusion-welded seams. Upslope panels shall overlap down slope panels to provide a shingle effect for drainage.

GCL seam overlap - Native soil and debris should be removed from the contacting GCL surfaces to ensure seam integrity. The GCL panels should be adjusted to smooth out any wrinkles or creases between adjacent panels.

VIII. SEAM TESTING

Seams shall be tested under field conditions at the beginning of each seaming period. Three specimens shall be tested by a tensiometer in shear and peel modes. Test seams shall meet the requirements of Material Specification 521A.

Field seams shall be non-destructively tested over their entire length to ensure seam continuity. Seam testing shall be performed as the seaming work progresses, not at the completion of field seaming.

Nondestructive seam testing - Air pressure tests shall be performed in accordance with ASTM D 5820 on all double-track fusion seams. The air pressure test equipment and procedures shall conform to this specification and the liner manufacturer's specifications. Seal both ends of the seam to be tested. Insert the pressure needle into the seam's air channel. Pressurize the air channel through the needle to 25 to 30 pounds per square inch for HDPE, LLDPE, and PP liners, 15 to 25 pounds per square inch for 30 mil PVC liners, and 20 to 30 pounds per square inch for 40 mil PVC liners.

Monitor any pressure drops for 5 minutes. A loss of pressure in excess of 4 pounds per square inch for HDPE, LLDPE, and PP liners, 5 pounds per square inch for 30 mil PVC liners, 4 pounds per square inch for 40 mil PVC liners, or a continuous loss of pressure is an indication of a leak. Terminate the test by relieving the pressure from the opposing end of the seam. The pressure shall immediately drop to zero upon opening the opposing end of the seam. If this

does not occur, the seam channel shall be checked for obstructions and retested. All defects shall be marked for repair.

Vacuum box tests shall be performed in accordance with ASTM D 5641 on all extrusion welds and may be used on PP Chemical fusion welds. Vacuum box tests will not be allowed on PVC liner seams. The vacuum box equipment and test procedure shall conform to this specification and the liner manufacturer's specifications. Apply soapy water solution to the seam area to be tested. The vacuum box, equipped with a transparent viewing window, shall be centered over the seam area and a vacuum of 4 to 8 pounds per square inch shall be drawn. The seam area shall be visually monitored for any soap bubbles for 10 seconds. Seam testing shall continue by overlapping a minimum of 3 inches between each test interval. All defects shall be marked for repair.

Air lance tests shall be performed in accordance with ASTM D 4437 on single-track fusion welds, chemical fusion welds, and adhesive PVC seams, EDPM seams, and may be used on PP chemical fusion seams. The air lance test shall apply a pressure of 50 pounds per square inch through a 3/16-inch nozzle held within 2 inches of the seam. A seam that flaps or produces a whistling sound is an indication of a leak.

Destructive seam testing - If required, seam samples shall be cut at no more than one sample per 500 feet of weld for destructive seam testing. All destructive seam samples shall be tested by a tensiometer in shear and peel modes to verify seams meet the requirements of Section II of this specification.

IX. REPAIRS

All defective liner areas and bad seams shall be repaired and tested before the installation is completed.

Tears, punctures, material defects - All tears, punctures, and material defects in liner shall be repaired by installing a patch over the defective area. Surfaces of the liner to be patched shall be cleaned before the repair. All patches shall be of the same liner material and extend a minimum of 6 inches beyond the edges of the defect area. All patches shall have rounded corners and shall be seamed to the liner. Alternatively, a bead of extrudant shall be placed over all holes that are less than 0.25 inch in diameter on HDPE, LLDPE, and PP liners.

Seam repair - All failed seams shall be repaired by installing a cap strip over the entire length of failed seam. The cap strip shall be of the same liner material and shall extend beyond the failed seam a minimum of 6 inches in all directions. Alternatively, the seam along the upper flap can be extrusion welded to the liner along the entire length of the failed seam.

X. MECHANICAL ATTACHMENTS

The liner shall be mechanically attached to pipe, concrete, or steel structure as shown in the drawings and according to the liner manufacturer's specification.

Pipe boots - Factory fabricated pipe boots shall be used wherever possible. Pipe boots fabricated in the field shall be from the same material as the liner. The boots shall be welded and clamped to pipes of the same material as the liner. They shall be clamped to other types of pipe as shown in the drawings, or as recommended by the manufacturer, to provide a leak-free attachment.

Metal battens - Metal battens shall be installed according to the drawings and the liner manufacturer's specifications. The battens shall be bolted to structure concrete by bolts on 6-inch intervals to create a leak-free connection under submerged conditions. Bolt spacing shall be increased to 12 inches for connections above the fluid level.

Embed channel - Embed channel shall be installed according to drawings and the liner manufacturer's specification. The embed channel shall be prefabricated to the dimensions as shown in the drawings. All sections of the channel shall be welded to the next section continuously to prevent gaps between sections or pieces of the embed channel before their installation in the concrete forms. All corners shall be miter cut and welded all around.

Gas vents and drainage - Gas vent flaps or vent pipes shall be installed in accordance with the drawings to provide adequate venting for the liner system. Drainage systems will be installed as specified and as shown on the drawings.

GCL penetration and structure sealing - Granular clay of a material similar to the material in the GCL shall be packed around the pipe or structure and on the adjacent area so that it is encased in a pure clay seal. The GCL panel should be placed over the penetration and slit into a "pie" configuration where the pipe is to

protrude. Spread additional granular clay around the cut edges and over adjacent areas.

Covering the liner - Cover geomembranes as soon as possible after the liner installation. Cover GCL liners on the same day as installation to prevent hydration of the clay layer. Cover soil on liners, other than GCL, shall be placed during the coolest part of the day.

Work material, from the bottom of the slope to the top, onto the liner maintaining at least 12 inches of soil under the wheels or tracks of light equipment.

Cover soils shall meet the same requirements, as specified for subgrade soils in Section IV of this specification. Cover soil placement shall be performed by a loader or bulldozer with ground pressure of less than 8 pounds per square inch. Cover soil shall not be dropped onto the liner from a height greater than 3 feet.

Following construction of an access ramp, the soil shall be placed from the bottom of the slope upward.

Construction equipment or machinery shall not operate directly on the liner.

XI. VEGETATIVE COVER

Unless otherwise specified, a protective cover of vegetation shall be established on the disturbed area outside of the treated area. The planting of vegetative materials shall conform to the requirements of Practice Specification 342, Critical Area Planting.

XII. SPECIAL MEASURES

Measures and construction methods shall be incorporated as needed and practical that enhances fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food, and den trees.

XIII. CONSTRUCTION OPERATIONS

Construction operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits. The owner, operator, Contractor or other persons will conduct all work and operations in accordance with proper safety codes for the type of construction being performed with due regards to the safety of all persons and property.

The completed job shall be workmanlike and present a good appearance.

XIV. OPERATION AND MAINTENANCE ITEMS

A properly operated and maintained pond is an asset to your farm. This pond sealing was designed and

installed to limit the seepage loss from the pond. The estimated life span of this system is at least 20 years. The life of this system can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

Maintain the soil covering on liners at the construction depth.

Equipment is permitted only on liners with a minimum soil cover of 12 inches. If equipment is allowed on a liner covered with a minimum 12 inches of soil, avoid excessive speeds and sharp turns.

Prevent all livestock from using any area of the pond which was sealed by artificial liners.

Fences shall be maintained to provide warning and/or prevent unauthorized human or livestock entry.

Settlement or cracks in the soil weaken earthen sections and may accelerate the development of flow paths that may result in structure failure. This should be investigated to determine the cause and immediately repaired.

Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.

Immediately remove any debris that may harm or reduce the effectiveness of sealants.

Immediately repair any vandalism, vehicular, or livestock damage to any earthfills, spillways, or outlets or other apparatuses.

Other items specific to your project are listed on the "Practice Requirement" sheet.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION CONSTRUCTION SPECIFICATION

903 – EARTHFILL

I. SCOPE

The work shall consist of borrow excavation, hauling, placing and compacting earthfills required to construct the earthfills as shown on the drawings, or as staked in the field.

II. SUBGRADE PREPARATION

Subgrades for earthfill shall be stripped to remove vegetation and other unsuitable materials. The subgrade surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill and loosened to a minimum depth of 2 inches. The moisture content of the loosened material shall be controlled as specified for the earthfill, and the surface materials of the subgrade shall be compacted and bonded with the first layer of earthfill.

Earth abutment surfaces shall be free of loose, uncompacted earth in excess of two inches in depth normal to the slope and shall be at such a moisture content that the earthfill can be compacted against them to ensure a good bond between the fill and the abutments. Subgrade and abutment surfaces shall not steeper than 1 horizontal to 1 vertical.

The sites of the borrow area shall be stripped to sufficient depth to remove all vegetation, roots, brush, sod and other objectionable material. Clearing and disposal methods shall be in accordance with applicable state and county laws with due regards to the safety of persons and property.

III. EXCAVATION

Excavated Material

To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required permanent earthfill. The suitability of materials for specific purposes will be determined by an Engineer.

All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of at the locations shown on the drawings or at sites remote from the project.

Borrow Excavation

When the quantities of suitable materials obtained from specified excavations are insufficient to construct the specified fills, additional materials shall be obtained from the designated borrow areas. The extent and depth of borrow pits within the limits of the designated borrow areas shall be as shown on the drawings.

Borrow pits shall be excavated and finally dressed in manner to eliminate steep or unstable side slopes or other hazardous or unsightly conditions, and shall be free draining of any water ponding.

Bracing and Shoring

Excavated surfaces too steep to be safe and stable if unsupported shall be supported as necessary to safeguard the work and workmen, to prevent sliding or settling of the adjacent ground, and to avoid damaging existing improvements. The width of the excavation shall be increased if necessary to provide space for sheeting, bracing, shoring, and other supporting installations.

Structure or Trench Excavation

Structure or trenched excavation shall be completed to the specified elevations and to sufficient length and width to include allowance for forms, bracing and supports, as necessary, before any concrete or earthfill is placed or any piles are driven within the limits of the excavation.

IV. PLACEMENT

Material

All material shall be obtained from selected areas as shown on the drawings. Fill materials shall contain no sod, brush, roots, or other perishable or unsuitable material. Cobbles and rock fragments over 3 inches in diameter shall be removed from the material prior to compaction and be disposed of or placed in areas designated.

Fill shall not be placed until the required excavation and subgrade preparation has been completed. Fill shall not be placed upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.

Fill shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed 8-inches. Materials placed by dumping in piles or windows shall be spread uniformly to not more than the specified thickness before being compacted. If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.

Fill placed around structures will be brought up to approximately uniform height on all sides of the structure.

The distribution and gradation of materials throughout the fill shall have no lenses, pockets, streaks, or layers of material differing substantially in texture or gradation from the surrounding material. If zoned fills of substantially differing materials are specified; the zones shall be placed according to lines and grades shown on the drawings.

V. CONTROL OF MOISTURE CONTENT

During placement and compaction of fill, the moisture content of the materials being placed shall be maintained. The material should maintain a ball shape when squeezed in the hand. When specified, the moisture shall be maintained within 2 percentage points of optimum as determined by ASTM D-698, and as specified on the "Practice Requirements" sheet.

The application of water to the fill materials shall be accomplished at the borrow areas insofar as practicable. Uniform moisture distribution shall be obtained by disking. Material that is too wet when deposited on the fill shall either be removed or be dried to the specified moisture content prior to compaction.

If the top surface of the preceding layer of compacted fill or a subgrade or abutment surface in the zone of contact with the fill becomes too dry to permit suitable bond, it shall either be removed or scarified and moistened to an acceptable moisture content prior to placement of the next layer of fill.

The proper moisture content for compaction will be determined by inspection during the placement operation.

VI. COMPACTION

Construction equipment shall be operated over each layer of fill to ensure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction. Compaction shall meet the requirements of the method specified on the "Practice Requirements" sheet and as described below:

1. Sheepsfoot roller - The roller shall have staggered, uniform spaced tamping feet and be equipped with suitable cleaners. The weight of the roller shall not be less than 2,500 pounds per foot of width. The maximum speed shall be less than 3 miles per hour. The entire surface of each layer placed shall receive 4 passes of this equipment.
2. Pneumatically tired equipment. A loaded scraper shall be considered a pneumatic roller. The use of this equipment must pass over 90 percent of the surface of each lift before a new lift placed. The entire surface of each layer shall receive 6 passes of this equipment.
3. Track Laying Equipment (bulldozer). The tracks of the equipment must pass over 90 percent of the surface of each lift before a new lift placed. The entire surface of each layer shall receive 8 passes of this equipment.
4. Compaction shall result in densities equal to or greater than 95 percent of the maximum obtained by laboratory compaction at optimum moisture of like soils in accordance with the procedures given in ASTM D-698, Method A.
5. Compaction shall result in densities equal to or greater than 90 percent of the maximum obtained by laboratory compaction at optimum moisture of like soils in accordance with the procedure given ASTM D-1557, Method A.

Heavy compaction equipment shall not be operated within 2 feet of any structure. The passage of heavy equipment will not be allowed:

- (1) Over cast-in-place conduits within 14-days after placement of the concrete
- (2) Over cradled or bedded precast conduits within 7 days after placement of the concrete cradle or bedding
- (3) Over any type of conduit until the backfill has been placed above the top surface of the structure to a height equal to one-half the clear span width of the structure or pipe or 2 feet, whichever is greater, except as may be specified in the "Practice Requirements sheet

Fill adjacent to structures, pipe, conduits, and anti-seep collars shall be compacted to a density equivalent to that of the surrounding fill by means of hand tampers or plate vibrators. Hand directed tampers or compactors shall be used on areas not accessible to heavy compaction equipment, fills compacted in this manner shall be placed in layers not greater than 4 inches in thickness before compaction, and shall meet the same density requirement as for the adjacent area.

Compaction of backfill adjacent to structures shall not be started until after the expiration of the following minimum time interval after placement of the concrete:

| | |
|---|---------|
| Counterforts, vertical or near-vertical walls with earth loading on one side only | 14 days |
| Walls and counterforts, backfilled on both sides simultaneously | 7 days |
| Anti-seep, collars, conduits, and cantilever outlet bents | 3 days |

VII. TESTING

During the course of the work, tests may be made to identify materials, to determine compaction characteristics, to determine moisture content, and to determine density of fill in place. These test results will be used to verify that the fills conform to the requirements of the specifications. Such tests are not intended to provide information required for the proper execution of the work and shall not relieve the Landowner, of the necessity to perform tests for the purpose.

Fill not meeting the specified requirements shall be reworked or removed and replaced with acceptable fill.

VIII. FINISH

After the placement of the earthfills, and spoils the sides and top shall be dressed by final passage of compaction equipment or by dragging to give a smooth surface. The surface area shall be graded to provide surface drainage to flow to desired locations.

IX. VEGETATIVE COVER

Unless otherwise specified, on the "Practice Requirements" sheet, a protective cover of vegetation shall be established on all disturbed areas. The planting of vegetative materials shall conform to the requirements of Practice Specification 342, Critical Area Planting.

X. SPECIAL MEASURES

Measures and construction methods shall be incorporated as needed and practical that enhances fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food, and den trees.

XI. CONSTRUCTION OPERATIONS

Construction operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits. The owner, operator, contractor or other persons will conduct all work and operations in accordance with proper safety codes for the type of construction being performed with due regards to the safety of all persons and property.

The completed job shall be workmanlike and present a good appearance.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION CONSTRUCTION SPECIFICATION

905 - GEOTEXTILE FABRIC

I. SCOPE

The work shall consist of furnishing and installing geotextile fabric at the locations shown on the drawings.

II. MATERIALS

Geotextile fabrics shall consist of commercial grade of woven or nonwoven synthetic polymeric filament fibers that are formed into a stable network. They shall be resistant to soil chemicals, mildew, rodents and insects. Fibers shall contain stabilizers and/or inhibitors to enhance resistance to ultraviolet light. Fabrics are classified according to the following types:

1a - Woven Monofilament

1a - Non-Woven Bonded

2a - Non-Woven Needle punched

The type of fabric required and the specific physical properties shall be as indicated on the "Practice Requirements" sheet.

The physical properties of the fabric shall conform to the requirements listed in Table 1, for Woven Geotextiles and Table 2 for Non-woven geotextiles. The fabric shall be protected from deterioration by ultraviolet light.

Securing Pins used to secure the filter fabric in place shall be steel or fiberglass. Each pin shall be formed as an "U", "L", or "T" shapes or contain "ears" to prevent total penetration. Grommets or steel washers with an outside diameter of 1 1/2 inches shall be provided for all but "U" shaped securing pins.

III. Installation

The surface on which the geotextile is to be placed shall be graded to the neat lines and grades as shown on the drawings. The surface shall be reasonably smooth and free of loose rock and clods, holes, depressions, projections, muddy conditions and standing or flowing water. The fabric shall be placed and loosely laid over the surface smoothly.

The fabric panels shall be overlapped a minimum of 18 inches for vertical laps and 24 inches for horizontal laps. The fabric shall be placed parallel to the direction of flow. It shall be placed so that the upstream end or higher panel will be placed under the downstream or lower panel.

When the fabric is used in application for wave action, the panel should be placed up and down the slope.

At vertical laps, securing pins shall be inserted through both layers along a line through the approximate midpoint of the overlap. At horizontal laps, securing pins shall be inserted through the bottom layer only. The pins shall be placed at not greater than 12-foot intervals. Securing pins shall be placed along a line approximately 2 inches in from the edge of the outer limits of the completed filter cloth area at intervals not greater than 12 feet. Additional pins shall be installed as necessary to prevent any slippage of the fabric, regardless of location.

Fabric damaged or displaced before or during installation or during placement of overlying layers of riprap shall be replaced or repaired to the original design and as approved by the Engineer, the fabric shall not be placed unless the riprap or other material can be used to cover it within the same working day.

When riprap is to be placed on the fabric, stones shall not be dropped from a height greater than the following:

- A. For stones up to 100 pounds in weight, the drop shall not be more than 3 feet.
- B. For stones between 100 and 500 pounds in weight, the drop shall not be more than 1 foot.
- C. For stones over 500 pounds in weight, the stone shall be placed on the cloth, not dropped.
- D. Pushing or rolling rocks over the fabric will not be allowed.

TABLE 1. REQUIREMENTS FOR WOVEN GEOTEXTILES

| Property | Test Method | Class I | Class II & III | Class IV |
|---|--------------------------------------|--|--|---|
| Tensile Strength (pounds) <u>1/</u> | ASTM D 4632 Grab Test | 200 minimum in principal direction | 120 minimum in any principal direction | 180 min. in any principal direction |
| Elongation at Failure (percent) <u>1/</u> | ASTM D 4632 Grab Test | <50 | <50 | <50 |
| Puncture (pounds) <u>1/</u> | ASTM D 4833 | 90 minimum | 60 minimum | 60 minimum |
| Ultraviolet Light (percent residual tensile strength) | ASTM D 4355 150-hours exposure | 70 minimum | 70 minimum | 70 minimum |
| Apparent Opening Size – (AOS) | ASTM D 4751 | As specified or a minimum #70 <u>2/</u> | As specified or a minimum #70 <u>2/</u> | As specified or minimum #70 <u>2/</u> |
| Percent Open Area <u>3/</u> (percent) | TM5-818-8 <u>4/</u> | 4.0 minimum | 4.0 minimum | 1.0 minimum |
| Permittivity sec ⁻¹ | ASTM D 4491 | 0.10 minimum | 0.10 minimum | 0.10 minimum |

1/ Minimum average roll value (weakest principal direction).

2/ U. S. Standard Sieve Size.

3/ If Percent Open Area information is not available, the geotextile should be rated for filtration. Consult the manufacturer for the soils that the fabric is rated for.

4/ NOTE: TM5-818-8 is an Army Technical Manual

TABLE 2. REQUIREMENTS FOR NON-WOVEN GEOTEXTILES

| Property | Test Method | Class I | Class II | Class III | Class IV <u>3/</u> |
|---|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Tensile Strength (pounds) <u>1/</u> | ASTM D 4632 Grab Test | 180 minimum | 120 minimum | 90 minimum | 115 min. |
| Elongation at Failure (percent) <u>1/</u> | ASTM D 4632 | ≥50 | ≥50 | ≥50 | ≥50 |
| Puncture (pounds) | ASTM D 4833 | 80 minimum | 60 minimum | 40 minimum | 40 minimum |
| Ultraviolet Light (percent residual tensile strength) | ASTM D 4355 150-hours exposure | 70 minimum | 70 minimum | 70 minimum | 70 minimum |
| Apparent Opening Size – (AOS) | ASTM D 4751 | As specified max. # 40 <u>2/</u> | As specified max. # 40 <u>2/</u> | As specified max. # 40 <u>2/</u> | As specified max. # 40 <u>2/</u> |
| Permittivity sec ⁻¹ | ASTM D 4491 | 0.70 minimum | 0.70 minimum | 0.70 minimum | 0.10 min. |

1/ Minimum average roll value (weakest principal direction)

2/ U. S. Standard Sieve Size.

3/ Heat-bonded or resin-bonded geotextile may be used for Class III and IV. They are particularly well suited for Class IV. Needle-punched geotextiles are required for all other classes.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION CONSTRUCTION SPECIFICATION

907 - ROCK RIPRAP

I. SCOPE

The work shall consist of furnishing and installing loose rock riprap at the locations and to the lines, grades, elevations, and cross-sections as shown on the drawings.

II. MATERIALS

Rock

Rock shall be sound, dense, and durable with a bulk specific gravity of not less than 2.5. Rock shall be angular to subrounded in shape with the greatest dimension not greater than 2 times the least dimension. The rock shall conform to the grading limits given below unless otherwise specified on the Practice Requirements sheet.

| <u>Size, Inches</u> | <u>Percent Passing</u> |
|---------------------|------------------------|
| 24 | 100 |
| 12 | 50 |
| 6 | 20 |
| 3 | 10 |

Filter or Bedding

When filter or bedding material is shown on the drawings, the material shall be composed of clean, hard and durable mineral particles free from organic matter, clay balls or other deleterious substances.

Bedding may be pit run material of sand, gravel, crushed stone or a mixture thereof.

Filter material shall conform to the gradation given in the Special Requirements listed on the "Practice Requirements" sheet.

III. SUBGRADE PREPARATION

The subgrade surfaces on which the riprap, bedding, filter, or geotextile is to be placed shall be cleared and graded prior to placement of bedding, geotextile, or rock.

When fill to subgrade lines is required, it shall consist of approved materials and shall conform to the requirements of appropriate sections of Conservation Construction Specification 903, Earthfill. Subgrade surfaces shall not steeper than 1.5 horizontal to 1 vertical.

IV. PLACEMENT

Equipment Placed Rock Riprap

The riprap shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of the underlying materials. The rock shall be delivered and placed in a manner that will insure that the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks and spalls filling the voids between the larger rocks.

Riprap shall be placed in a manner to prevent damage to structures. Hand placing will be required to the extent necessary to prevent damage to the permanent works and to achieve the finished surface placement.

Hand Placed Riprap

Rocks shall be securely bedded firmly in contact one to another. Spaces between the larger rocks shall be filled with smaller rocks and spalls. Smaller rocks shall not be grouped as a for substitute larger rock. Flat slab rock shall be laid on edge.

Filter Layers or Bedding

When specified, the filter, bedding, or geotextile beneath the rock shall be placed on the prepared subgrade as specified in the Special Requirements listed on the "Practice Requirements" sheet.

Compaction of filter layers or bedding will not be required, but the surface of such material shall be finished reasonably free of mounds, dips, or windrows.

V. VEGETATIVE COVER

Unless otherwise specified in the "Practice Requirements" sheet, a protective cover of vegetation shall be established on the area disturbed area. The planting of vegetative materials shall conform to the requirements of Practice Specification 342, Critical Area Planting.

VI. SPECIAL MEASURES

Measures and construction methods shall be incorporated as needed and practical that enhances fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food and den trees.

VII. CONSTRUCTION OPERATIONS

Construction operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits. The owner, operator, Contractor or other persons will conduct all work and operations in accordance with proper safety codes for the type of construction being performed with due regards to the safety of all persons and property.

The completed job shall be workmanlike and present a good appearance.

Material Specification 594—Flexible Membrane Liner

1. Scope

This specification covers the quality of High Density Polyethylene (HDPE), Linear Low Density Polyethylene (LLDPE), Ethylene Propylene Diene Monomer (EPDM), Poly Vinyl Chloride (PVC), and Polypropylene (PP) flexible liner, seams, gaskets, metal battens, bolts, embed channels, clamps, and sealant.

2. Material

Liner—The liner shall have a nominal thickness as specified. The liner shall be manufactured to be suitable for use in the specified exposed or buried conditions. It shall conform to the requirements of this specification, Construction Specification 97, and the requirements shown on the drawings.

Gaskets, metal battens, clamps, bolts, embed channels, welding rod, adhesive, and sealant—Gasket material shall be neoprene, closed-cell medium, 0.25 inch thick, with adhesive on one side, or other gasket material as approved by the liner manufacturer. Metal battens shall be 0.25-inch-thick by 2-inch-wide stainless steel. Clamps shall be 0.5-inch-wide stainless steel. Bolts shall be stainless steel. The embed channel and welding rod shall have the same properties as the liner. Adhesive shall be approved by the manufacturer and shall consist of material with a life expectancy similar to the liner material. Sealant shall be as recommended by the manufacturer. Silicone sealant shall not be used with PVC liner materials.

Vents and pipe boots—Vents and pipe boots shall be made of the same material as the liner.

3. Liner properties

The liner shall be uniform in color, thickness, and surface texture. The liner shall be resistant to fungal or bacterial attack and free of cuts, abrasions, holes, blisters, contaminants, and other imperfections.

HDPE and LLDPE—The HDPE or LLDPE liner shall be manufactured from virgin polymer material and shall meet the property values specified in tables 594-1 through 594-4 as applicable.

EPDM—The EPDM liner shall be formulated from virgin compounding materials and shall meet the property values specified in tables 594-5 and 594-6 as applicable. Regrind, reworked, or trim materials shall be from the same manufacturer and the same formulation as the liner. Recycled materials shall not be allowed.

PVC—The PVC liner shall be manufactured from virgin polymers and other compounding materials and shall meet the property values specified in table 594-7 as applicable. Regrind, reworked, or trim materials shall be from the same manufacturer and the same formulation as the liner. No more than 10 percent regrind, reworked, or trim materials shall be used to manufacture the liner. Recycled materials shall not be allowed.

The PVC compound shall consist of 50- to 70-percent PVC resin, by weight. Liquid plasticizers shall be mixed until completely absorbed by the resin powder. Other additives shall be thoroughly mixed into the resin.

PP—The PP liner shall be manufactured from virgin polymer material and shall meet the property values specified in tables 594-8 and 594-9 as applicable.

A reinforced PP liner shall consist of one ply of reinforcing polyester (scrim) between two sheets of PP. The polyester scrim shall be of an open weave that permits strike-through of the PP.

Table 594-1 Requirements for smooth HDPE liner

| Property | Test methods | Requirements* | | |
|-------------------------|-----------------------|---------------|-----------------------------|---------|
| | | 30 mil | nominal thickness 40 mil | 60 mil |
| Density, g/cc | ASTM D 1505 | 0.940 | 0.940 | 0.940 |
| Tensile properties | ASTM D 638 | | | |
| yield stress, lb/in | (type IV at 2 in/min) | 63 | 84 | 126 |
| break stress, lb/in | | 114 | 152 | 228 |
| yield elongation, % | | 12 | 12 | 12 |
| break elongation, % | | 700 | 700 | 700 |
| Tear resistance, lb | ASTM D 1004 | 21 | 28 | 42 |
| Puncture resistance, lb | ASTM D 4833 | 54 | 72 | 108 |
| Carbon black content, % | ASTM D 1603 | 2-3 | 2-3 | 2-3 |
| Carbon black dispersion | ASTM D 5596 | Cat 1-2 | Cat 1-2 | Cat 1-2 |
| Seam properties | ASTM D 6392 | | | |
| shear strength, lb/in | | 60 | 80 | 120 |
| peel strength, lb/in** | | 39/FTB | 52/FTB | 78/FTB |

* All values, unless specified otherwise, are minimum average roll values as reported for the test method.

** Film tear bond: A failure of one of the bonded sheets by tearing prior to complete separation in the bonded area.

Table 594-2 Requirements for textured HDPE liner

| Property | Test methods | Requirements* | | |
|-------------------------|-----------------------|---------------|-----------------------------|---------|
| | | 30 mil | nominal thickness 40 mil | 60 mil |
| Density, g/cc | ASTM D 1505 | 0.940 | 0.940 | 0.940 |
| Tensile properties | ASTM D 638 | | | |
| yield stress, lb/in | (type IV at 2 in/min) | 63 | 84 | 126 |
| break stress, lb/in | | 45 | 60 | 90 |
| yield elongation, % | | 12 | 12 | 12 |
| break elongation, % | | 100 | 100 | 100 |
| Tear resistance, lb | ASTM D 1004 | 21 | 28 | 42 |
| Puncture resistance, lb | ASTM D 4833 | 45 | 60 | 90 |
| Carbon black content, % | ASTM D 1603 | 2 - 3 | 2 - 3 | 2 - 3 |
| Carbon black dispersion | ASTM D 5596 | Cat 1-2 | Cat 1-2 | Cat 1-2 |
| Seam properties | ASTM D 6392 | | | |
| shear strength, lb/in | | 60 | 80 | 120 |
| peel strength, lb/in** | | 39/FTB | 52/FTB | 78/FTB |

* All values, unless specified otherwise, are minimum average roll values as reported by the specified test method.

** Film tear bond: A failure of one of the bonded sheets by tearing prior to complete separation in the bonded area.

Table 594-3 Requirements for smooth LLDPE liner

| Property | Test methods | Requirements* nominal thickness | | |
|----------------------------|-----------------------|------------------------------------|---------|---------|
| | | 30 mil | 40 mil | 60 mil |
| Density, g/cc | ASTM D 1505 | 0.915 | 0.915 | 0.915 |
| Tensile properties | ASTM D 638 | | | |
| break stress, lb/in | (type IV at 2 in/min) | 114 | 150 | 228 |
| break elongation, % | | 800 | 800 | 800 |
| Tear resistance, lb | ASTM D 1004 | 16 | 22 | 33 |
| Puncture resistance, lb | ASTM D 4833 | 42 | 56 | 84 |
| Carbon black content, % | ASTM D 1603 | 2-3 | 2-3 | 2-3 |
| Carbon black dispersion, % | ASTM D 5596 | Cat 1-2 | Cat 1-2 | Cat 1-2 |
| Seam properties | ASTM D 6392 | | | |
| shear strength, lb/in | | 44 | 58 | 90 |
| peel strength, lb/in** | | 37/FTB | 50/FTB | 75/FTB |

* All values, unless otherwise specified, are minimum average roll values as reported for each test method.

** Film tear bond: A failure of one of the bonded sheets by tearing prior to complete separation in the bonded area.

Table 594-4 Requirements for textured LLDPE liner

| Property | Test methods | Requirements [*] nominal thickness | | |
|----------------------------|-------------------------|--|---------|---------|
| | | 30 mil | 40 mil | 60 mil |
| Density, g/cc | ASTM D 1505 | 0.915 | 0.915 | 0.915 |
| Tensile properties | ASTM D 638 | | | |
| break stress, lb/in | (type IV at 2 in/min) | 60 | 80 | 120 |
| break elongation, % | | 350 | 350 | 350 |
| Tear resistance, lb | ASTM D 1004 | 17 | 22 | 33 |
| Puncture resistance, lb | ASTM D 4833 | 33 | 44 | 66 |
| Carbon black content, % | ASTM D 1603 | 2-3 | 2-3 | 2-3 |
| Carbon black dispersion, % | ASTM D 5596 | Cat 1-2 | Cat 1-2 | Cat 1-2 |
| Seam properties | ASTM D 4437 | | | |
| shear strength, lb/in | (1 in wide at 2 in/min) | 40 | 53 | 79 |
| peel strength, lb/in** | | 33/FTB | 44/FTB | 66/FTB |

* All values, unless otherwise specified, are minimum average roll values as reported for each test method.

** Film tear bond: A failure of one of the bonded sheets by tearing prior to complete separation in the bonded area.

Table 594-5 Requirements for nonreinforced EPDM liner

| Property | Test methods | Requirements* -- nominal thickness -- | |
|---------------------------------|--------------------------------------|--|--------|
| | | 45 mil | 60 mil |
| Specific gravity | ASTM D 792 | 1.1 | 1.1 |
| Tensile properties | ASTM D 882 | | |
| break stress, lb/in | (Type IV at 20 in/min) | 50 | 50 |
| break elongation, % | | 400 | 400 |
| Tear resistance, lb | ASTM D 1004 | 9 | 11 |
| Puncture resistance, lb | ASTM D 4833 | 35 | 60 |
| Low temperature brittleness, °F | ASTM D 1790 | <-45 | <-45 |
| Seam properties | ASTM D413/D4437 | | |
| shear strength, lb/in** | (NSF modified 20 in/min strain rate) | 35 | 35 |
| peel strength, lb/in*** | | 14 | 14 |

* All values, unless specified otherwise, are minimum average **roll values** as reported for the test method.

** At 200 percent strain.

*** Cohesive bond mode.

Table 594-6 Requirements for reinforced EPDM liner

| Property | Test methods | Requirements* nominal thickness 45 mil |
|---------------------------------|------------------------------|--|
| Specific gravity | ASTM D 792 | 1.1 |
| Tensile properties | ASTM D 751 Method A | 125 |
| Tear resistance, lb | ASTM D 5884 Method B | 130 |
| Puncture resistance, lb | FTMS 101C Method 2031 | 45 |
| Ply adhesion, lb/in | ASTM D 413 Machine method | 7 |
| Low temperature brittleness, °F | ASTM D 1790 | < -45 |
| Seam properties | | |
| shear strength, lb/in** | ASTM D 751 | 35 |
| peel strength, lb/in*** | ASTM D 413 | 14 |

* All values, unless specified otherwise, are minimum average roll values as reported for the test method.

** At 200 percent strain.

*** Cohesive bond mode.

Table 594-7 Requirements for PVC liner

| Property | Test methods | Requirements ^a · nominal thickness · | |
|--|------------------------------|--|--------|
| | | 30 mil | 40 mil |
| Specific gravity | ASTM D 792 | 1.2 | 1.2 |
| Tensile properties | ASTM D 882 | | |
| break strength, lb/in | (MD and XD) | 73 | 97 |
| elongation at break, % | | 350 | 400 |
| Tear resistance, lb | ASTM D 1004 | 8.5 | 10.5 |
| Low temperature brittleness, °C | ASTM D 1790 | < -29 | < -29 |
| Dimensional stability, % (maximum) | ASTM D 1204 | 3 | 3 |
| Hydrostatic resistance, lb/in ² | ASTM D 751 Method A | 100 | 120 |
| Seam properties | ASTM D 6392/D 6214/D 4437 ** | | |
| shear strength, lb/in | | 58 | 77 |
| peel strength, lb/in | | 15 | 15 |

^a All values, unless specified otherwise, are minimum average roll values as reported for the test method.

MD Machine direction

XD Cross-machine direction

** ASTM D 6392 shall be used for thermally welded seams, D 6214 for chemically welded seams, and D 4437 for all other types.

Table 594-8 Requirements for unreinforced PP liner

| Property | Test methods | Requirements* nominal thickness | | |
|---------------------------------|------------------------------|------------------------------------|---------|---------|
| | | 30 mil | 40 mil | 60 mil |
| Specific gravity | ASTM D 792 | 0.90 | 0.90 | 0.90 |
| Tensile Properties | ASTM D 638 | | | |
| break stress, lb/in | (Type IV at 20 in/min) | 60 | 72 | 130 |
| break elongation, % | | 600 | 600 | 600 |
| Tear resistance, lb | ASTM D 1004 | 9 | 11 | 16 |
| Puncture resistance, lb | ASTM D 4833 | 28 | 35 | 65 |
| Carbon black content, % | ASTM D 1603 | 2-4 | 2-4 | 2-4 |
| Carbon black dispersion | ASTM D 5596 | Cat 1-2 | Cat 1-2 | Cat 1-2 |
| Low temperature brittleness, °C | ASTM D 1790 | <-40 | <-40 | <-40 |
| Seam properties | ASTM D 6392/D6214/D 4437 *** | | | |
| shear strength, lb/in | | 35 | 45 | 55 |
| peel strength, lb/in*** | | 20/FTB | 30/FTB | 40/FTB |

* All values, unless specified otherwise, are minimum average roll values as reported for the test method.

** ASTM D 6392 shall be used for thermally welded seams, D 6214 for chemically welded seams, and D 4437 for all other types.

*** Film tear bond: A failure of one of the bonded sheets by tearing prior to complete separation in the bonded area.

Table 594-9 Requirements for reinforced PP liner

| Property | Test methods | Requirements* --- nominal thickness --- | |
|---------------------------------|------------------------------|--|---------|
| | | 36 mil | 45 mil |
| Specific gravity | ASTM D 792 | 0.90 | 0.90 |
| Tensile properties | ASTM D 751 Method A | 225 | 225 |
| Tear resistance, lb | ASTM D 5884 Method B | 55 | 75 |
| Puncture resistance, lb | FTMS 101C Method 2031 | 200 | 250 |
| Ply adhesion, lb/in | ASTM D 413 Machine Method | 20 | 20 |
| Carbon black content, % | ASTM D 1603 | 2-4 | 2-4 |
| Carbon black dispersion | ASTM D 5596 | Cat 1-2 | Cat 1-2 |
| Low temperature brittleness, °C | ASTM D 2136 | < -40 | < -40 |
| Seam properties | | | |
| shear strength, lb/in | ASTM D 751 | 160 | 200 |
| peel strength, lb/in** | ASTM D 413 | 20/FTB | 20/FTB |

* All values, unless specified otherwise, are minimum average **roll values** as reported for the test method.

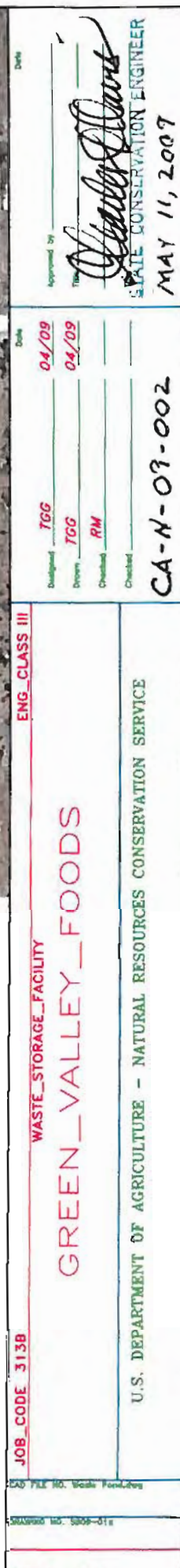
** Film tear bond: A failure of one of the bonded sheets by tearing prior to complete separation in the bonded area.

Engineering Plans

Vicinity Map - NTS

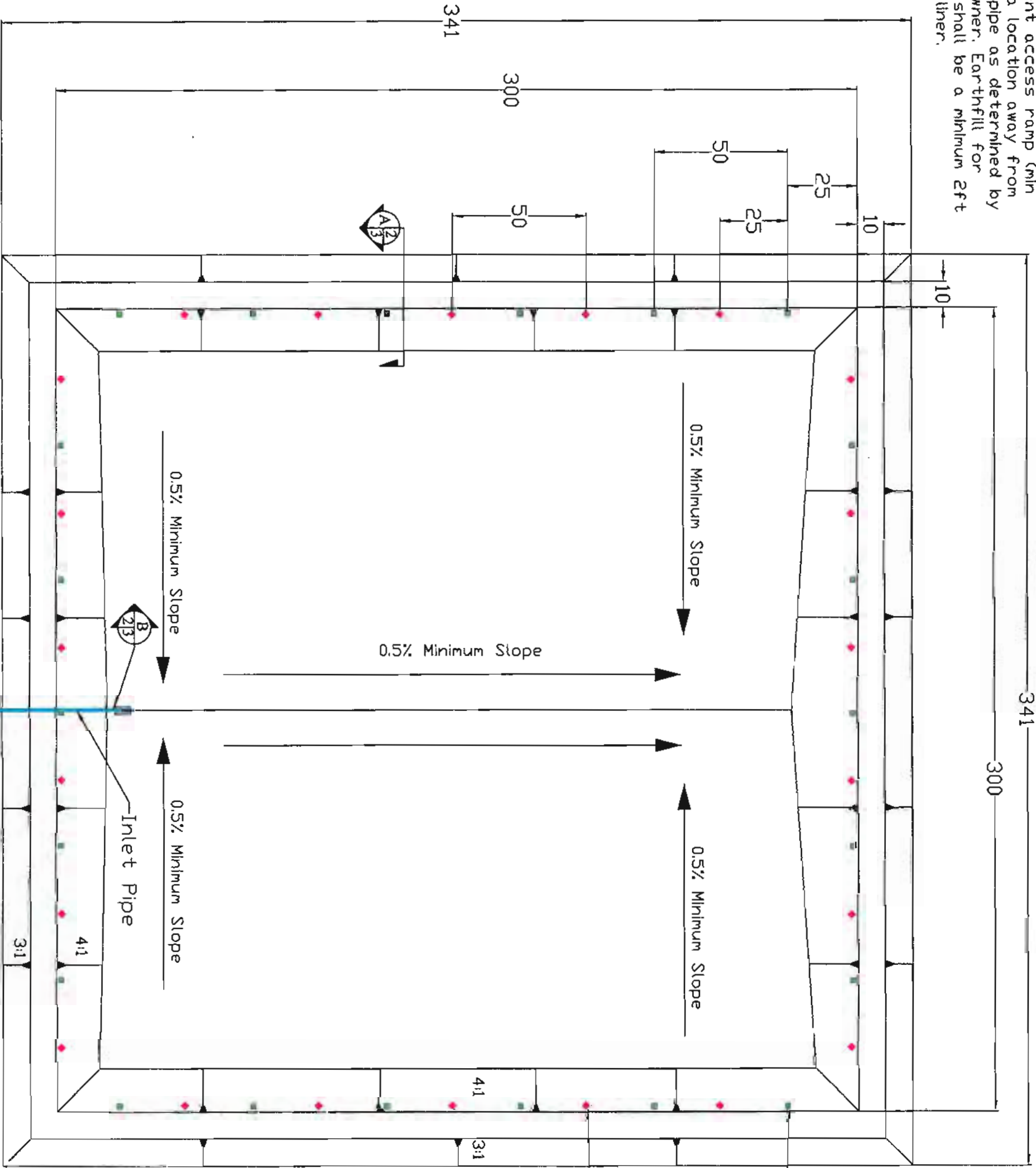
This vicinity map shows the location of the Site, marked by a red square. The Site is situated near the intersection of Highway 47 and Highway 100, south of the Columbia Lake. The map includes a north arrow and various geographical features like lakes and roads. Key locations labeled include Columbia Lake, Highway 47, Highway 100, and various smaller roads and landmarks such as the Columbia River, Highway 100, and the Columbia River. The map also shows the location of the Site relative to the Columbia River and the Columbia Lake.

- 1) The construction of the pond and liner shall be overseen for Quality Assurance according to the NRCS Inspection / Testing Plan.
- 2) All construction shall be in accordance with attached specifications: Waste Storage Facility (313B), Pond (378), Pond Sealing or Lining-Flexible Membrane (521A), Earthfill (903), Geotextile Fabric (905), and Rock Riprap (907).
- 3) Landowner shall be responsible for obtaining needed permits, easements and right-of-ways, and for meeting all legal requirements.
- 4) Landowner shall be responsible for locating and protecting all utilities. Special safety precautions are to be taken when working in the vicinity of gas, oil or electrical lines. Underground Service Alert shall be notified by calling 1-800-227-2600 a minimum of two working days before any excavation or trenching occurs.
- 5) Contact the Natural Resources Conservation Service by calling 760-843-6882x3 at least seven days prior to the beginning of construction.

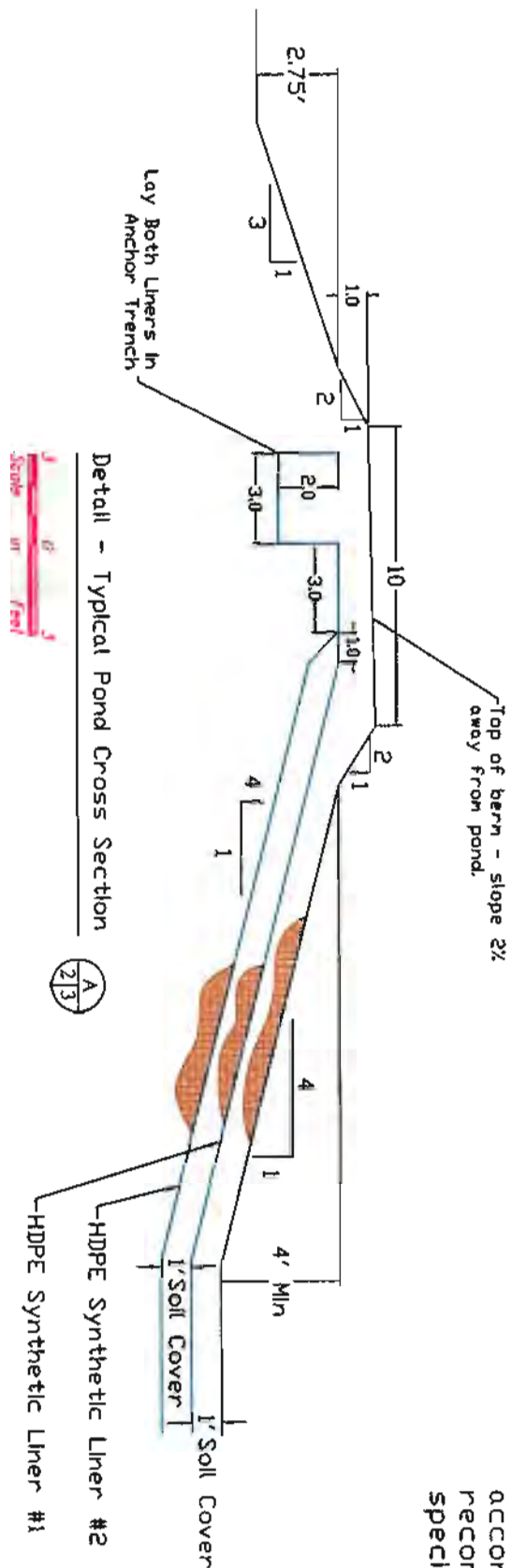


CRASH FILE NO. 5805-01

Note: Contractor to Construct a permanent access ramp (min 20ft) at a location away from the inlet pipe as determined by the landowner. Earthfill for the ramp shall be a minimum 2ft over the liner.



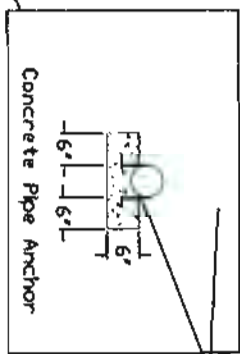
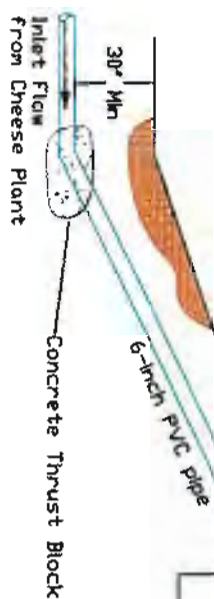
Pond Plan View



Note: Liners to be installed in accordance with manufacturer recommendations and NRCS specification 521-A.

Note: All PVC pipe attached to existing waste transfer line shall be minimum schedule 80. All exposed PVC pipe to be painted with a light colored latex paint (two coats).

Build road up higher where inlet pipe crosses for at least 1' cover



Embed Galvanized or Stainless Steel ties into non-reinforced concrete anchor block. Ties to be either 1/2-inch smooth diameter rods or 1-inch wide x 8 inch thick bands.

Note: Labeling on markers shall be a minimum 2-inch font, bold lettering and painted red.

Paint a 'TOP OF LINER' Marker on pipe. NOT EXCEED Marker on pipe.

Angle PVC pipe up towards vent

2' Air Vent



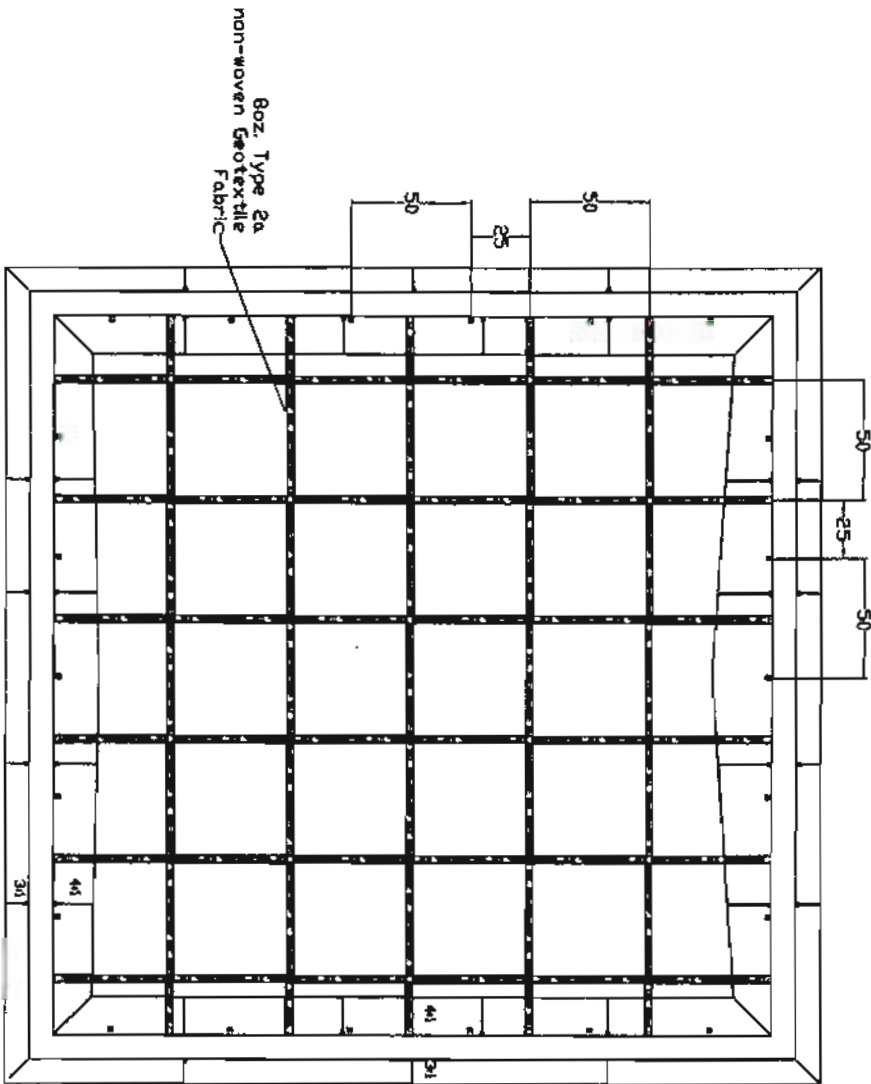
B

| Rock Riprap or Clean Concrete Rubble Gradation to be: | Percent Passing |
|---|-----------------|
| 12 inch | 100% |
| 9 inch | 50% |
| 6 inch | 25% |
| 3 inch | 5% |

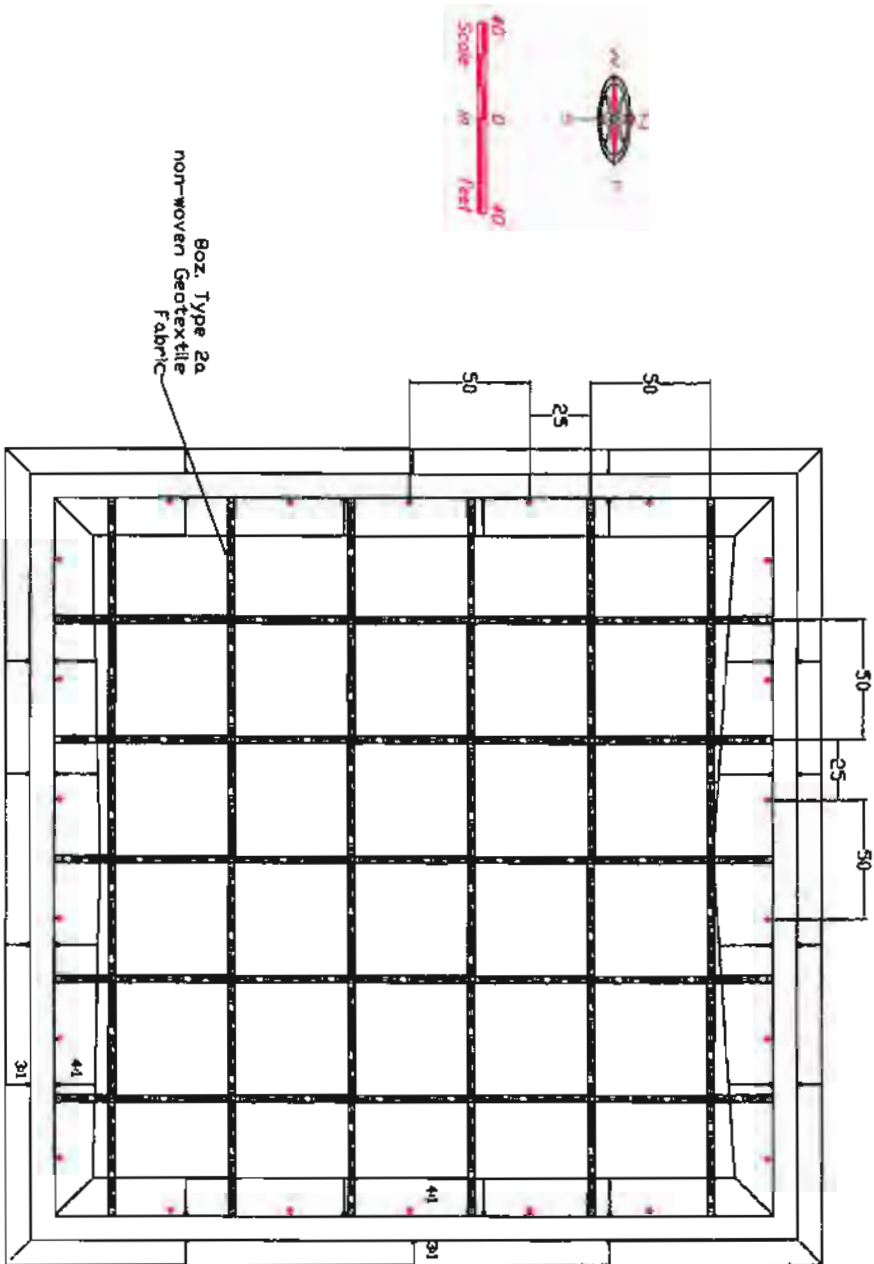
8oz Type 2a Non-woven Geotextile Fabric Under Rock Riprap

Note: Geotextile strips shall be a minimum of 3ft wide and shall be centered on the vents.

Synthetic Liner No. 1



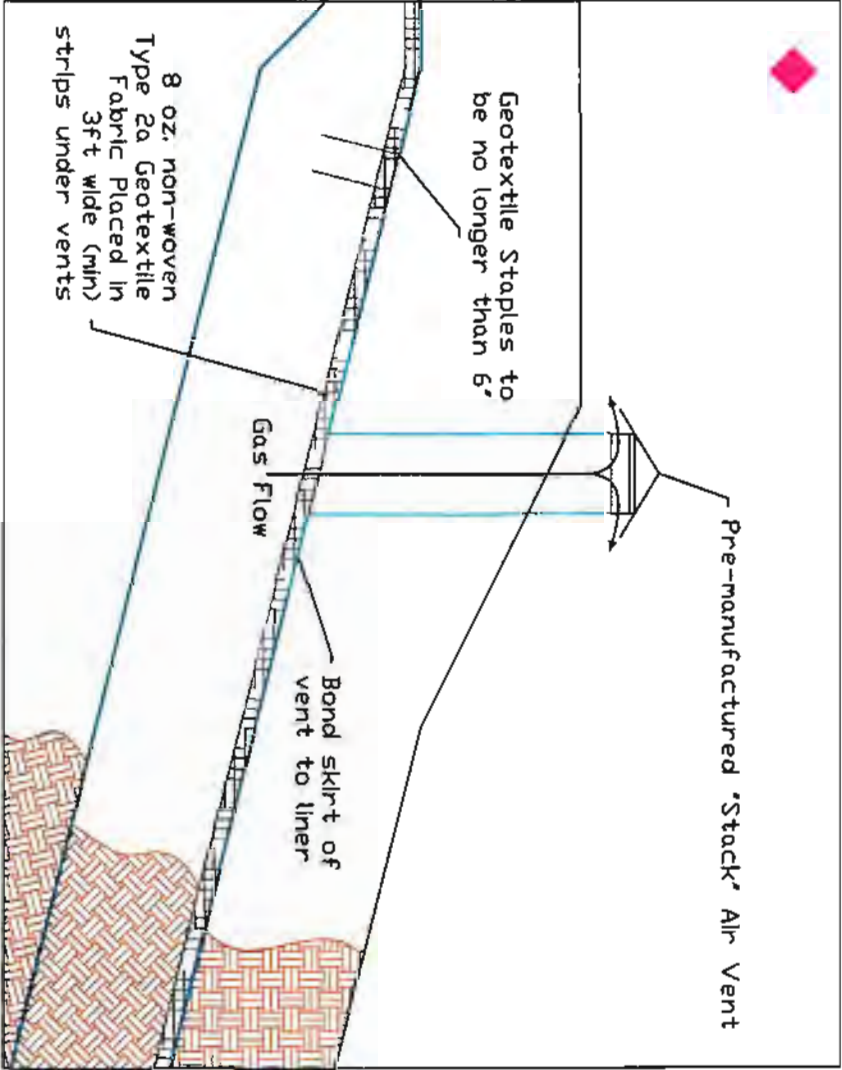
Synthetic Liner No. 2



Detail - Vent Geotextile Padding Layout



Note: Install All Vents According to Manufacturer Recommendations

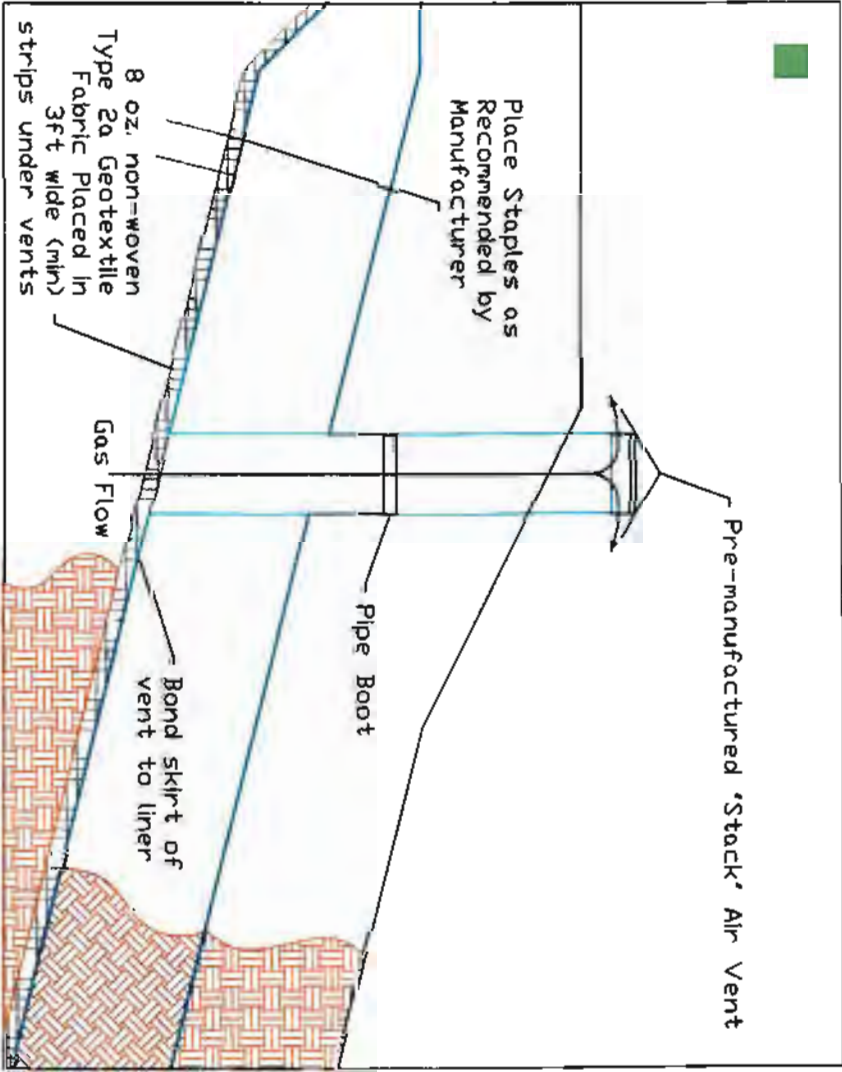


Detail - Typical top liner vent

Synthetic Liner #1

Not to scale

C
2/5



Detail - Typical bottom liner vent

Synthetic Liner #2

Not to scale

D
2/5

EXHIBIT NO. 4



Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board Lahontan Region

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • Fax (760) 241-7308
<http://www.waterboards.ca.gov/lahontan>



Arnold Schwarzenegger
Governor

July 2, 2009

WDID No. 6B360704003

Hector S. Huerta, Owner
Green Valley Foods
25684 Community Boulevard
Barstow, CA 92311

COMMENTS ON THE DESIGN OF THE SURFACE IMPOUNDMENT PROPOSED FOR THE GREEN VALLEY FOODS CHEESE PROCESSING PLANT, BARSTOW, SAN BERNARDINO COUNTY

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received your proposed design for the surface impoundment to be constructed at Green Valley Foods Cheese Processing Facility on May 26, 2009. The proposed design plan, Drawing and Specifications, dated May 11, 2009, was prepared by the National Resources Conservation Service (NRCS) and submitted in response to Water Board staff's determination on October 10, 2008, that the discharge from Green Valley Foods is characterized as a designated waste per California Water Code (CWC) section 13173(b), and must be contained in a surface impoundment compliant with California Code of Regulations (CCR), title 27, section 20210. Water Board staff reviewed the above-referenced plan and finds the design to be inadequate because the plan fails to meet the requirements set forth in CCR, title 27.

Proposed Design Plan

The discharge from Green Valley Foods has been characterized per CWC section 13173(b) as a designated waste. As such, the discharge must be contained in a Class II surface impoundment, compliant with CCR, title 27, section 20210. Per CCR, title 27, section 20375, Table 4.1, Construction Standards, a Class II surface impoundment for designated waste must be designed with a leachate collection and removal system (LCRS), and must have sufficient capacity to contain a 1,000 year, 24-hour precipitation event. The submitted design does not include an LCRS. Furthermore, page 3, Design Report, states that the surface impoundment was designed to contain a 25-year storm event. This is insufficient to meet the requirements of a Class II surface impoundment, as stated above.

In the Engineering Calculations section, Dairy Waste Storage Pond Design, the cross section shown on page 2 of 3 does not match the design cross-section on sheet 3 of 5 shown in the Engineering Plans section. The Engineering Calculations cross-section drawing on page 2 of 3 indicates a total depth of 4 feet with 2 feet of freeboard.

California Environmental Protection Agency

Recycled Paper



The Engineering Plans cross-section drawing on sheet 3 of 5 indicates a total depth of 5 feet, with only 1 foot of freeboard. Given the CCR, title 27, section 20375, requirement to maintain at least 2 feet of freeboard, the apparent discrepancy between these two cross sections needs to be resolved.

Using the design presented on sheet 3 of 5, and the discharge, precipitation, and evaporation volumes presented in Pond Design Factors, Water Board staff calculated the total volume of the Impoundment. Based on these design specifications, our calculations show that the Impoundment will never be dry. However, the Design Report, Summary, page 2, asserts that "the pond should dry out every summer by September." If the Impoundment does not dry out, the solids cannot be removed; thus the overall capacity of the Impoundment will be incrementally reduced over time, and the discharge volume will need to be reduced to maintain the 2-foot freeboard as required in CCR, title 27, section 20375.

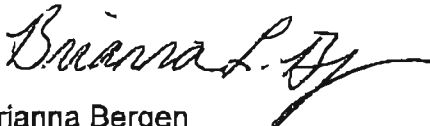
Additional Information

Because the work plan submitted is inadequate, please provide a revised plan incorporating the requirements for a Class II surface impoundment to contain designated waste in accordance with CCR, title 27, no later than **July 20, 2009**, so that they may be incorporated into the proposed Waste Discharge Requirements.

Additional comments on the proposed design plan are attached.

We look forward to assisting you in your project in a manner that protects water quality. If you have any questions regarding this letter, please contact me at (760) 241-7305 (bbergen@waterboards.ca.gov) or Patrice Copeland, Senior Engineering Geologist at (760) 241-7404 (pcopeland@waterboards.ca.gov).

Sincerely,



Brianna Bergen
Engineering Geologist

Enclosure: Additional Comments on the Proposed Design Plan

cc w/enc: John Stamford, Driscoll & Associates
Rick Aguayo, NRCS, Victorville
Travis Godeaux, NRCS, Victorville
Charles Davis, PE, NRCS, Davis
Dan Johnson, NRCS, Davis

U://PATRICE UNIT/Brianna/Green Valley Foods/GVF SI Comments_PJC

ENCLOSURE

Additional Comments on the Proposed Design Plan

1. As this project will result in land disturbance greater than one acre, a General Stormwater Permit for Construction Activities will need to be obtained.
2. Because the surface impoundment will be constructed in an area identified to be desert tortoise habitat, this structure should be fenced or otherwise protected or enclosed to mitigate against the potential to impact desert tortoise.
3. Utility Check Sheet: both the person preparing this sheet (Rick Aguayo) and the landowner or operator should sign this page.
4. Practice Approval: the landowner or operator should sign this page acknowledging acceptance of the design plans.
5. Practice Specifications 313 and 313B indicate a 10-year lifespan for the structure. Practice Specification 521A indicates an estimated lifespan of 20 years. Form 521A indicates an estimated lifespan of 5 years.
6. Practice Specification 313B, section VII, Waste Storage Facility-Pond, and Practice Specification 378-Pond, section IX, Fencing, indicate fencing shall conform to the requirements of Practice Specification 382, Fences. Fences were not shown on the drawings, but should be included as this is in an area with the potential to impact desert tortoises. As such, fences should be included on the drawing and Practice Specification 382 should be included.
7. Practice Specification 313B, section VIII; Practice Specification 521A, section XI; and Practice Specification 903, section IX, Vegetative Cover, indicate that a protective vegetative cover shall be established on disturbed areas, and the planting of vegetative materials shall conform to Practice Specification 342. However, Practice Specification 342 was not provided. Please provide Practice Specification 342 for vegetative cover.
8. Practice Specification 313B, section X, Construction Operations, Operation and Maintenance Items, indicates "this waste storage pond was designed and installed to provide temporary storage of animal waste." This structure should be a surface impoundment designed in accordance with CCR, title 27, section 20210 to contain designated waste.
9. Practice Specification 378, section XI, Construction Operations, Operation and Maintenance Items indicate "this structure was designed and installed to entrap and provide storage to runoff water for beneficial use." This structure should be designed to divert runoff from a 100-year storm and be able to contain storm water from a 1,000-year 24-hour event in addition to the discharge, characterized as a designated waste according to CWC section 13173(b), from the facility's activities.

10. The plans call for 40 mil HDPE liners. Material Specification 594-Flexible Membrane Liner, Tables 594-1 and 594-2, identify requirements for smooth and textured HDPE liners, respectively. Please specify whether a smooth or textured liner is to be used.
11. Practice Specification 907-Rock Riprap, section II, Materials, specifies rock and sieve sizes different than what is specified on sheet 3 of 5. Please clarify which rock size will be used for the riprap.

EXHIBIT NO. 5

GREEN VALLEY FOODS

25684 Community Boulevard

Barstow, CA 92311

Tel: 760-964-1105

6/194
CRWQCB REG

| | |
|-------|----------------------|
| REC'D | RECEIVED JUN 23 2010 |
| BB | |
| | |
| | |
| FILE | |

July 22, 2010

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

14440 Civic Drive, Suite 200

Victorville, CA 92392

ATTN: Brianna Bergen

Dear Brianna,

Enclosed is the supplemental drawings and specifications for our Class II Impoundment along with answers to staff's prior comments.

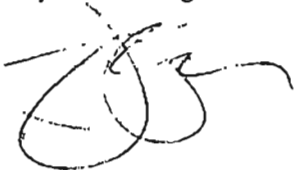
Also enclosed is the requested Leachate Collection and Removal System design by Lockwood Engineering.

You are receiving one original and one copy of each of the above documents.

If you have any questions, please feel free to contact me directly.

By and For Hector Huerta
GREEN VALLEY FOODS PRODUCTS, INC.

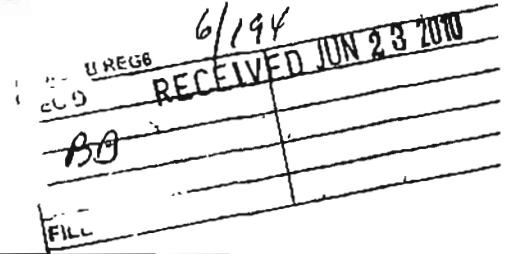
John Stamford
Project Manager



JA:vj



Natural Resources Conservation Service
California State Office
430 G Street, Room 4164
Davis, CA 95616
(530) 792-5600
(530) 792-5790 (Fax)



Hector S. Huerta
Green Valley Foods
25684 Community Blvd.
Barstow, CA 92311

March 25, 2010

Dear Mr. Huerta,

The following items (attached) have been assembled to supplement the Drawings and Specifications docket prepared for your facility in April 2009 in response to the Lahonton Regional Water Quality Control letter dated July 7, 2009:

- NRCS's responses to the Regional Board letter
- Updated Practice Requirement sheets
- Updated Operation and Maintenance sheets
- Low Evaporation / High Rainfall Emergency Response Plan
- Supplemental Drawings and Calculations (S-1 to S-3)
- Pond seasonal waste/evaporation water balance
- Source of 1,000 year 24 hour storm precipitation data at the 90% confidence interval
- Revised waste storage calculations incorporating pond bottom prism volume
- Flood zone map for your property

As a reminder, you will need to submit the leachate collection and removal system (LCRS), designed by your consultant, Lockwood Engineering, to the Regional Board as part of the project. The Region Board will likely require that Lockwood Engineering sign and seal the LCRS design/plans.

Sincerely,

Charles K. Davis P.E.

CHARLES K. DAVIS





Natural Resources Conservation Service
Somis Field Office
3380 Somis Road, PO Box 260
Somis, CA 93066
(805) 386-4489
(805) 386-4890 (Fax)

January 21, 2010

Hector S. Huerta
Green Valley Foods
25684 Community Blvd.
Barstow, CA 92311

Dear Mr. Huerta,

This letter addresses the issues identified by the California Regional Water Quality Control Board Lahontan Region in their letter to you dated 7-2-09.

Comments on the Design of the Surface Impoundment Proposed for the Green Valley Foods Cheese Processing Plant, Barstow, San Bernardino County

Issue #1 - The surface impoundment was not designed with a Leachate Collection and Removal System.

Response #1 - The Leachate Collection and Removal System has been designed by Lockwood Engineering and has been included in this supplemental package.

Issue #2 - The surface impoundment must have sufficient capacity to contain a 1000 year 24 hour storm event.

Response #2 - NRCS had originally designed the capacity of the pond to contain a 25 year 24 hour storm event, but for the simplicity of calculations, the design volume assumed a flat bottom on the pond. However, as shown in the drawings, the pond has a sloped prism shaped area which is meant to drain the water to a low point. The volume of this area has been calculated on the supplemental volume calculation page and has been incorporated into the total capacity of the pond. With this additional area credited to the total capacity, the pond will be able to contain normal rainfall, normal facility water use and a 1000 year 24 hour storm event as currently designed.

Issue #3 - The Water Board believes there is a discrepancy between the cross sectional area listed in the Engineering Calculations section and the Engineering Plans.

Response #3 - The engineering calculations and the Engineering Plans correspond correctly to each other. Typical Pond Cross Section - "Detail A" on page 3 of 5 matches the Engineering Calculations cross section on page 2 of 3. The 1ft soil layer on top of the berm is not part of the storage containment, but is simply for vehicle traffic and protection of the liner. The height of pond (Hp) identified in the Engineering Calculations section is the same as the 4ft dimension from the

United States Department of Agriculture



Natural Resources Conservation Service
Somis Field Office
3380 Somis Road, PO Box 260
Somis, CA 93066
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base of the pond to the elevation of the top of the liner. "Detail A" does not comment on where the freeboard mark is located. "Detail B" shows a mark which says "TOP FILL LIMIT – DO NOT EXCEED." This mark functions to identify the 2ft freeboard mark. This mark is placed 2ft below the top of the liner, thus it corresponds exactly with the calculations worksheet.

Issue #4 – The Water Board states their staff made calculations on the total volume of the impoundment and these calculations show that the pond will never be dry.

Response #4 – The calculations on the evaporation of the pond were made according to the requirements of the Agricultural Waste Management Field Handbook (AWMFH) chapter 10 Appendix 10c. The methods listed in this resource are scientifically based and accepted methods for estimating pond volume requirements. Since no errors were shown in the NRCS calculations, nor was an objection raised as to method of calculation, NRCS believes the calculations are legitimate. In case of an abnormally wet year, an emergency response plan has been created to safely dispose of excess liquid waste in a safe manner.

Additional Comments

In addition to the above comments, the Water Board included additional comments in their letter. Each comment will be addressed below.

Comment #1 – As this project will result in land disturbance greater than one acre, a General Stormwater Permit for Construction Activities will need to be obtained.

Response #1 – As indicated on the signature page of the Practice Requirements, the landowner is responsible for obtaining all necessary permits.

Comment #2 – Because the surface impoundment will be constructed in an area identified to be desert tortoise habitat, this structure should be fenced or otherwise protected or enclosed to mitigate against the potential to impact desert tortoise.

Response #2 – Supplemental drawings showing the location and construction details of the tortoise fence have been included.

Comment #3 – Utility Check Sheet: both the person preparing this sheet (Rick Aguayo) and the landowner or operator should sign this page.

Response #3 – This page was signed by Mr. John Stamford (representative for Mr. Huerta), copy to be provided to Mr. Huerta.

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Somis Field Office
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(805) 386-4890 (Fax)

Comment #4 – Practice Approval: the landowner or operator should sign this page acknowledging acceptance of the designed plans.

Response #4 – This page was signed by Mr. John Stamford (representative for Mr. Huerta), copy to be provided to Mr. Huerta.

Comment #5 – Practice Specifications 313 and 313B indicate a 10-year lifespan for the structure. Practice Specification 521A indicates an estimated lifespan of 20 years. Form 521A indicates an estimated lifespan of 5 years.

Response #5 – The actual language in the practice specifications says “at least XX years”. Practice Specifications are generic to a variety of projects. The language used in these specifications are minimum values for each practice to meet NRCS requirements. This does not negate the fact that many of these practices when properly installed and maintained will have life spans much longer than the specified minimum.

Comment #6 – Practice Specification 313B, Section VII, Waste Storage Facility – Pond, and Practice Specification 378 – Pond, section IX, Fencing, indicate fencing shall conform to the requirements of Practice Specification 382, Fences. Fences were not shown on the drawings, but should be included as this is an area with potential to impact desert tortoises. As such, fences should be included on the drawing and Practice Specification 382 should be included.

Response #6 – Fences as mentioned in the 378 and 313B specifications are normally placed around ponds for protection against entrance from livestock or humans and are not applicable to a tortoise fence. The Tortoise fence shall be constructed according to the supplemental drawings.

Comment #7 – Practice Specification 313B, section VIII; Practice Specification 521A, section XI; and Practice Specification 903, section IX, Vegetative Cover, indicate that a protective vegetative cover shall be established on disturbed areas, and the planting of vegetative materials shall conform to Practice Specification 342. However, Practice Specification 342 was not provided. Please provide Practice Specification 342 for vegetative cover.

Response #7 – According to the specifications, vegetative covers are not required when otherwise specified. The 313B Practice Requirement has been updated to indicate that a vegetative cover will not be required on this project.

Comment #8 – Practice Specification 313B, section X, Construction Operations, Operation and Maintenance Items, indicates “this waste storage pond was designed and installed to provide temporary storage of animal waste.” This structure should be a surface impoundment designed in accordance with CCR, title 27, section 20210 to contain designated waste.

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Response #8 – Practice specifications are generic to a variety of projects. The fact that the storage impoundment was designed to meet requirements of an animal waste storage facility does not mean that it will therefore not meet requirements of CCR title 27, section 20210.

Comment #9 – Practice Specification 378, Section XI, Construction Operations, Operation and Maintenance Items indicate “this structure was designed and installed to entrap and provide storage to runoff water for beneficial use.” This structure should be designed to divert runoff from a 100-year storm and be able to contain storm water from a 1,000-year 24-hour event in addition to the discharge, characterized as a designated waste according to CWC section 13173(b), from the facility’s activities.

Response #9 – Operation and Maintenance worksheets contain some generic information applicable to a variety of projects. The fact that this system was design according to standards which are applicable to ponds collecting runoff for beneficial use does not mean this particular design will be used for that purpose.


Comment #10 – The plans call for 40 mil HDPE Liners. Material Specification 594-Flexible Membrane Liner, Tables 594-1 and 594-2, identify requirements for smooth and textured HDPE liners, respectively. Please specify whether a smooth or textured liner is to be used.

Response #10 – Either a smooth or a textured liner installed according to NRCS standards and specifications will be acceptable. The landowner may choose between these options. This has been indicated in the updated 313B Practice Specification.

Comment #11 – Practice Specification 907-Rock Riprap, section II, Materials, specifies rock and sieve sizes different than what is specified on sheet 3 of 5. Please clarify which rock size will be used for the riprap.

Response #11 – The Practice Specification 907-Rock Riprap actually reads “the rock shall conform to the grading limits given below unless otherwise specified on the Practice Requirement sheet.” The Practice Requirement sheet 313B, under section 4 - Special Requirements, section 907 reads “the rock riprap shall conform to the grading shown on the drawings.”

I hope these responses to the Water Board’s comments are helpful in moving your project forward. Please remember that some of the issues identified by the Water Board must be addressed by a qualified third party.

Sincerely, 

Travis Godeaux, NRCS FO Engineer

U.S DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
CALIFORNIA

PRACTICE REQUIREMENTS
FOR
313B – WASTE STORAGE FACILITY - POND

For: Business Name Green Valley Foods
Job Location 25684 Community Blvd. Barstow, CA 92311
County San Bernardino RCD Mojave Desert RCD Farm/Tract No. 49 / 563
Referral No. _____ Prepared By TGG Date 1-20-10

IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO OBTAIN ALL NECESSARY PERMITS AND/OR RIGHTS, AND TO COMPLY WITH ALL ORDINANCES AND LAWS PERTAINING TO THIS INSTALLATION.

Installation shall be in accordance with the following drawings, specifications and special requirements. NO CHANGES ARE TO BE MADE IN THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF THE NRCS TECHNICIAN.

1. Drawings, No. SB09-01, sheets 1 to 5 and S-1 to S-3 Lockwood Engineering LCRS Sheet 1 of 1 (1-15-10)
2. Practice Specifications 378, 521a, 903, 905, 907
3. Earthfill Compaction by Method: Method 4 per section VI of the 903 Specification
4. Special Requirements: 521a – The liner shall be handled and installed according to manufacturer recommendations and NRCS specifications. In case of a conflict between these two requirements the more restrictive requirement will apply. The HDPE liner shall be a minimum 40 mil. The liner may be either smooth or textured as directed by the landowner. All materials shall conform to NRCS Material Specification 594 of part 642 of the National Engineering Handbook and all manufacturer recommendations. The delivery and installation of the liner shall be overseen for quality assurance according to the testing / inspection plan attached in this docket. 313b - A marking system shall be installed in the pond to indicate the 2ft freeboard mark and the top of liner mark. This shall be accomplished either by painting marks on the inlet pipe or by setting a free standing marker in the pond. All PVC pipes exposed to sunlight shall be painted with a UV resistant latex paint. The Leachate Collection and Removal System shall be installed according to the Lockwood Engineering drawings and analysis. A tortoise fence, conforming to the supplemental drawings SB09-01 S-1 to S-2, shall be constructed and in place prior to construction of the waste storage facility. A vegetative cover will not be required on this project. 905 – The geotextile padding used to collect and transport gases to the airvents shall be at least three feet wide and centered on the vents. For ease

of installation, these strips may be the width of an entire geotextile fabric roll. The fabric needs to be pinned according to manufacturer recommendations except that no staples longer than 6 inches shall be used above the synthetic liner. 907 – The rock riprap shall conform to the gradation shown on the drawings. In lieu of rock riprap, clean concrete rubble, free of rebar and asphalt, may be used.

5. Special Maintenance Requirements: See attached Operations and Maintenance sheet

PRACTICE APPROVAL:

Job Classification: (Ref: Section 501 NEM)

Show the limiting elements for this job. This job is classified as, Class III

| Limiting elements: | Units |
|-------------------------|--------------------------------|
| <u>Storage X Height</u> | <u>2.62</u> ac-ft ² |
| <u>Head on lining</u> | <u>4</u> ft |

Design Approved by: Charles Davis P.E. Date: 3-25-2010

LANDOWNER'S/OPERATOR'S ACKNOWLEDGEMENT:

The landowner/operator acknowledges that:

- He/she has received a copy of the construction drawings and specification, and that he/she has an understanding of the contents, and the requirements.
- He/she has obtained all the necessary permits.
- No changes will be made in the installation of the job without prior concurrence of the NRCS technician.
- Maintenance of the installed work is necessary for proper performance during the project life.

Accepted by: _____ Date: _____

PRACTICE COMPLETION:

I have made an on site inspection of the site (or I am accepting owner/contractor documentation), and have determined that the job as installed does conform to the drawings and practice specifications.

Completion Certification by:

/s/ _____ Date _____

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

313 - WASTE STORAGE FACILITY
OPERATION AND MAINTENANCE

Sponsor/Land user: Green Valley Foods Date: 1-20-10

Address: 25684 Community Blvd. Barstow, CA 92311

Location GPS Coordinates Map Datum: _____ E _____ N _____

Quad Sheet Name _____ SEC _____ T _____ R _____

A properly operated and maintained waste storage structure is an asset to your farm. This waste storage structure was designed and installed for temporary storage of animal waste. The estimated life span of this installation is at least 10 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

GENERAL RECOMMENDATIONS

- Do not allow human entry to any enclosed structure without safety equipment that includes ladders and breathing apparatus. Maintain appropriate warning signs.
- Safety stations should be inspected twice a year. Safety items such as ropes, ladders and swim rings should be replaced as necessary.
- Do not allow the operation of any equipment that exceeds the design load limit on or within twenty feet of the structure.
- Maintain all pumps, agitators, piping, valves and all other electrical and mechanical equipment in good operating condition by following the manufacturer's recommendations. Repair as necessary.
- Maintain grounding rods and wiring for all electrical equipment in good condition.
- Inspect haul roads and approaches to and from the waste storage facility frequently to determine the need for stabilizing materials.
- A thorough inspection of pond liners and concrete sumps, pits, walls, ramps, and floors for damage, separation and/or cracks should be made each time the pond is emptied. Repair any damage prior to refilling the pond.
- Do not dispose of dead animals, greases, syringes, or other non-animal waste products in the facility.
- All fences, railings, and/or warning signs shall be maintained to prevent unauthorized human or livestock entry.

- Annually inspect pond for damage from normal use. At no more than 3 to 6 month intervals open and close gates and valves to assure proper function. Immediately remove any blockage or obstructions and repair any damage.
- Inspect inlet, embankments and outlets after heavy rains for possible damage. Promptly repair any damage.
- Annually inspect the downstream toe of the embankment. If there are wet areas or seeps, contact the local NRCS office for additional assistance.
- Maintain vigorous growth of vegetative coverings. This includes reseeding, fertilization, and application of herbicides when necessary. Periodic mowing may also be needed to control height.
- Fill rills and gullies that occur on the embankments and/or spillway and re-vegetate.
- Maintain a grass filter strip around the perimeter of the pond to trap sediment.
- If fences are installed, they shall be maintained to prevent unauthorized or livestock entry.
- Immediately repair any vandalism, vehicular, or livestock damage.
- Repair spells, cracks and weathered areas in concrete surfaces.
- Repair or replace rusted or damaged metal and paint.
- Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.
- Remove woody vegetation from embankments.
- Avoid excessive travel on any portion of the system that will harm or destroy the vegetative cover.
- Apply insecticides for insect control as per manufacturer's recommendations and precautions, as needed.
- Operate system in a manner to minimize odors and air drift.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE

In order to clean sediments, use only small ATVs or other similar equipment combined with hand labor to remove accumulated solids. Do not dig into the soil cover with any heavy equipment. Inspect the pipe inlets and outlets regularly to see if they are functioning correctly and repair as needed. Maintain a silt fence around the perimeter of the pond in order to reduce soil which may blow over the embankment. If the pond has not dried out to the toe of the western berm by August 1st each year, the water use should be reduced or an arrangement made with a company which transports and disposes of industrial waste (See emergency response plan).

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR WASTE STORAGE FACILITY.

Green Valley Foods
25684 Community Blvd.
Barstow, CA 92311

Low Evaporation / High Rainfall Emergency Plan

Basic Strategy:

If the pond has not evaporated to the point that the water level is below the toe of the inside western slope by August 1st, the operator needs to consider reducing the water input into the pond or hiring a company to transport and dispose of excess liquid waste. It is predicted that for every 10% above normal rainfall, a water use reduction of 15% for the months of August and September could offset the difference to the pond. If the water use in the cheese plant is not able to be reduced so that the pond may be empty by September 1st, a company qualified to transport and treat the waste shall be hired to pump the remaining liquid.

Contacts for wet year help and information:

Express Environmental Corporation – 818-700-7935

Liquid Environmental Solutions – 1-866-694-7327

NRCS – 1-760-843-6882

California Regional Water Quality Control Board – 1-760-241-6583

Contacts to report a problem:

NRCS – 1-760-843-6882

California Regional Water Quality Control Board – 1-760-241-6583

Proposed Waste
Storage Pond



Tortoise Fence
Layout - NTS

FILE NAME
Waste Ponding
DRAWING NUMBER
S809-01b

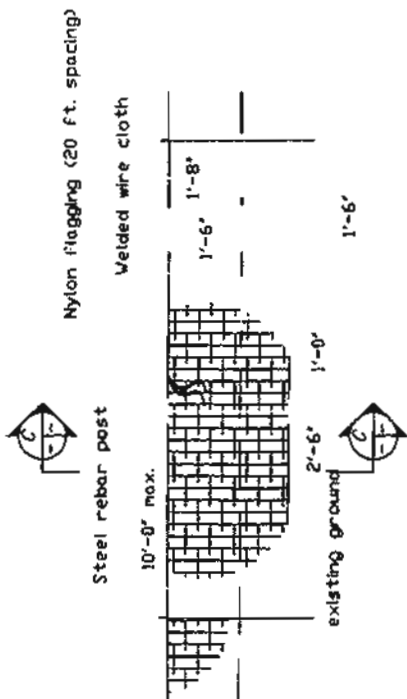


JOB CODE 313 B
Waste Storage Facility - Supplemental Drawings
Tortoise Fence Map
Green Valley Foods
San Bernardino County

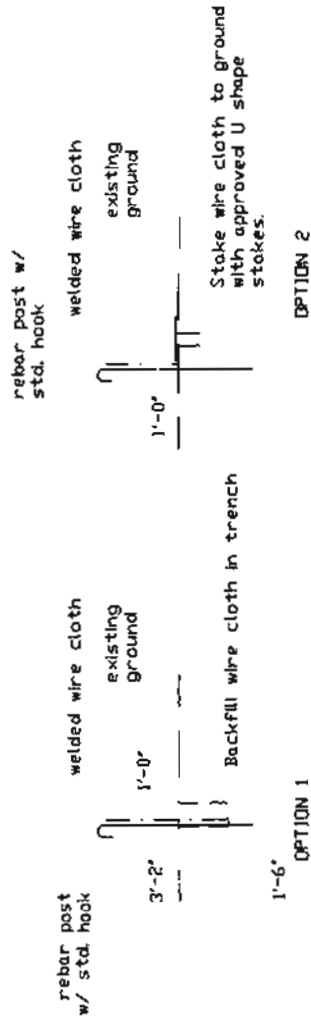


Date
07/09
Designed TG
Drawn TG
Checked BM
Approved Charles K. Davis 3/25/10

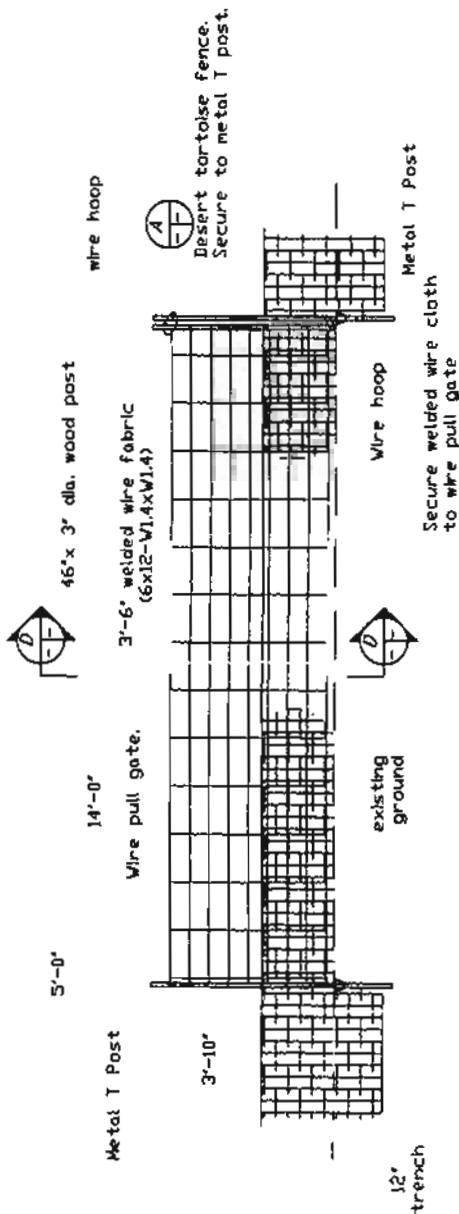
Tortoise Fence Details - NTS



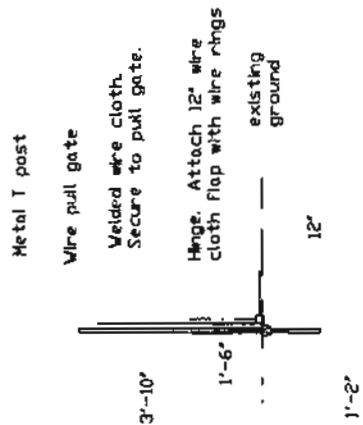
TORTOISE FENCE DETAILS - ELEVATION



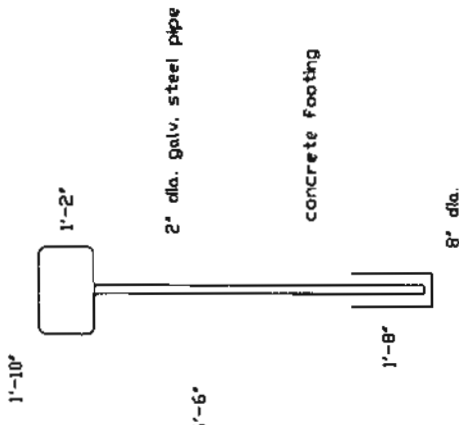
TORTOISE FENCE DETAILS - SECTION



PULL GATE - ELEVATION



PULL GATE - SECTION



CAUTION SIGNS



CAUTION
DESERT
TORTOISE
FENCE

Waste Storage Facility - Supplemental Drawings
Tortoise Fence Details
Green Valley Foods
San Bernardino County

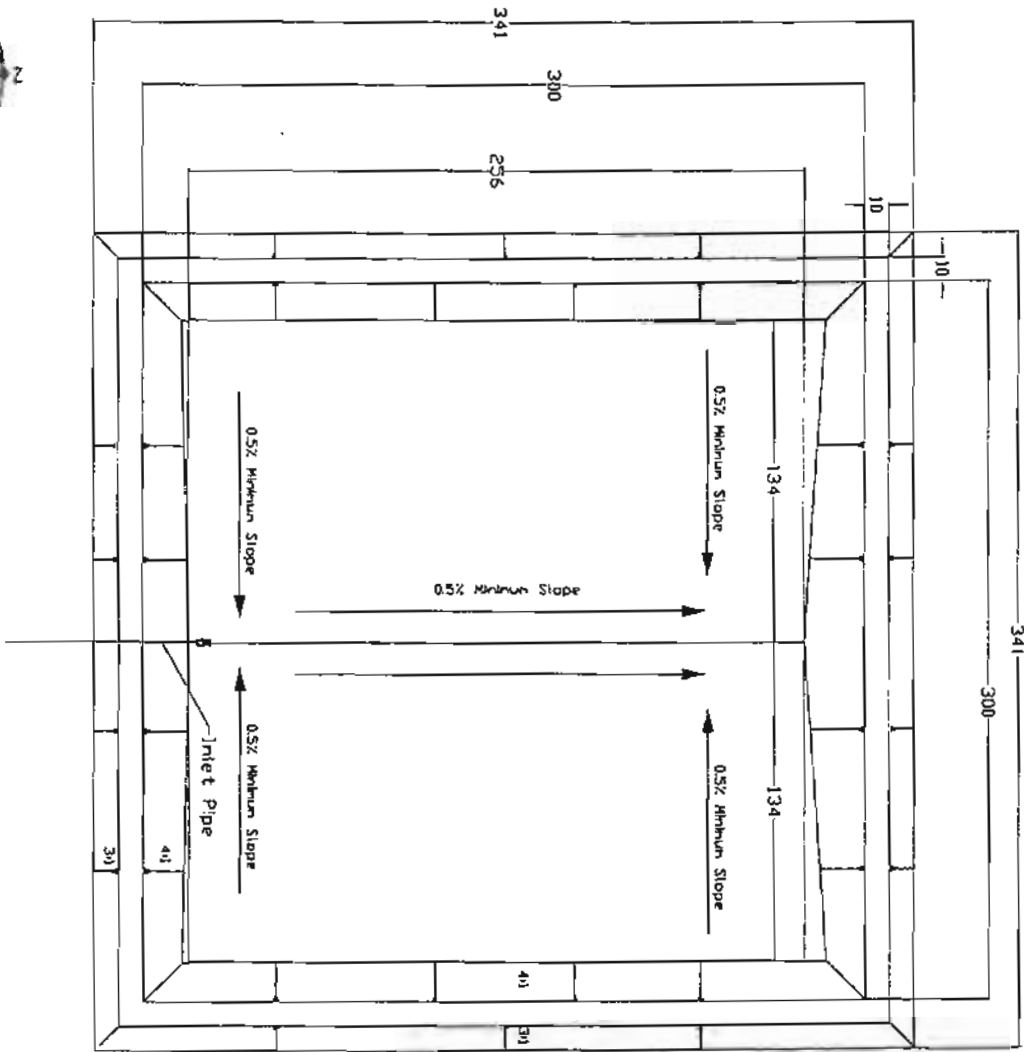


DESIGNED: TG
DRAWN: TG
CHECKED: TG
APPROVED: TG
DATE: 07/09
07/09

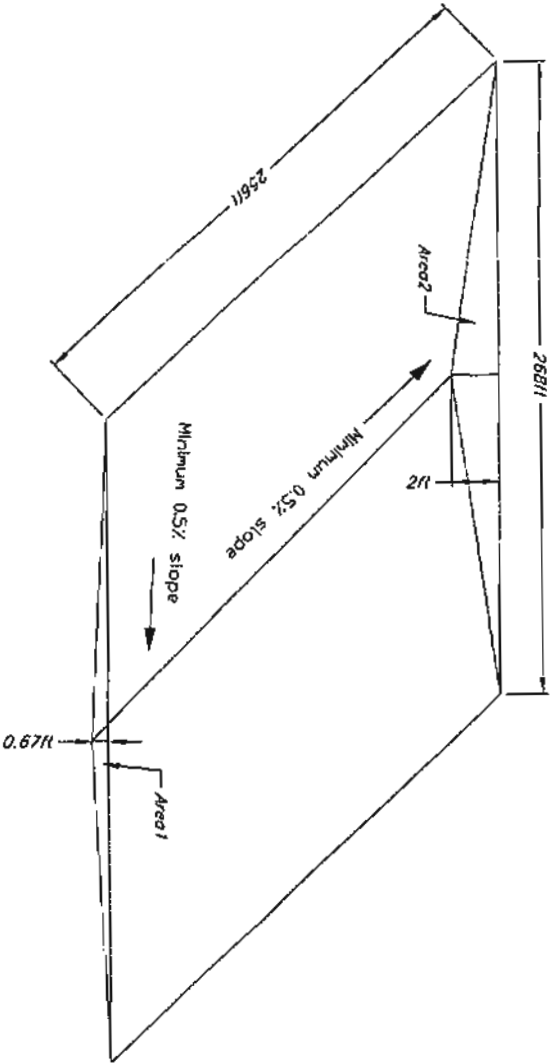
United States Department of Agriculture
Natural Resources Conservation Service
NCRCS

FILE NAME
Waste Pond.dwg
DRAWING NUMBER
SB09-01b

Prism Section Volume



Pond Plan View



Isometric View - NTS

Volume = $\frac{1}{2} \times (\text{Area1} + \text{Area2}) \times \text{length}$
Area1 = $\frac{1}{2} \times 0.67\text{ft} \times 268\text{ft} = 89.8 \text{ ft}^2$
Area2 = $\frac{1}{2} \times 2\text{ft} \times 268\text{ft} = 268 \text{ ft}^2$
Volume = $\frac{1}{2} \times (89.8 + 268)\text{ft}^2 \times 256\text{ft} = 45,798 \text{ ft}^3$



JOB CODE 311 B

Waste Storage Facility
Supplemental Volume Calculations
Green Valley Foods
San Bernardino County



Date 07/09
Designed TG
Drawn TG
Checked FDS
Approved Charles Davis
3/23/10
3/25/10



Dairy Waste Storage Pond Design

Producer: Green Valley Foods
 Date: 01/21/10

Entered by: TGG
 Checked by: FJJ

| | Flushed Freestall | Flushed Lanes | Scraped Freestall | Scraped Drylot | Animal Weight lbs | Daily Waste ft ³ /day |
|-----------------------------|----------------------|------------------|----------------------|-------------------|-------------------------|--|
| Milking Cows | | | | | 1,400 | |
| Dry Cows | | | | | 1,500 | |
| Bred Heifers | | | | | 1,100 | |
| Heifers, 1 year to breeding | | | | | 775 | |
| Calves, 3 months to 1 year | | | | | 500 | |
| Calves, birth to 3 months | | | | | 150 | |

Days of Storage _____ days
 Net Daily Water Use per Milking Cow _____ gal/cow/day
 Other Daily Fresh Water added to the pond _____ gal/day
 1000 year 24 hour Storm Rainfall 4.3 inches
 Manured surfaces draining to the pond _____ acres
 Concrete surfaces draining to the pond _____ ft²
 Roof surfaces draining to the pond _____ ft²

Storage Volume Calculations

1) Animal Waste Volume

Manure Waste to be stored in the Pond _____ 3 ft³/day
 Manure Waste handled dry and not stored in the Pond _____ ft³/day
 Total Manure waste volume for the storage period of _____ days = _____ ft³

2) Barn Water Volume

Wash Water used during the Storage Period of _____ days = _____ ft³
 Other Fresh Water used during the Storage Period of _____ days = _____ ft³
 Total = _____ ft³

3) Rainfall and Runoff Volume

| | <u>1000YR STORM</u> | <u>NORMAL</u> | |
|--|---------------------|----------------|-----------------|
| Runoff Volume from Manured Surfaces | | | ft ³ |
| Runoff Volume from Concrete Surfaces | | | ft ³ |
| Runoff Volume from Roof Surfaces | | | ft ³ |
| Rainfall on Pond Surface | 32,250 | 32,925 | ft ³ |
| Rainfall Subtotals | <u>32,250</u> | <u>32,925</u> | ft ³ |
| Total Rainfall Influence (1000 Yr. + Normal) | | 65,175 | ft ³ |
| Evaporation Credit | | <u>537,707</u> | ft ³ |

4) Total Required Volume (See Year Pond Volume tab if using this method) _____ 160,090 ft³

Dairy Waste Storage Pond Design

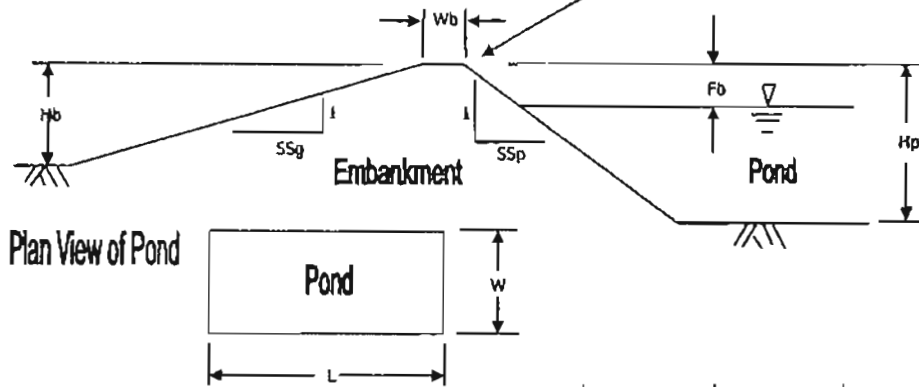
Producer: Green Valley Foods

Date: 01/21/10

Entered by: TGG

Checked by: FAS

Cross Section of Embankment



| | | | Pond 1 | Pond 2 | Pond 3 |
|------------|---|------------------|--------|--------|--------|
| Hb | Embankment Height | ft | 2.75 | | |
| Wb | Embankment Top Width | ft | 10 | | |
| Fb | Freeboard | ft | 2 | | |
| Hp | Depth of Pond (Freeboard + Design Depth) | ft | 4 | | |
| SSg | Side Slope (Ground Side) | 'X' Horiz:1 Vert | 3 | | |
| SSp | Side Slope (Pond Side) | 'X' Horiz:1 Vert | 4 | | |
| L | Pond Length (measured at top inside edge of embankment) | ft | 300 | | |
| W | Pond Width (measured at top inside edge of embankment) | ft | 300 | | |
| C:F | Cut : Fill Ratio | 'X' Cut:1 Fill | 1.3 | | |

| | | | Pond 4 | Pond 5 | Pond 6 |
|------------|---|------------------|--------|--------|--------|
| Hb | Embankment Height | ft | | | |
| Wb | Embankment Top Width | ft | | | |
| Fb | Freeboard | ft | | | |
| Hp | Depth of Pond (Freeboard + Design Depth) | ft | | | |
| SSg | Side Slope (Ground Side) | 'X' Horiz:1 Vert | | | |
| SSp | Side Slope (Pond Side) | 'X' Horiz:1 Vert | | | |
| L | Pond Length (measured at top inside edge of embankment) | ft | | | |
| W | Pond Width (measured at top inside edge of embankment) | ft | | | |
| C:F | Cut : Fill Ratio | 'X' Cut:1 Fill | | | |

Dairy Waste Storage Pond Design

Producer: Green Valley Foods

Entered by: TGG

Date: 01/21/10

Checked by: FJS

| Volumes | Pond 1 | Prism Section | Pond 3 | |
|------------------------------|------------|---------------|--------|-----------------|
| Pond Storage Capacity | 152,395 | 45,798 | | ft ³ |
| Additional Required Storage | 7,695 | none | | ft ³ |
| Cumulative Storage is: | Inadequate | Adequate | | |
| Dimensions | | | | |
| Footprint Length | X 337 | | | ft |
| Footprint Width | X 337 | | | ft |
| Bottom Length | 268 | | | ft |
| Bottom Width | 268 | | | ft |
| Bank Full Surface Area | 90,000 | | | ft ² |
| Surface Area at Max Capacity | 80,656 | | | ft ² |
| Earthwork | | | | |
| Total Cut | 3,451 | | | cy |
| Potential Available Fill | 2,654 | | | cy |
| Total Fill Needed | 2,466 | | | cy |
| Excess Material* | 189 | | | cy |

* Negative numbers indicate imported material is required.

| Volumes | Pond 4 | Pond 5 | Pond 6 | |
|------------------------------|--------|--------|--------|-----------------|
| Pond Storage Capacity | | | | ft ³ |
| Additional Required Storage | | | | ft ³ |
| Cumulative Storage is: | | | | |
| Dimensions | | | | |
| Footprint Length | | | | ft |
| Footprint Width | | | | ft |
| Bottom Length | | | | ft |
| Bottom Width | | | | ft |
| Bank Full Surface Area | | | | ft ² |
| Surface Area at Max Capacity | | | | ft ² |
| Earthwork | | | | |
| Total Cut | | | | cy |
| Potential Available Fill | | | | cy |
| Total Fill Needed | | | | cy |
| Excess Material* | | | | cy |

* Negative numbers indicate imported material is required.

Summary Conclusion:

| | | |
|------------------------|---------|-----------------|
| Combined Pond Capacity | 198,193 | ft ³ |
| Required Pond Capacity | 160,090 | ft ³ |

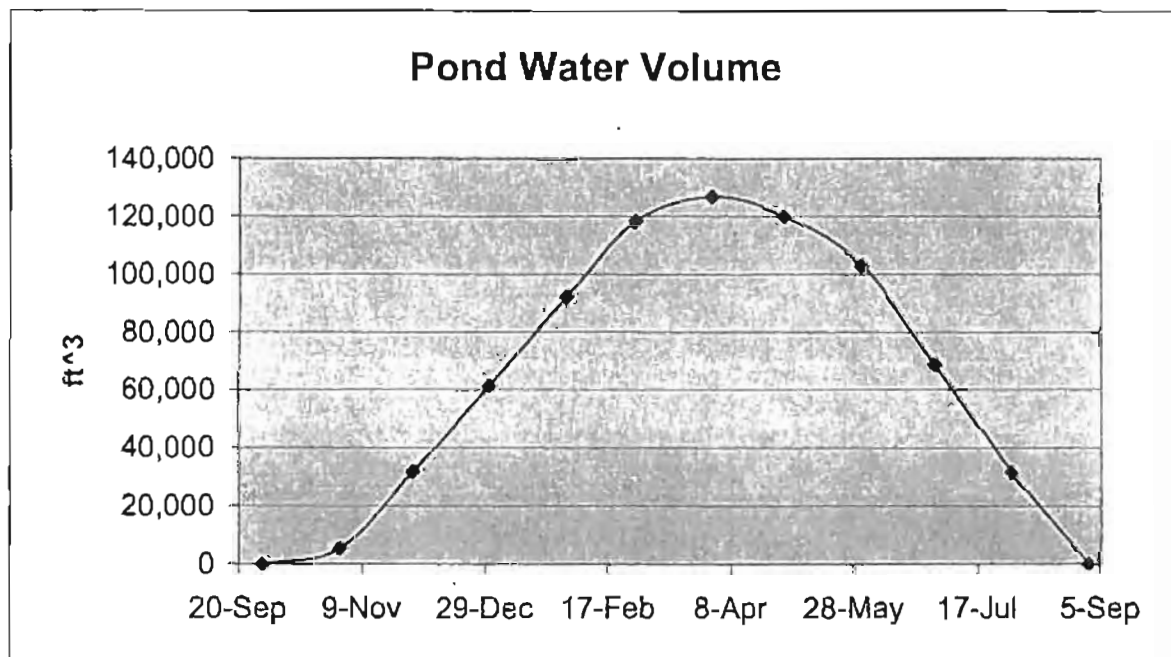
Combined Pond Capacity is ADEQUATE

* Approximations. ~~Not~~ needed for storage calc's.

Required Pond Volume at Target Use

| | | | |
|-------------------------|--|----------------|------------------------------|
| Average Daily Water Use | | 10,000 gallons | max + 1000 yr storm + solids |
| Required Volume = | | 160,090 | |

| | Water Use Input ft ³ | Rainfall Input (ft ³) | Evaporation Output (ft ³) | Irrigation as % of 1 year supply | Irrigation Output (ft ³) | Nitrogen Applied (tons) | Volume (ft ³) |
|--------|------------------------------------|--------------------------------------|--|---|--|-------------------------------|------------------------------|
| 30-Sep | 40,104 | 1,950 | 53,771 | 0% | 0 | 0.0 | 0 |
| 31-Oct | 41,441 | 1,575 | 37,639 | 0% | 0 | 0.0 | 5,377 |
| 30-Nov | 40,104 | 2,700 | 16,131 | 0% | 0 | 0.0 | 32,049 |
| 31-Dec | 41,441 | 4,125 | 16,131 | 0% | 0 | 0.0 | 61,484 |
| 31-Jan | 41,441 | 5,625 | 16,131 | 0% | 0 | 0.0 | 92,419 |
| 28-Feb | 37,431 | 4,575 | 16,131 | 0% | 0 | 0.0 | 118,293 |
| 31-Mar | 41,441 | 4,650 | 37,639 | 0% | 0 | 0.0 | 126,745 |
| 30-Apr | 40,104 | 1,650 | 48,394 | 0% | 0 | 0.0 | 120,105 |
| 31-May | 41,441 | 600 | 59,148 | 0% | 0 | 0.0 | 102,999 |
| 30-Jun | 40,104 | 975 | 75,279 | 0% | 0 | 0.0 | 68,799 |
| 31-Jul | 41,441 | 2,100 | 80,656 | 0% | 0 | 0.0 | 31,684 |
| 31-Aug | 41,441 | 2,400 | 80,656 | 0% | 0 | 0.0 | 0 |
| Total | 487,934 | 32,925 | 537,707 | 0% | 0 | 0.0 | |





POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14



California 34.900 N 117.102 W 2142 feet
from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
O.M. Boanin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Ritey
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Tue Jul 28 2009

| | | | | | | |
|-------------------|-------------|---------------|-------------|----------|------|------|
| Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Docs |
|-------------------|-------------|---------------|-------------|----------|------|------|

Precipitation Frequency Estimates (inches)

| ARI* (years) | 5 min | 10 min | 15 min | 30 min | 60 min | 120 min | 3 hr | 6 hr | 12 hr | 24 hr | 48 hr | 4 day | 7 day | 10 day | 20 day | 30 day | 45 day | 60 day |
|-----------------|----------|-----------|-----------|-----------|-----------|------------|---------|---------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| 1 | 0.09 | 0.13 | 0.16 | 0.21 | 0.27 | 0.35 | 0.41 | 0.52 | 0.64 | 0.75 | 0.82 | 0.93 | 1.04 | 1.13 | 1.27 | 1.43 | 1.61 | 1.81 |
| 2 | 0.11 | 0.17 | 0.20 | 0.28 | 0.34 | 0.45 | 0.52 | 0.67 | 0.83 | 0.98 | 1.09 | 1.25 | 1.40 | 1.52 | 1.73 | 1.93 | 2.21 | 2.51 |
| 5 | 0.15 | 0.23 | 0.29 | 0.39 | 0.48 | 0.61 | 0.72 | 0.92 | 1.13 | 1.37 | 1.52 | 1.77 | 2.02 | 2.18 | 2.49 | 2.80 | 3.28 | 3.81 |
| 10 | 0.19 | 0.29 | 0.36 | 0.49 | 0.60 | 0.75 | 0.87 | 1.11 | 1.36 | 1.66 | 1.84 | 2.18 | 2.49 | 2.67 | 3.05 | 3.41 | 4.08 | 4.81 |
| 25 | 0.26 | 0.39 | 0.48 | 0.65 | 0.80 | 0.96 | 1.09 | 1.38 | 1.66 | 2.04 | 2.26 | 2.73 | 3.13 | 3.35 | 3.78 | 4.23 | 5.18 | 6.21 |
| 50 | 0.31 | 0.47 | 0.59 | 0.79 | 0.98 | 1.15 | 1.27 | 1.60 | 1.90 | 2.33 | 2.59 | 3.17 | 3.64 | 3.87 | 4.34 | 4.84 | 6.04 | 7.31 |
| 100 | 0.38 | 0.57 | 0.71 | 0.95 | 1.18 | 1.35 | 1.47 | 1.83 | 2.15 | 2.63 | 2.93 | 3.64 | 4.18 | 4.41 | 4.91 | 5.47 | 6.95 | 8.51 |
| 200 | 0.45 | 0.68 | 0.84 | 1.14 | 1.41 | 1.58 | 1.70 | 2.09 | 2.42 | 2.94 | 3.27 | 4.12 | 4.74 | 4.96 | 5.48 | 6.10 | 7.89 | 9.71 |
| 500 | 0.56 | 0.85 | 1.05 | 1.41 | 1.75 | 1.92 | 2.03 | 2.48 | 2.81 | 3.37 | 3.73 | 4.80 | 5.52 | 5.72 | 6.25 | 6.94 | 9.19 | 11.41 |
| 1000 | 0.64 | 0.98 | 1.21 | 1.64 | 2.02 | 2.19 | 2.30 | 2.81 | 3.13 | 3.69 | 4.08 | 5.33 | 6.14 | 6.32 | 6.83 | 7.58 | 10.21 | 12.81 |

* These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.
Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting forces estimates near zero to appear as zero.

* Upper bound of the 90% confidence interval

Precipitation Frequency Estimates (inches)

| ARI** (years) | 5 min | 10 min | 15 min | 30 min | 60 min | 120 min | 3 hr | 6 hr | 12 hr | 24 hr | 48 hr | 4 day | 7 day | 10 day | 20 day | 30 day | 45 day | 60 day |
|------------------|----------|-----------|-----------|-----------|-----------|------------|---------|---------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| 1 | 0.10 | 0.15 | 0.18 | 0.25 | 0.31 | 0.40 | 0.47 | 0.60 | 0.73 | 0.85 | 0.94 | 1.06 | 1.20 | 1.30 | 1.47 | 1.64 | 1.89 | 2.21 |
| 2 | 0.13 | 0.19 | 0.24 | 0.32 | 0.40 | 0.52 | 0.60 | 0.77 | 0.94 | 1.12 | 1.23 | 1.42 | 1.61 | 1.75 | 1.99 | 2.22 | 2.58 | 3.01 |
| 5 | 0.18 | 0.27 | 0.34 | 0.45 | 0.56 | 0.70 | 0.81 | 1.05 | 1.28 | 1.55 | 1.73 | 2.02 | 2.31 | 2.50 | 2.86 | 3.21 | 3.82 | 4.61 |
| 10 | 0.22 | 0.34 | 0.42 | 0.57 | 0.70 | 0.86 | 0.98 | 1.26 | 1.53 | 1.88 | 2.09 | 2.47 | 2.85 | 3.06 | 3.50 | 3.91 | 4.74 | 5.81 |
| 25 | 0.30 | 0.45 | 0.56 | 0.76 | 0.94 | 1.09 | 1.23 | 1.57 | 1.88 | 2.31 | 2.58 | 3.10 | 3.58 | 3.83 | 4.33 | 4.84 | 6.01 | 7.31 |
| 50 | 0.36 | 0.56 | 0.69 | 0.93 | 1.15 | 1.31 | 1.44 | 1.83 | 2.17 | 2.65 | 2.96 | 3.60 | 4.16 | 4.42 | 4.99 | 5.55 | 7.02 | 8.51 |
| 100 | 0.44 | 0.67 | 0.83 | 1.12 | 1.39 | 1.54 | 1.68 | 2.11 | 2.46 | 3.00 | 3.35 | 4.14 | 4.79 | 5.05 | 5.64 | 6.28 | 8.08 | 9.71 |
| 200 | 0.53 | 0.80 | 0.99 | 1.34 | 1.66 | 1.82 | 1.96 | 2.42 | 2.79 | 3.36 | 3.76 | 4.70 | 5.46 | 5.71 | 6.33 | 7.03 | 9.19 | 11.41 |
| 500 | 0.66 | 1.00 | 1.25 | 1.68 | 2.08 | 2.23 | 2.37 | 2.91 | 3.27 | 3.85 | 4.33 | 5.51 | 6.40 | 6.63 | 7.26 | 8.06 | 10.77 | 13.21 |
| 1000 | 0.76 | 1.16 | 1.44 | 1.94 | 2.40 | 2.58 | 2.71 | 3.32 | 3.68 | 4.24 | 4.79 | 6.16 | 7.17 | 7.37 | 7.99 | 8.84 | 12.03 | 14.81 |

* The upper bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are greater than.

** These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.

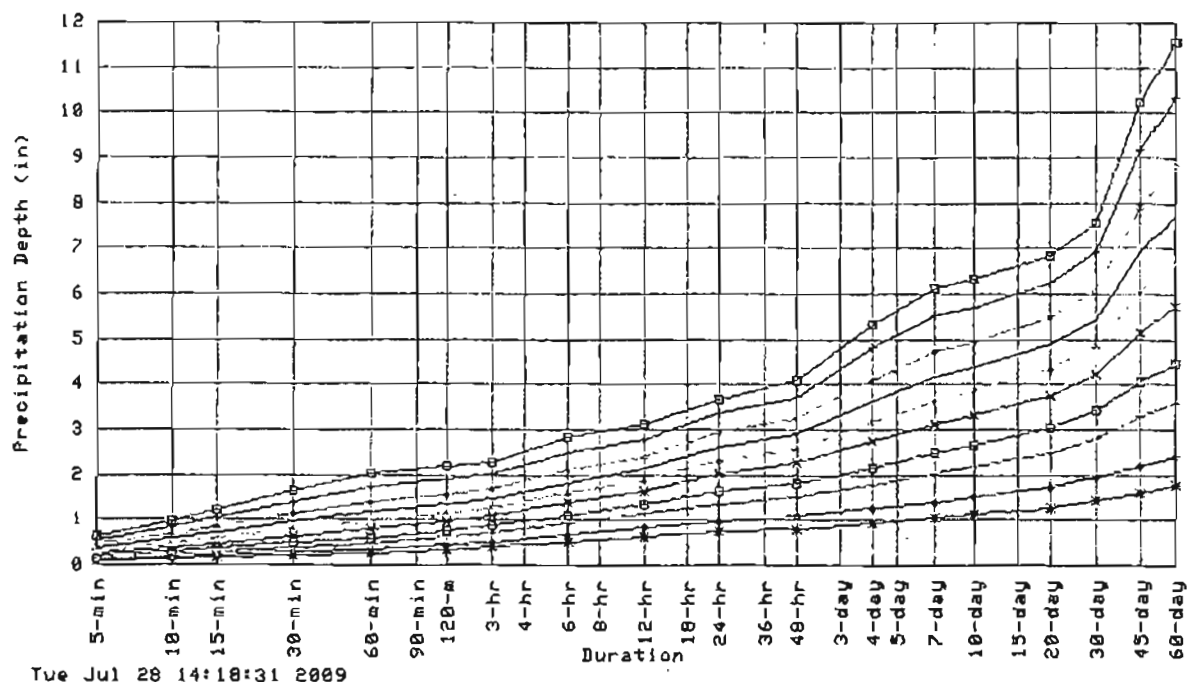
Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

* Lower bound of the 90% confidence interval

Precipitation Frequency Estimates (inches)

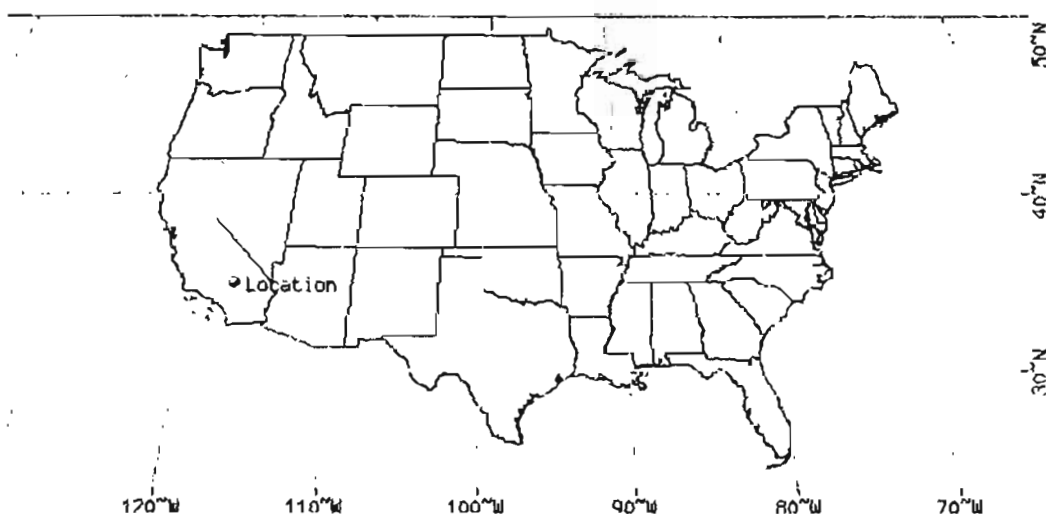
| ARI** (years) | 5 min | 10 min | 15 min | 30 min | 60 min | 120 min | 3 hr | 6 hr | 12 hr | 24 hr | 48 hr | 4 day | 7 day | 10 day | 20 day | 30 day | 45 day | 60 day |
|------------------|----------|-----------|-----------|-----------|-----------|------------|---------|---------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|------------------|----------|-----------|-----------|-----------|-----------|------------|---------|---------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|

Partial duration based Point Precipitation Frequency Estimates - Version: 4
34.900 N 117.102 W 2142 ft

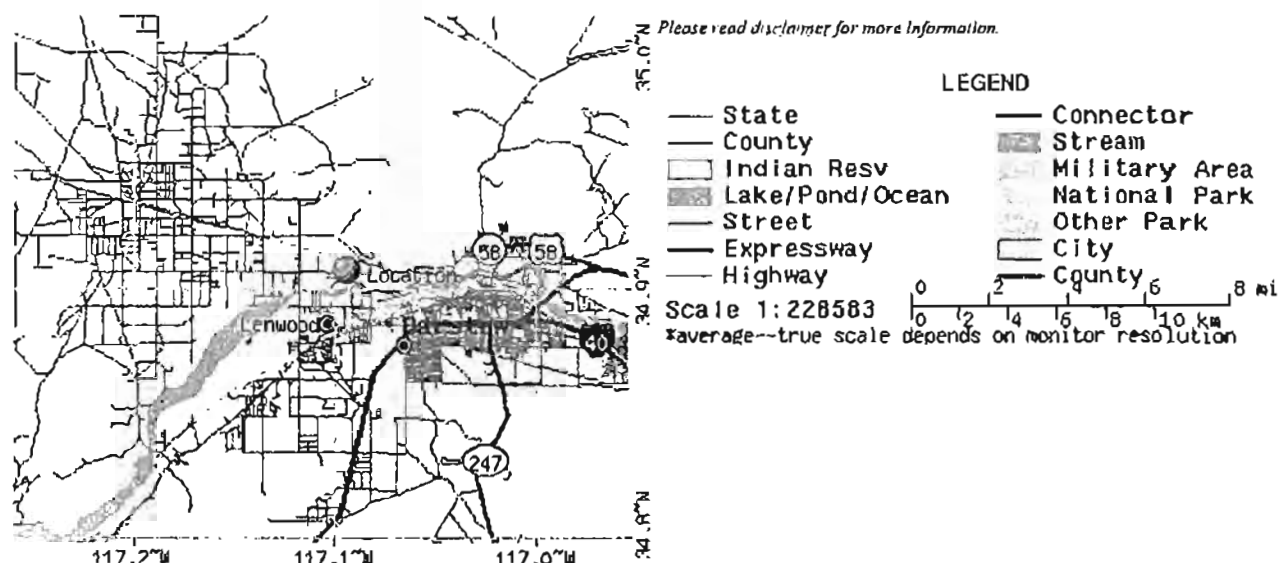


| Average Recurrence Interval (years) | |
|--|---|
| 1 | — |
| 2 | — |
| 5 | — |
| 10 | — |
| 25 | — |
| 100 | — |
| 200 | — |
| 500 | — |
| 1000 | — |

Maps -



These maps were produced using a direct map request from the
U.S. Census Bureau Mapping and Cartographic Resources
Tiger Map Server.



Other Maps/Photographs -

View [USGS digital orthophoto quadrangle \(DOQ\)](#) covering this location from TerraServer; USGS Aerial Photograph may also be available from this site. A DOQ is a computer-generated image of an aerial photograph in which image displacement caused by terrain relief and camera tilts has been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Visit the [USGS](#) for more information.

Watershed/Stream Flow Information -

Find the Watershed for this location using the U.S. Environmental Protection Agency's site.

Climate Data Sources -

Precipitation frequency results are based on data from a variety of sources, but largely NCDC. The following links provide general information about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study, please refer to NOAA Atlas 14 Document.

Using the [National Climatic Data Center's \(NCDC\)](#) station search engine, locate other climate stations within:

...OR... of this location (34.900/-117.102). Digital ASCII data can be obtained directly from [NCDC](#).

Find [Natural Resources Conservation Service \(NRCS\)](#) SNOTEL (SNOWpack TELEmetry) stations by visiting the [Western Regional Climate Center's state-specific SNOTEL station maps](#).

Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910
(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Document ID: GREEN VALLEY FOODS

Revision ID: 1

Effective Date: 01/15/2010

Engineering Design File

Leachate Collection and Removal System Design Analysis

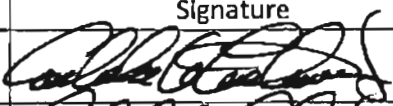
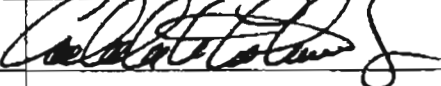
LOCKWOOD ENGINEERING COMPANY
380 W. FOOTHILL BLVD., STE. F
RIALTO, CA 92376
(909) 875-5015

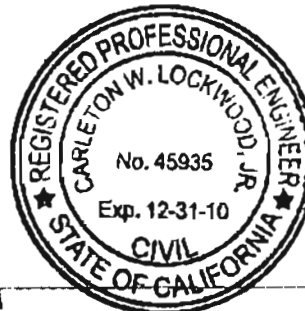
Date: 01/15/2010

ENGINEERING DESIGN FILE

EDF Green Valley FoodsRev. No. 1

Page 1 of 1

| | | | | |
|---|-----|---|--|----------|
| 1. Title: Leachate Collection System Design Analysis | | | | |
| 2. Project File No.: GREEN VALLEY FOODS | | | | |
| 3. Address: 25684 Community Blvd. Barstow, CA 92311 | | | | |
| 4. Summary: <p>The California Regional Water Quality Control Board, Lahontan Region (CRWQCB) is requiring a design/construction work plan for the Green Valley Foods, Farm #49. The determination by CRWQCB is that the discharge from Green Valley Foods is a designated waste per California Water Code (CWC) section 13173(b), and must be contained in a surface impoundment compliant with California Code of Regulations (CCR), title 27, section 20210. Per CCR, title 27, section 20375, Table 4.1, Construction Standards, a class II surface impoundment for designated waste must be designed with a leachate collection and removal system (LCRS). This engineering design file (EDF) provides the design calculations and assumptions for the design and installation of a leachate collection system.</p> <p>The leachate collection system design analysis includes the following: Leachate collection piping, inspection ports capable of receiving roller equipped sump pumps, and necessary appurtenances.</p> | | | | |
| 5. Review (R) and Approval (A) and Acceptance (AC) Signatures: (See Instructions for definitions of terms and significance of signatures.) | | | | |
| | R/A | Typed Name/Organization | Signature | Date |
| Performer | | Carleton W. Lockwood, JR. Lockwood Engineering Co. |  | 06/10/10 |
| Checker | R | Carleton W. Lockwood, JR. Lockwood Engineering Co. |  | 06/10/10 |
| Approver | A | Brianna Bergen CRWQCB | | |
| Requestor | Ac | Brianna Bergen CRWQCB | | |
| 6. Distribution: (Name and Mail Stop) | | California Regional Water Quality Control Board, Lahontan Region Attn: Brianna Bergen, Engineering Geologist 14440 Civic Drive, Ste. 200, Victorville, CA 92392 | | |
| 8. Registered Professional Engineer's Stamp (if required) | | | | |



ABSTRACT

The leachate collection system was designed to meet applicable or relevant and appropriate requirements as specified per CCR, title 27, section 20375. The design of the Green Valley Foods disposal facility features a surface impoundment pond for treatment of leachate and additional process water. The leachate collection system was designed to accommodate maintenance and sampling activities through one inspection manhole/well.

The leachate collection system design analysis includes assumptions and discussions of the following: leachate collection piping and inspection manhole/well.

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ACRONYMS

| | |
|--------|--|
| ALR | action leakage rate |
| ASTM | American Society For Testing and Materials |
| cm/sec | cubic meters per second |
| FS | factor of safety |
| gpm | gallons per minute |
| HDPE | high-density polyethylene |
| HELP | Hydraulic Evaluation of Landfill Performance |
| LCRS | leachate collection recovery system |
| LDRS | leak detection recovery system |
| PVC | polyvinylchloride |
| TDH | total dynamic head |

Leachate Collection System Design

1. DESIGN CRITERIA:

The leachate collection system was designed to be in compliance with CCR, title 27, section 20340 for the Green Valley Foods surface impoundment.

The primary criterion for design of the leachate system is that all leachate be collected and removed from the surface impoundment at a rate sufficient to prevent hydraulic head greater than 12 in. from occurring at any point over the lining system. The system is designed to remove the accumulation of water in the event the lining system experiences any deficiencies in its integrity.

- Bottom of the leak detection layer and the leachate collection layer is sloped at a minimum 0.5%.
- Granular drainage layer is 1 ft. thick with hydraulic conductivity $> 1 \times 10^{-2}$ cm/s.
- The system must be designed to minimize clogging.
- The system is located above seasonally high water table.
- Sumps and liquid removal systems must be of sufficient size to prevent back up into drainage layer. The leachate collection recovery system (LCRS) sump capacity has been designed to provide approximately 2,000 gallons of storage.
- System components that come in contact with waste must be chemically resistant to that waste.
- System components must have sufficient strength and thickness to resist collapse.

2. LEACHATE COLLECTION PIPING

The Green Valley Foods surface impoundment is designed such that leachate and precipitation within the surface impoundment area flows to a leachate sump at the north end of the surface impoundment. System piping and pumps will be sized to handle maximum leachate during the surface impoundment life. The surface impoundment liner was designed with a composite barrier to prevent leakage. Aspects of leachate collection design piping include the following: required piping and the spacing of piping, pipe size for maximum flow rate, pipe strength, and slot size compatibility with LCRS gravel. These design elements are discussed below.

2.1 Spacing of Leachate Collection Pipes

A central leachate collection pipe will be used running north-south in the bottom of the surface impoundment. In order to intercept higher flows from the side slope drainage, a collector pipe will be placed around the perimeter of the surface impoundment.

2.2 Collection Pipe Size for Maximum Flow Rate

The central perforated leachate pipe that conveys leachate to the pump sump shall be 8". The collector perforated leachate pipes around the perimeter of the surface impoundment and connected to the central leachate pipe shall be 6".

2.3 Collection Pipe Strength

Pipe wall thickness was selected based on maximum fill height such that the pipe will not fail due to excessive deflection, wall buckling, or wall crushing. Also considered in determining pipe strength was the live load for equipment when the liner is being placed and routine maintenance occurs above the piping. Pipe strength is reduced due to perforations. The pipe material assumed is made from resin meeting the requirements of ASTM D1248: Type III, Category 5, Class C, Grade 34 resin; PE3408 pipe with a cell classification of 355434C or better. The flexural modulus and material strength of the pipe was per manufacturers' published literature based on this classification of pipe. Crushing and buckling were also per manufacturers' specifications.

2.4 LCRS Gravel

As discussed in Section 1, the design criteria for the LCRS gravel is required to have a hydraulic conductivity greater than 10^{-2} cm/sec. The material shall consist of well graded gravel and sand with a maximum fines content (percent passing the No. 200 standard U.S. sieve) of 10%. To ensure that the material will achieve the required hydraulic conductivity, it will be processed to remove all material finer than a No. 10 standard U.S. sieve (2 mm).

A 2" maximum size will ensure the gravel can be easily placed and will adequately conform to all design grades and spaces in the leachate collection system. Based on the

gradation of the LCRS gravel, the size varies from 4.5 to 5.0 mm. The LCRS gravel is compatible with pipe slot size.

2.5 Filter Criteria

Filtering to prevent fines from clogging the leachate collection gravel, pipe, and pump will be accomplished through proper selection of the gradation of the LCRS gravel and overlying operation layer to allow filtering of fines and prevent clogging of the gravel.

The material proposed for the operations layer and the LCRS gravel (see Section 2.4) provides an adequate natural filter and a separation geotextile is not required above the LCRS gravel. It is recommended that the soil placed over the operations layer be limited to a maximum fines content of 20% to limit the possibility of future clogging of the LCRS gravel. If this select fill is not available, a separation geotextile could be used on top of the operations layer for filtration of fines from the waste. Operational procedures will be established to select the most granular material available for this initial lift.

3. LEACHATE PUMP ANALYSIS

Based on performance specifications, pumps are required for removal of leachate that accumulates below the primary lining system and removal of any leachate that leaks into the leak detection systems in the surface impoundment. General pump criteria are described below.

3.1 Leachate Pump

The surface impoundment requires one low-flow pump (LCRS) for regular pumping of leachate back to the surface impoundment in the event any water (leachate or consolidation/condensation water) accumulates in this system and requires removal.

For convenience and operational versatility, roller-mounted pumps were selected for the leachate collection and detection system. This type of pump can be lowered into the leachate sump through a carrier pipe and removed as needed. The advantage of a removable pump include easy access for maintenance and inspection, interchangeability of parts for the same pump models, and the ability to use one transfer pump for transfer from one surface impoundment to another or to a truck mounted tank for removal.

Carrier piping for sump insertion and removal is sized appropriately based on manufacturer recommendations. Periodic visual inspections are required of the leachate system for accumulated water and to determine the necessity for pumping.

3.1.1 LCRS Low-Flow Pump

Actual pumping rates will vary as the head losses and elevations of input and output water levels vary during the pumping cycle. Note that the HELP model also reports a peak daily amount for leachate production. This value (around 25 gpm) was not used because it represents one peak event, whereas the low-flow pump should be designed to pump on a routine basis with a factor of safety (FS) to handle larger flows.

3.2 Surface Impoundment Leachate Pump

The same roller-mounted pump and carrier piping systems for the LCRS will be used for the surface impoundment pond.

3.2.1 LDRS pump-Surface Impoundment

An ALR for the surface impoundment pond was calculated to determine the criteria for choosing a pump. The calculations are shown below.

3.2.2 Surface Impoundment Action Leakage Rate

The ALR is defined in the Final Rule (EPA 1992b, 40 CFR Part 264.222) as the "*maximum design flowrate that the leak detection system...can remove without the fluid head on the bottom of the liner exceeding 1 ft.*" This calculation was performed to determine the ALR for the

surface impoundment. The surface impoundment for Green Valley Foods contains an area of approximately 2.0 acres. EPA provides generic ALR values of 1,000 gallons/acre/day (gpad) for surface impoundments (EPA 1992b). Results for the ALR were computed to the generic values provided by EPA.

EPA provides a formula (equation 1) based on Darcy's Law for calculating Action Leakage flow capacity, assuming that the liquid originates from a single hole in the primary liner (EPA 1992b):

$$Q = k \tan(\alpha) \beta \quad (1)$$

Where

Q = flow rate in leak detection system (LDS) per acre

k = hydraulic conductivity of drainage medium in LDS

H = head on secondary liner

α = slope of LDS

β = width of flow in LDS, perpendicular to flow direction.

The major uncertainty associated with this formula is determining the value of β , which is a complex function. Additional information is provided by EPA in a background document (EPA 1992b). By assuming that the shape of the wetted area downslope from the hole is parabolic, EPA rewrites equation 1 as equation 2:

$$Q = kD(2H-D) \quad (2)$$

Where

D = thickness of drainage layer

Other parameters are the same as in equation (1)

The drainage layer in the surface impoundment LDS consists of 1-ft thickness of leachate drain gravel. The head on the liner is defined as 1 ft per 40 CFR 264.222. The regulations require the drainage layer to have a minimum hydraulic conductivity of 0.1 cm/sec. As detailed in Section 2.4, the processed gravel material that will be used as leachate drain gravel will have an assumed hydraulic conductivity of 1 centimeter per second (cm/sec). However, to allow for long term reduction of the hydraulic conductivity the ALR is calculated using the minimum guidance value of 0.1 cm/sec. This provides a one order of magnitude safety factor for the drainage layer hydraulic conductivity in the calculations.

3.2.3 Action Leakage Rate Results

Using equation (2) and the assumed input parameters, the ALR for the surface impoundment is 2,120 gallons per day. This value includes a factor of safety of 2 in accordance

with EPA guidelines (EPA 1992b). Details of the calculations are presented below. Using the generic value for surface impoundments provided by EPA of 1,000 gpad, the ALR = 1,000 x 2.0 acres or around 2000 gallons per day for the surface impoundment which agrees with the calculated value. This result forms the basis for the design of the surface impoundment pond leak detection system pump and pump shown in equation (3).

Action Leakage Rate for Green Valley Foods:

$$Q = kD(2H-D) \quad (3)$$

Where:

Q = flow rate of LDS (per acre)

k = hydraulic conductivity of drainage medium in LDS

D = thickness of drainage layer in LDS

H = head on secondary liner

At Green Valley Foods:

$$k = 0.1 \text{ cm/sec} = 0.001 \text{ m/sec}$$

$$D = 0.3048 \text{ m}$$

$$H = 0.3048 \text{ m}$$

Therefore

$$Q = 0.000093 \text{ m}^3/\text{acre/sec}$$

$$Q = 2,120 \text{ gpad}$$

Apply Factor of safety 2 per EPA guidance

Action Leakage Rate 1,060 gpad x 2.0 acres = 2,120 gallons per day.

An approximate flow rate of 10 gpm was used in selecting the pump for the surface impoundment and LCRS. A flow rate of 10 gpm translates to 14,400 gallons per day.

4. REFERENCES

40 CFR Part 264.222, 1999, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities", Section 222, "Action leakage rates," July 1, 1999.

ASTM D1248-00a, 1996, "Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable," American Society for Testing and Materials, 1996.

EPA, 1992a, "Liners and Leak Detection Systems for Hazardous Waste Land Disposal Units," published in the Federal Register, Vol. 57, No 19.

EPA, 1992b, "Action Leakage Rates for Leak Detection Systems," EPA 530-R-92-004, Office of Solid Waste Management, Washington, D.C.

California Water Code (CWC) Section 13173(b)

California Code of Regulations (CCR), Title 27, Section 20210

California Code of Regulations (CCR), Title 27, Section 20375, Table 4.1

California Code of Regulations (CCR), Title 27, Section 20375

California Code of Regulations (CCR), Title 27, Section 20340

EXHIBIT NO. 6



**California Regional Water Quality Control Board
Lahontan Region**



Linda S. Adams
*Secretary for
Environmental Protection*

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • Fax (760) 241-7308
<http://www.waterboards.ca.gov/lahontan>

Arnold Schwarzenegger
Governor

September 20, 2010

WDID No. 6B360704003

Hector S. Huerta, Owner
Green Valley Foods
25684 Community Boulevard
Barstow, CA 92311

**COMMENTS ON THE DESIGN PLANS FOR THE SURFACE IMPOUNDMENT
PROPOSED FOR THE GREEN VALLEY FOODS CHEESE PROCESSING PLANT,
BARSTOW, SAN BERNARDINO COUNTY**

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received your proposed design for the surface impoundment to be constructed at Green Valley Foods Cheese Processing Facility on June 23, 2010. The proposed design plan, Drawings and Specifications, dated July 22, 2010, was prepared by the National Resources Conservation Service (NRCS), with the Leachate Collection and Removal System (LCRS) Design Analysis prepared by Lockwood Engineering, and submitted in compliance with Board Order No. R6V-2010-0019. Included with these submittals is a Low Evaporation / High Rainfall Emergency Plan and a response to our comment letter, dated July 2, 2009 (Response to Comments), provided by NRCS and dated January 21, 2010. Water Board staff reviewed the above-referenced plans and requests that the plans be revised in accordance with the following comments.

GENERAL COMMENTS

Surface Impoundment

On May 13, 2010, John Stamford, representing Green Valley Foods, stated in the Board Meeting that Green Valley Foods intends to construct a Surface Impoundment with at least two containment areas. Section 3.1, Leachate Pump, of Engineering Design File, Leachate Collection and Removal System Design Analysis, prepared by Lockwood Engineering Company, indicates there may be multiple Surface Impoundments. However, the existing drawings show only one Surface Impoundment. Please clarify this apparent discrepancy.

Characterization of Waste

Drawings and Specifications Plan, Sheet 313, Waste Storage Facility, Operation and Maintenance, states that the storage structure, which should be properly referred to as a **Surface Impoundment**, was designed and will be installed for the "temporary storage of animal waste." Water Board staff have similarly commented on this language in the previous submittal of the design plan. NRCS representatives noted in Response to Comments, number 8, that although the Surface Impoundment "was designed to meet requirements of an animal waste storage facility," that "does not mean that it will therefore not meet requirements of CCR title 27, section 20210." Water Board staff acknowledges that one does not preclude the other. However, Waste Discharge Requirements, Board Order No. R6V-2010-0019, Section II., Requirements and Prohibitions, A. General, number 14 states the "discharge of non-hazardous solid waste, as defined in CCR, title 27, section 20220, to the Surface Impoundment is prohibited." As such, use and reference to the terms "animal wastes" and "animal waste storage facility," and the like, are not acceptable in a Surface Impoundment design plan. Please revise this plan to describe the types of waste that this Surface Impoundment is allowed to hold, per Board Order No. R6V-2010-0019.

Liner Requirements

Drawings and Specifications Plan, Practice Requirements 313B, indicate that the liner of the Surface Impoundment will be a minimum 40 mil high density polyethylene (HDPE). As discussed on sheet 313, Waste Storage Facility, Operation and Maintenance, the storage structure, which should be properly referred to as a Surface Impoundment, was designed and will be installed for the "temporary storage of animal waste." CCR, title 27, section 20310, subsection (b), requires that "each Class II Unit shall be designed and constructed for the containment of the specific wastes which will be discharged." As presented, the liner was selected for a system designed to hold animal wastes, not cheese processing and cleaning wastes. The plan fails to demonstrate that the liner system is adequate for the material to be discharged to the Surface Impoundment, and will need to be revised to address CCR, title 27 requirements.

Per CCR, title 27, section 20375, Table 4.1, Construction Standards, the liner for a Class II Surface Impoundment for designated waste must be designed with a hydraulic conductivity of 1×10^{-5} cm/sec or less. Justification that the liner is appropriate for the characterization of the waste to be discharged, in addition to justification that the liner will meet the specifications in CCR, title 27, section 20375, Table 4.1, Construction Standards must be provided.

Board Order No. R6V-2010-0019, Section II.C., Leachate Collection and Removal System, Number 5 states "should any measurable daily volume of leakage above the action leakage rate be detected, the liner must be repaired." Section IV.C., Action Leakage Rate, of the Board Order specifies the action leakage rate of 20

gallons/day/acre, and includes steps that must be followed in the event that leakage rate is exceeded:

"If leachate generation in an LCRS of the Surface Impoundment exceeds, or is equal to, the required action leakage rate (ALR) of 20 gallons/day/acre, the Discharger must immediately take steps to locate and repair leak(s) in the liner system and comply with the notice of evidence response to exceeding the ALR requirements presented in section IV.G., Unscheduled Reports to be Filed with the Water Board, of MRP No. R6V-2010-0019. If repairs do not result in a leakage rate less than the required ALR, the Discharger must immediately cease the discharge of waste, including leachate, to the Surface Impoundment and notify the Water Board."

However, Section 3.2.3 of the LCRS Design Analysis, proposes an ALR of 1,060 gallons per acre per day. This ALR would be in violation of Board Order No. R6V-2010-0019. Please revise the design plan in accordance with the specifications in the Board Order.

SPECIFIC COMMENTS

1. Erosion and sediment controls to be used at the Surface Impoundment are not specified in the Design Plan. The Design Plan does not specifically identify features for the post-construction period that will control erosion and sediment due to stormwater on-site or prevent pollutants from non-point sources from entering and degrading surface or groundwaters. The foremost method of reducing impacts to watersheds from urban development is "Low Impact Development" (LID), the goals of which are to maintain a landscape functionally equivalent to predevelopment hydrologic conditions and to minimize generation of non-point source pollutants. LID results in less surface runoff and potentially less impacts to receiving waters.

Please include stormwater management strategies or best management plans (BMPs) for both pre-and post-construction phases of the project. The project must incorporate measures to ensure that stormwater generated by the project is managed on-site both pre-and post-construction.

2. Response to Water Board staff comment letter, response to additional comments, number 9, discusses storage of water in the Surface Impoundment for beneficial use. Inclusion of the phrase "for beneficial use" in the design plans and specifications may indicate that Green Valley Foods intends to reuse the wastes contained within the Surface Impoundment. Section II.A., General Requirements and Prohibitions, of the Board Order, number 1, specifies "following **March 30, 2011**, no discharge must occur outside of the Surface Impoundment." Additionally, the same section of the Board Order, number 3, states "there must be no discharge, bypass, or diversion of wastewater from the collection, conveyance, or disposal facilities to adjacent land areas or surface

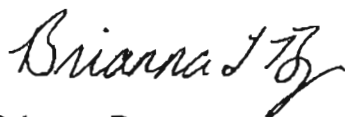
waters." Number 8 of the same section states "the discharge of waste, except to the authorized Surface Impoundment, is prohibited." Discharging of the contents of the Surface Impoundment to a facility that has not been designed to contain the discharge is a violation of the Board Order. Water Board staff requests that the plan be revised to delete any reference to a beneficial use for designated waste in the Surface Impoundment, or, should the Discharger intend to use the contents of the Surface Impoundment for beneficial use, a revised Report of Waste Discharge must be submitted, per the requirements in the Board Order.

3. Drawings and Specifications, Practice Requirements 313B, Waste Storage Facility – Pond, specify that "no changes are to be made in the Drawings or Specifications without prior approval of the NRCS technician." It should be noted that prior acceptance is required from Water Board staff as well.
4. Drawings and Specifications, Practice Requirements 313B, Waste Storage Facility – Pond, specifies that "the liner shall be handled and installed according to manufacturer recommendations and NRCS specifications." In addition to these requirements, the Surface Impoundment must be designed and constructed to meet the requirements of CCR, title 27, sections 20310, 20320, and 20330, and Board Order No. R6V-2010-0019. Practice Requirements 313B should be revised to reflect these requirements.
5. Drawings and Specifications, Section 313, Waste Storage Facility, Operation and Maintenance, notes that vegetation should be maintained. This language needs to be clarified. When maintained on the exterior slopes of the Surface Impoundment structure, vegetation can be utilized as an effective erosion control mechanism. However, if allowed to develop within the Surface Impoundment, vegetation may damage the liner, thereby rendering the effective hydraulic conductivity inadequate. All references to vegetation should be clarified such that vegetation shall only be maintained on the exterior portions of the Surface Impoundment, and not allowed to degrade or otherwise diminish the structural integrity of the liner.
6. Landowner's/Operator's Acknowledgement was unsigned in the submitted Drawings and Specifications Plan. This acknowledgement should be signed by the Discharger prior to resubmittal to the Water Board.
7. Drawings and Specifications, Section 313, Waste Storage Facility, Operation and Maintenance, notes under the heading *Specific Recommendations For Your Structure*, sediments are to be cleaned with "small ATVs or other similar equipment combined with hand labor to remove accumulated solids." That section further states "if the pond [Surface Impoundment] has not dried out to the toe of the western berm by August 1st each year, the water use should be reduced or an arrangement made with a company which transports and disposes of industrial waste." This language is also included in the Emergency Response Plan. Because the discharge is characterized by a high solids content, Water

Board staff recommends removal of the solids periodically, as referenced above, in order to maintain capacity of the Surface Impoundment and not violate the requirement to maintain two feet of freeboard per Section II.B.1., of Board Order No. R6V-2010-0019. Solids removal is subject to the requirement in Monitoring and Reporting Program No. R6V-2010-0019, Section II.C.5., which states that the air must be monitored and Section II.E., which states that a summary of maintenance activities must be included with each monitoring report.

We look forward to assisting you in your project in a manner that protects water quality. Please provide the requested information no later than **December 30, 2010, or 60 days prior to construction**. If you have any questions regarding this letter, please contact me at (760) 241-7305 (bbergen@waterboards.ca.gov) or Patrice Copeland, Senior Engineering Geologist at (760) 241-7404 (pcopeland@waterboards.ca.gov).

Sincerely,



Brianna Bergen
Engineering Geologist

cc: John Stamford, Driscoll & Associates
Rick Aguayo, NRCS, Victorville
Travis Godeaux, NRCS, Victorville
Charles Davis, PE, NRCS, Davis
Dan Johnson, NRCS, Davis
Carleton W. Lockwood, Jr., Lockwood Engineering Co.

EXHIBIT NO. 7



California Regional Water Quality Control Board

Lahontan Region



Linda S. Adams
Acting Secretary for
Environmental Protection

Victoryville Office
14440 Civic Drive, Suite 200, Victoryville, California 92392
(760) 241-6583 • Fax (760) 241-7308
www.waterboards.ca.gov/lahontan

Edmund G. Brown Jr.
Governor

January 26, 2011

Certified Mail: 7099 3220 0007 3471 3791

Hector Huerta, President
Green Valley Foods
25684 Community Boulevard
Barstow, CA, 92311

**IN THE MATTER OF VIOLATION OF
BOARD ORDER NO. R6V-2010-0019,
WASTE DISCHARGE REQUIREMENTS,
GREEN VALLEY FOODS, SAN
BERNARDINO COUNTY,
WDID NO. 6B360704003**

)
)
) **NOTICE OF**
) **VIOLATION**
)
)

The California Regional Water Quality Control Board, Lahontan Region (Water Board), issued Board Order No. R6V-2010-0019, Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility (Board Order) on May 13, 2010. The Board Order, section V.B.1 required Green Valley Foods to submit Design Plans for the proposed Surface Impoundment no later than **December 30, 2010**. The Board Order also required, in section V.B.2, that Green Valley Foods submit a Work Plan for the Surface Impoundment Construction no later than **December 30, 2010**.

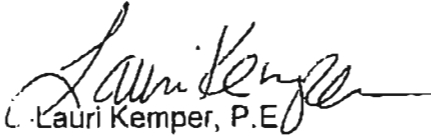
The purpose of this letter is to inform you that: 1) Green Valley Foods is in violation of Board Order No. R6V-2010-0019, section V.B.1. for failure to submit the Design Plan for the Surface Impoundment; 2) Green Valley Foods is in violation of Board Order No. R6V-2010-0019, section V.B.2. for failure to submit the Surface Impoundment Construction Work Plan by December 30, 2010; and 3) Green Valley Foods may be subject to a penalty of \$1,000 per day (pursuant to California Water Code section 13268) for each day after December 30, 2010 for each report, until complete plans are submitted.

A draft Design Plan was submitted to Water Board staff on June 23, 2010, in response to the Board Order. Water Board staff informed Green Valley Foods in a letter dated September 20, 2010, that the Design Plan was not acceptable as submitted, and reiterated the December 30, 2010 due date required in the Board Order. Because a complete Design Plan and Work Plan for Construction of the Surface Impoundments have not yet been submitted, Green Valley Foods is in violation of Board Order No. R6V-2010-0019. Green Valley Foods is subject to up to \$1,000 per day per report

California Environmental Protection Agency

following December 30, 2010 that each report is not submitted, pursuant to California Water Code Section 13268. It is imperative that Green Valley Foods submit complete reports **immediately**. Water Board staff will evaluate the timeliness that these reports are submitted and the effect on the final Board Order compliance date in determining if it will pursue further enforcement for this violation.

Please contact Brianna Bergen at (760) 241-7305 (bbergen@waterboards.ca.gov) or Patrice Copeland at (760) 241-7404 (pcopeland@waterboards.ca.gov) if you have any questions regarding this manner.


Lauri Kemper, P.E.
Assistant Executive Officer

cc: Mail List

BBVclGVF NOV v3.doc

Hector Huerta
Green Valley Foods

John Driscoll
Driscoll & Associates

John Stamford
Driscoll & Associates

Joan Mulcare
San Bernardino Co EPA EHS

Gordon Innes
SWRCB
Division Of Water Quality

Leslie Graves
Land Disposal Program
Div. Of Clean Water Programs

Rich Boyland
Division Of Clean Water Programs

Christina Byrne

Donald W. Troy

D. Norman Diaz
25789 Community Blvd.
Barstow, CA 92311

Dean & Brandee Vizzo

Mark Orr

Hill's Ranch, Inc.
c/o Grant M. Hill

Brianna Bergen
CRWQCB
14440 Civic Drive Suite 200
Victorville, CA 92392

Patrice Copeland
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Victorville, CA 92392

Help Hinkley

Robert Conaway

Greg Bennett
San Bernardino County
Land Use Services

Paul and Linda Hensley

Joan Bird

EXHIBIT NO. 8

GREEN VALLEY FOODS

25684 Community Boulevard
Barstow, CA 92311
Tel: 760-964-1105

February 15, 2011

Certified Mail No.: 70031010000171489031

Lauri Kemper, P.E.
Assistant Executive Officer
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Dear Ms. Kemper:

IN RE: NOTICE OF VIOLATION dated January 26, 2011

BACKGROUND – The California Regional Water Quality Control Board, Lahontan Region (Water Board) issued Board Order No. R6V-2010-0019, Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility (Board Order) on May 13, 2010. The Board Order, Section V.B.1 required Green Valley Foods to submit Design Plans for the proposed Surface Impoundment no later than December 30, 2010. Water Board Notice of Violation states that Green Valley Foods is in violation with the Board Order.

1. Prior to May 13, 2010, Green Valley Foods had been operating under WDID No. 6B360704003. On October 27, 2008, Water Board supplied Green Valley Foods with an *Example of Permit for a Surface Impoundment* as a guide for development of Design Plans for a Surface Impoundment at Green Valley Foods.

2. Green Valley Foods began working from December, 2008, under a "Tentative" Board Order to develop and submit Design Plans for a Surface Impoundment. Green Valley Foods receives engineering assistance from the United States Department of Agriculture, Natural Resources Conservation Service (NRCS). NRCS has a single licensed California engineer at its Berkley office and it takes approximately 90 days for plan reviews to be completed.

3. Green Valley Foods first Design Plans for a Surface Impoundment were submitted by the NRCS to the Lahontan Region Victorville office on or about May 26, 2009. Water Board reviewed and responded with a list of deficiencies, corrections, and changes to this submission on or about July 7, 2009.

Lauri Kemper, P.E.
Assistant Executive Officer
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Page two
February 15, 2011

4. NRCS corrected deficiencies, made corrections and revised the Design Plans. Green Valley Foods hired an independent engineer with Leach System experience to work with NRCS on corrections and additions to the Design Plans. NRCS sent the revised Design Plans to the Berkley office for review and stamp.

5. On May 13, 2010, I testified before the Water Board hearing, as you may recall, that Green Valley Foods would not be ready for construction by December 10, 2010, because we did not yet have a Water Board Staff approved design and the parties had been working on the design since December, 2009. I further testified that Green Valley Foods and Lahontan Region Victorville had a good working relationship and the Water Boards schedule would have to be changed as the parties moved forward. There was no rebuttal from the Water Board.

6. Green Valley Foods' revised Design Plans were submitted by the NRCS to the Lahontan Region Victorville office on or about June 22, 2010. Water Board reviewed and responded with a new list of deficiencies on or about September 28, 2010. NRCS response to the Water Board was sent this month and we are waiting for Design Plan approval.

7. NRCS and Green Valley Foods have not produced a Work Plan as required by Board Order No. R6V-2010-0019, Section V.B.2 because Water Board has yet to approve a Design Plan, therefore, we have not hired an engineering company for construction of a Surface Impoundment per Design Plan. The construction company, when hired, will be responsible for drafting a Work Plan among other duties.

8. We note that you sent copies of the Notice of Violation to twenty different individuals. Thirteen (13) of whom we are not familiar and you did not give an appropriate address or contact information so that we can make them aware of our response.

Sincerely,

GREEN VALLEY FOODS

A handwritten signature in dark ink, appearing to read "John Stamford", is written over a faint, rectangular stamp or watermark.

John Stamford
Project Manager

JS:vj

EXHIBIT NO. 9

FACILITY INSPECTION REPORT GREEN VALLEY FOODS

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: April 4, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|---------------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Christina Velasquez | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 9:45 a.m. Weather is clear, cool, windy, and sunny. No precipitation. The Discharger was not actively discharging to the adjacent west field from the southern discharge pipe. However, discharge was ponded in the area of monitoring wells MW-3 and MW-4, and had a strong smell. There was a small pond associated with the recent discharge, and a large area of wetting. No sprinklers noted at time of inspection. Animal tracks were noted, and a jack rabbit was noted during the inspection, but no other animals were noted at the time of the site inspection. Not many flies or birds were present. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 10:05.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition

Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend follow up inspection to ensure discharge is occurring following deadline date in Board Order.

FIGURES AND PHOTOGRAPHS

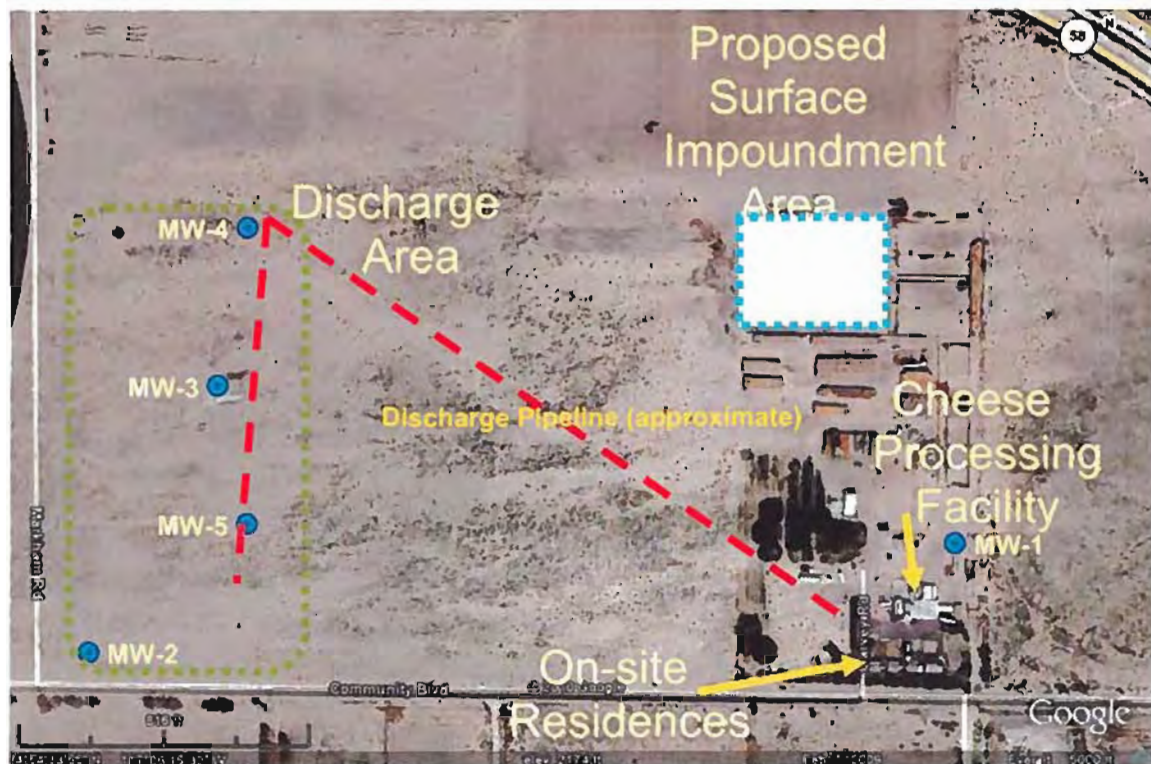


Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 4, 2011. The photograph is taken standing south of monitoring well MW-3, looking north-northeast. Effluent has ponded in the area surrounding a pipe in the background.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 4, 2010. The photograph is a closer view of the pipe and ponded effluent noted in Photograph 1.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 4, 2011. The photograph shows monitoring well MW-4 in the foreground, with an area of ponded discharge in the background. The photograph is taken standing south of the monitoring well, looking approximately north.



Photograph 4. Taken by Brianna Bergen, Lahontan RWQCB staff, on March 26, 2010. The photograph is a closer view of the area of recent discharge, as described in Photograph 3, standing west of the ponded area, looking approximately east.

EXHIBIT NO. 10

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: April 5, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|----------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 6:00 a.m. Weather is clear, cool, and calm. No precipitation. The Discharger was not actively discharging to the adjacent west field. It did not appear that additional effluent had been discharged from the previous inspection the prior day. However, discharge was still ponded in the area of monitoring wells MW-3 and MW-4, and had a strong smell. No sprinklers noted at time of inspection. Animal tracks were noted, but no animals were noted at the time of the site inspection. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 6:45.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition
Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend follow up inspection to ensure discharge is occurring following deadline date in Board Order.

FIGURES AND PHOTOGRAPHS

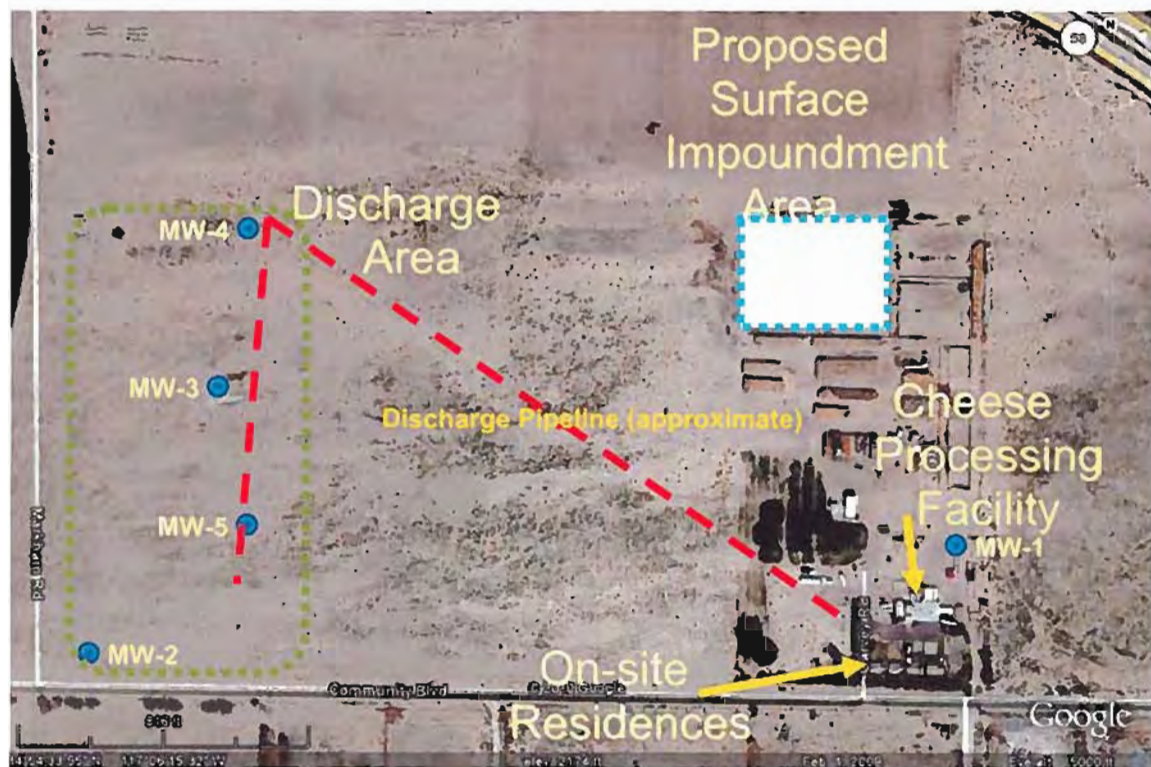


Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 5, 2011. The photograph is taken standing south of monitoring well MW-3, looking approximately northeast. Effluent has ponded in the area surrounding a pipe in the background; however, the area of ponding is less than noted on prior day.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 5, 2010. The photograph is a closer view of the pipe and ponded effluent noted in Photograph 1.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 5, 2011. The photograph is taken standing north of monitoring well MW-4, looking approximately northeast at an area of discharge.

EXHIBIT NO. 11

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: April 6, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|---------------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Christina Velasquez | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 9:25 a.m. Weather is overcast, cool, and slightly breezy. No precipitation. The Discharger started actively discharging to the adjacent west field north of monitoring well MW-3 upon arrival. Flow from the pipe lasted approximately two minutes. It did appear that additional effluent had been discharged just prior to my arrival. Additional fresh discharge was noted ponded in the area of monitoring well MW-4, and had a strong smell. No sprinklers noted at time of inspection. Animal tracks were noted, and a jackrabbit was observed, but no other animals were noted at the time of the site inspection. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 9:35.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition

Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend enforcement action to cease discharge to ground.

FIGURES AND PHOTOGRAPHS



Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 6, 2011. The photograph is taken standing north of monitoring well MW-3, looking approximately northeast. Effluent is flowing from pipe onto ground.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 6, 2010. The photograph is taken standing north of MW-4, looking approximately north. Fresh effluent has ponded in this area.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on April 6, 2011. The photograph is a close up of the discharge northwest of MW-4. Soapy suds are noted in the discharge.

EXHIBIT NO. 12



California Regional Water Quality Control Board

Lahontan Region



Linda S. Adams
Acting Secretary for
Environmental Protection

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • Fax (760) 241-7308
www.waterboards.ca.gov/lahontan

Edmund G. Brown Jr.
Governor

MAY 31 2011

Certified Mail: 7009 0820 0001 6630 2495

Hector Huerta, President
Green Valley Foods
25684 Community Boulevard
Barstow, CA, 92311

**IN THE MATTER OF VIOLATION OF
BOARD ORDER NO. R6V-2010-0019,
WASTE DISCHARGE REQUIREMENTS,
GREEN VALLEY FOODS, SAN
BERNARDINO COUNTY,
WDID NO. 6B360704003**

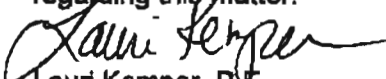
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**NOTICE OF
VIOLATION**

The California Regional Water Quality Control Board, Lahontan Region (Water Board), issued Board Order No. R6V-2010-0019, Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility (Board Order) on May 13, 2010. The Board Order, section V.B.1., required Green Valley Foods to submit Design Plans for the proposed Surface Impoundment no later than **December 30, 2010**. The Board Order also required, in section V.B.2., that Green Valley Foods submit a Work Plan for the Surface Impoundment Construction no later than **December 30, 2010**. A Notice of Violation was issued for failure to submit these plans on January 26, 2011. We received your February 15, 2011 response to our January 26, 2011 Notice of Violation and we are preparing a separate letter responding to it.

The purpose of this letter is to inform you that Green Valley Foods is in violation of multiple sections of Board Order No. R6V-2010-0019. A summary of these violations is enclosed (see Table 1). It is imperative that Green Valley Foods cease discharge to the ground and submit complete plans and reports **immediately**. Please note that this information may be used in the assessment of further enforcement actions for these violations. Failure to comply with the Board Order may result in further enforcement action, including civil monetary penalties of up to \$5,000 for each violation per day.

Please contact Brianna Bergen at (760) 241-7305 (bbergen@waterboards.ca.gov) or Patrice Copeland at (760) 241-7404 (pcopeland@waterboards.ca.gov) if you have any questions regarding this matter.


Lauri Kemper, P.E.
Assistant Executive Officer

Encl.: Table 1 – Summary of Violations of Board Order No. R6V-2010-0019

cc w/out enclosure: Mail List

BB\vtcl\drafts\GVFNOV-GVFMay11.doc

California Environmental Protection Agency



**Table 1 – Summary of Violations of Board Order No. R6V-2010-0019
Green Valley Foods Cheese Processing Facility
San Bernardino County
WDID No. 6B360704003**

| Section No. | Requirement | Date Required | Status |
|-------------|--|---------------|--|
| II.A.1 | Cease discharge outside of the Surface Impoundment. | 3/30/2011 | Staff observed discharging outside of Surface Impoundment as of April 6, 2011. |
| II.A.3 | No discharge from the collection facilities to adjacent land surfaces. | 3/30/2011 | Staff observed discharging from the collection facilities to adjacent land surfaces as of April 6, 2011. Surface Impoundment unconstructed to date. |
| II.A.8 | Prohibits discharging except to Surface Impoundment. | 3/30/2011 | Staff observed discharging outside of Surface Impoundment as of April 6, 2011. |
| II.A.17 | Requires adequate financial assurance mechanisms for closure and corrective action for known or reasonably foreseeable releases. | 1/30/2011 | No submittal of financial assurance mechanisms to date. |
| V.B.1 | Requires submittal of a Design Plan for the Surface Impoundments acceptable to the Water Board. | 12/30/2010 | The most recent design plans were submitted on June 23, 2010, and staff informed Mr. Huerta that these plans remain incomplete, inadequate, and unacceptable on September 20, 2010 |
| V.B.2 | Requires submittal of a Work Plan for Construction of the Surface Impoundment. | 12/30/2010 | Not submitted to date. |
| V.B.3 | Submit an Odor Control Plan. | 1/30/2011 | Not submitted to date. |
| V.B.4 | Submit a Monitoring and Reporting Plan and Sampling and Analysis Plan. | 1/30/2011 | Not submitted to date. |
| V.B.5 | Submit a Detection Monitoring Plan. | 1/30/2011 | Not submitted to date. |
| V.B.6 | Submit a Closure Plan and Cost Estimate | 1/30/2011 | Not submitted to date. |
| V.C | Submit a Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument. | 1/30/2011 | Not submitted to date. |
| V.D | Submit financial assurance mechanisms for closure and corrective action for known or reasonably foreseeable release. | 1/30/2011 | Not submitted to date. |
| V.E.1 | Installation of the Surface Impoundment. | 3/30/2011 | Surface Impoundment and required monitoring systems remain unconstructed to date. |
| V.E.2 | Submit a technical report regarding installation of the monitoring systems. | 4/30/2011 | Not submitted to date. |
| V.F | Submit a technical report regarding final construction quality assurance completed for the Surface Impoundment. | 4/30/2011 | Not submitted to date. |

EXHIBIT NO. 13

GREEN VALLEY FOODS

25684 Community Boulevard
Barstow, CA 92311

4/149

| | | |
|-------------|-------|----------------------|
| CRWQCB REGS | REC'D | RECEIVED JUN 27 2011 |
| | | |
| | | |
| FILE | | |

June 24, 2011

Certified Mail No.: 70110110000223150699

Lauri Kemper, P.E.
Assistant Executive Officer
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

Dear Ms. Kemper:

**RE: NOTICE OF VIOLATION RESPONSE AND INITIAL SUBMISSION OF
PROPOSED ALTERNATIVE TO AN ONSITE SURFACE
IMPOUNDMENT POND**

BACKGROUND – The California Regional Water Quality Control Board, Lahontan Region (Water Board) issued Board Order No. R6V-2010-0019, Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility (Board Order) on May 13, 2010. The Board Order, Section V.B.1 required Green Valley Foods to submit Design Plans for the proposed Surface Impoundment no later than December 30, 2010. Water Board Notice of Violation states that Green Valley Foods is in violation of the Board Order.

INITIAL SUBMISSION OF PROPOSED WATER RECYCLING ALTERNATIVE

- In our prior response letter dated February 15, 2011, we stated several reasons why we have been plagued by delays in the process of submitting plans for various elements of the Surface Impoundment Construction order.

After significant analysis of the process of building the proposed pond and the management and costs associated with its operations, we have a "Greener" plan to safely and effectively use the effluent from our cheese plant to irrigate non-food crops for our livestock farm. Our plan is to work with environmental engineers to dilute the waste water discharge to irrigate a large parcel of land that has an existing stand of 150 acres of alfalfa just west of the cheese plant.

Lauri Kemper, P.E.
Assistant Executive Officer
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Page Two
June 24, 2011

In an effort to further the agricultural needs of the local area and promote a more conscientious use of dwindling irrigation water supplies for the good of the area and to respond to your notice of violation, we have enlisted the environmental engineering services of LGC Inland to assist us with an alternative waste water recycling plan to safely utilize our plant's waste water discharge for agricultural irrigation to a non-food crop. Enclosed is a Project Memorandum from LGC Inland dated June 17, 2011, which details our work plan to reevaluate the waste water discharge issue over the next 90 to 120 days to determine a safe alternative plan to meet the water recycling objectives of the State of California. Our plan is to formally submit our plan findings to the California Regional Water Quality Control Board.

We are certain that we can successfully match the concerns of the State with regards to water quality and conservation objectives to a safe and effective use of our cheese plant effluent for agronomic purposes.

If you have any questions or concerns, please feel free to contact my office at 951-695-4732.

Sincerely,

GREEN VALLEY FOODS



John Driscoll
Project Manager

Encl.



Geotechnical
Environmental
Materials Testing

PROJECT MEMORANDUM

Date: June 24, 2011

To: ***CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
14440 Civic Drive, Suite 200
Victorville, California 92392***

From: Mark C. Bergmann/Robert L. Gregorek, II

Subject: ***Response to the Notice of Violation Issued May 31, 2011 and Presentation of a Proposed Alternative Site Modification in Lieu of Onsite Surface Impoundment, for the Cheese Processing Facility, Located in the Unincorporated Area of Barstow, San Bernardino County, California***

Reference: ***In the Matter of Violation of Board Order No. R6V-2010-0019, Waste Discharge Requirements, Green Valley Foods, San Bernardino County, WDID NO. 6B360704003***

Introduction

LGC Inland, Inc. (LGC) has prepared this response to the notice of violation presented on May 31, 2011 and prepared a proposed alternative site modification in lieu of onsite surface impoundment, for the cheese processing facility, located in the Unincorporated Area of Barstow, San Bernardino County, California. It is the intent of this letter to request a delay in the processing of an enforcement work plan to construct a surface impoundment system. Additionally, we respectfully request a reprieve in the amount of 90-120 calendar days to conduct a series of engineering, geological, and hydro-geological analysis, a series of sampling onsite and laboratory testing, and technical reporting at the facility. The purpose of our additional time for completion of our current scope of work will allow for an alternative site modification to be analyzed, engineered, and tested for incorporation of the effluent to be recycled as modified irrigation water at 1/100 or (1%) by volume of the current generated volume.

Background Information

Green Valley Foods (GVF) is located at 25684 Community Boulevard, in the Unincorporated Area of Barstow, San Bernardino County, California. The Green Valley Foods facility is a cheese manufacturing plant managed by Mr. Hector Huerta. Mr. Huerta settled in the Barstow area approximately twenty-five years ago. He has effectively run an ethnic artisan cheese making business on his property, supporting the local area economy with manufacturing jobs and community involvement for many years. Four years ago the California Regional Water Quality Control Board – Lahontan Region, Victorville Office made a visit to the cheese making plant in response to an odor complaint, and, thereafter initiated a series of water tests, resulting in a board order requiring Green Valley Foods to construct a Surface

Impoundment waste water disposal system, without consideration of alternative methods of waste water disposal.

Current Violation

In our review of the violation dated May 31, 2011, we understand that the Board Order on May 13, 2010, Section V.B.1, required Green Valley Foods to submit design plans for the surface impoundment and in Section V.B.2 required Green Valley Foods submit a work plan for the surface impoundment construction no later than December 30, 2010. In review, a notice of violation was issued for failure to submit these plans on January 26, 2011. Driscoll and Associates submitted a response to the January 26, 2011 violation notice on February 15, 2011 and the Board has identified that they are preparing a separate letter in response to it.

Proposed Alternative

Although designs of a surface impoundment system and previous meetings have formed the framework in the direction of surface impoundment, it is the opinion of LGC that an alternative solution, consisting of an environmentally friendly, non-resource consuming engineered system is attainable. From a review of the California Water Plan Update 2005 – South Lahontan Hydrologic Region, Volume 3, Chapter 10, Regional Reports, we understand that the Los Angeles County Sanitation District No. 14, in the Antelope Valley region of Los Angeles County, has been irrigating 680 acres of alfalfa with municipal effluent water for the past 14 years (as of 2005). This treated water comes from the Lancaster water reclamation plant.

Green Valley Foods is presenting a parallel model. Our proposed solution combines the acquisition of the adjacent property to the west of the present discharge area, which is occupied by an existing pivot covering approximately 5.2-million square feet of a 150-acre parcel. Mr. Hector Huerta of Green Valley Foods is presently involved with the purchase and acquisition of the adjacent acreage. Throughout the due diligence period of the adjacent parcel, Mr. Huerta has become aware that a well with a modest output of 1300-1500 gallons per minute (gpm) is located onsite and provides the water for the property's existing onsite irrigation system. As previously stated above, our model proposes to eliminate 99 percent of the cheese plant effluent and convert that into an aqueous solution of water to effluent.

We propose to evaluate optional effluent treatments to accept the effluent through a pipeline that will be connected directly to the cheese plant. Our proposal will demonstrate an effective method to mix and provide a solution of water and effluent at a ratio of 100:1. Once fully mixed, the water will be conveyed to the pivot and maintain the alfalfa field presently onsite. The alfalfa will be branded for agrarian uses only and supply Mr. Huerta's cattle, presently located offsite, and surplus to the community as a viable source of feed for local farm livestock.

Through natural environmental processes, evaporation of the aqueous effluent, the transpiration of the solution being applied from the plants, and the demand of alfalfa, being estimated at 12-gallon per minute per acre, it is expected that approximately 50 percent or more of the aqueous solution will be activated. The balance of the aqueous solution will be transmitted through the predominantly sandy soil into the subsurface and eventually groundwater below.

Based upon our previous studies, LGC has determined that water test results have not impacted the groundwater beneath the discharge area. Furthermore, the California Regional Water Quality Control

Board – Lahontan Region, Victorville Office, in a response dated April 14, 2010 to Mr. Huerta, regarding comments on 'Tentative Waste Discharge Requirements for Green Valley Foods Cheese

Processing Facility, Class II Surface Impoundment, San Bernardino County'. Comment 9: "Section 4, Discharger does not concur with CWQCB Statements", the following was entered into the record:

"Subsequent to an Order by the Executive Officer for the Discharger to submit Technical Reports, Discharger's submission was rejected for various reasons, however, the Groundwater Test Results, Figure 1, that accompanied the report are not in dispute and do not support staff's finding that Discharger's current discharge practice has caused or contributed to groundwater pollution."

It is the opinion of LGC that the presented solution represents a viable alternative that assists in the promotion of the environmental design process and eliminates the need for an onsite surface impoundment system.

Scope of Technical Reporting

In order to present the alternative of the alfalfa pivot discharge field we propose to begin a bi-weekly water sampling program study the effluent coming from the plant and prepare a technical report for the adjacent field identifying the proposed mixing facility, the effective area required to discharge the diluted solution upon, and determine the amount of water to effluent to be mixed onsite and applied in the field.

The scope of work identified will require a minimum of 90 to 120 days for evaluation purposes, sampling, and technical reporting. LGC expects completion of the evaluation and reporting around October 15, 2011 and will be prepared to present the proposed alternative at the next board meeting. In our vision, we propose to address environmental concerns and develop an effective land treatment of the cheese plant effluent.


All work will be performed under the direct supervision of Mr. Robert L. Gregorek, II and Mark C. Bergmann, Certified Engineering Geologist (CEG Registration No. 1257 and No. 1348), which includes all field work and office staff work.

Closure

The opportunity to present this information is greatly appreciated. We look forward to completing our field work, sampling, technical reporting, and official submittal to the board. Should you have any questions regarding the content of this report, or should you require additional information, please do not hesitate to contact this office at your earliest convenience.

LGC INLAND, INC.

Respectfully,


Mark C. Bergmann, CEG 1348
President / Principal Geologist



Reviewed By

Robert L. Gregorek II, CEG 1257
Geologic Operations Manager

EXHIBIT NO. 14



California Regional Water Quality Control Board

Lahontan Region



Linda S. Adams
Acting Secretary for
Environmental Protection

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • Fax (530) 544-2271
www.waterboards.ca.gov/lahontan

Edmund G. Brown Jr.
Governor

June 27, 2011

Hector Huerta
Green Valley Foods Products, Inc.
25684 Community Boulevard
Barstow, CA 92311

RESPONSE TO GREEN VALLEY FOODS LETTER OF FEBRUARY 15, 2011, GREEN VALLEY FOODS PRODUCTS, INC., BARSTOW, SAN BERNARDINO COUNTY, WDID NO. 6B360704003

Lahontan Regional Water Quality Control Board (Water Board) staff received Green Valley Foods Products, Inc.'s (GVF) February 15, 2011 letter signed by John Stamford, Project Manager, on February 22, 2011. The letter was written in response to the Water Board's January 26, 2011 Notice of Violation (NOV). In his response, Mr. Stamford outlines the two-plus year history of GVF submittals and Water Board responses, regarding GVF's efforts to develop and submit an acceptable design for a wastewater surface impoundment at the GVF Facility in Barstow, California. Water Board staff has the following comments regarding GVF's February 15, 2011 letter.

Water Board Staff Comments

1. Paragraph No. 1 of the February 15, 2011 letter states, in part,

"Prior to May 13, 2010, Green Valley Foods had been operating under WDID No. 6B360704003."

As a point of clarification, WDID No. 6B360704003 is simply an identification number. WDID No. 6B360704003, in and of itself, is not a Water Board regulatory order nor does it authorize GVF to discharge wastewater in the manner that GVF has been discharging wastewater for the past 10-plus years. Further, GVF's discharges do not create a vested right to continue to discharge. All discharges of waste into waters of the state are privileges, not rights. (Cal. Water Code § 13263(g)).

2. Board Order No. R6V-2010-0019 requires GVF to submit Surface Impoundment Design Plans no later than December 30, 2010. Mr. Stamford states, in part,

"Green Valley Foods' revised Design Plans were submitted by the NRCS [Natural Resources Conservation Service] to the Lahontan Region Victorville office on or about June 22, 2010. Water Board reviewed and responded with a new list of

California Environmental Protection Agency



deficiencies on or about September 28, 2010. NRCS response to the Water Board was sent this month and we are waiting for Design Plan approval." (February 15, 2011 letter, page 2, paragraph 6).

For your information, Water Board staff has checked its files and mail logs and has no record of the NRCS submitting a response to the Water Board's September 20, 2010 letter. Water Board staff has spoken with NRCS staff person, Mr. Travis Godeaux, who confirmed that NRCS has not submitted any such response to Water Board staff. Mr. Godeaux stated that NRCS sent a December 3, 2010 letter to GVF providing information intended to address Water Board staff's September 20, 2010 comments specifically related to the proposed surface impoundment design. However, Water Board staff has no record of receiving any response to its September 20, 2010 letter from NRCS, GVF, or any other party.

It is GVF's and your responsibility to submit to the Water Board all documents required by Board Order No. R6V-2010-0019 and to maintain compliance with all other waste discharge requirements established therein. To date, you and GVF have failed to comply with numerous waste discharge requirements specified by Board Order No. R6V-2010-0019, as documented by the Water Board's January 26, 2011 NOV, and more recently by the Water Board's May 31, 2011 NOV.

3. Mr. Stamford requested the mailing addresses or other contact information for thirteen of the twenty parties listed on the mailing list for the January 26, 2011 NOV, in order to provide a copy of GVF's February 15, 2011 letter. (February 15, 2011 letter, page 2, paragraph 8). Mr. Stamford did not identify which thirteen parties he needed contact information for.

It is not the Water Board's practice to provide mailing addresses of private citizens, some of which are on the January 26, 2011 NOV mailing list. If you or Mr. Stamford would specifically identify the thirteen parties referenced, the Water Board is willing to provide copies of GVF's February 15, 2011 letter to those parties.

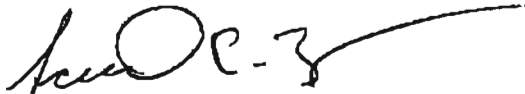
Future Enforcement and Recommendations

Water Board staff strongly encourages you and GVF to submit the information, plans, and other documents required by Board Order No. R6V-2010-0019 as soon as possible. The California Water Code authorizes the Water Board to impose administrative civil liabilities for violations of waste discharge requirements. Such liabilities can be as high as \$5,000 per violation per day. For example, each day a report is late represents an individual violation subject to liability.

Water Board staff is currently preparing to pursue a formal enforcement action against GVF and you for violations of Board Order No. R6V-2010-0019 by issuing an Administrative Civil Liability Complaint. As previously stated, violations shall continue to accrue on a daily basis until GVF submits the overdue report(s) and/or implements the past due requirements of the Order. Thus, it is in GVF's best interest to comply

forthwith with the waste discharge requirements prescribed by Board Order No. R6V-2010-0019.

For your information, Brianna Bergen in the Water Board's Victorville office will continue to be responsible for reviewing documents GVF is required to submit pursuant to Board Order No. R6V-2010-0019, and for evaluating overall compliance with the Board Order. Please contact Brianna Bergen at (760) 241- 7305, or bbergen@waterboards.ca.gov if you have any questions regarding requirements for GVF's surface impoundment design. Water Board staff person, Lisa Scorallo, and I will be responsible for initiating and following through on any future Water Board enforcement actions that are intended to return GVF to compliance with Board Order No. R6V-2010-0019. Lisa Scorallo can be contacted at (530) 542-5452, and I can be contacted at (530) 542-5432, if you have any questions regarding future enforcement actions.



Scott Ferguson, P.E.
Senior Water Resources Control Engineer
Enforcement and Special Projects Unit

cc: John Stamford/Green Valley Foods Products, Inc.
Travis Godeaux/Natural Resources Conservation Service
D. Norman Diaz
Robert Conaway
Christina Byrne
Donald W. Troy
Dean and Brandee Vizzo
Mark Orr
Hill's Ranch Inc.
Help Hinkley
Paul and Linda Hensley
Joan Bird
Greg Bennett/San Bernardino County Land Use Services (email only)
Terri S. Williams/San Bernardino County Environmental Health Services (email only)
Ann Carroll/State Water Resources Control Board/Office of Enforcement (email only)
Brianna Bergen/Lahontan Regional Water Quality Control Board (email only)
Lisa Scorallo/Lahontan Regional Water Quality Control Board (email only)
Patrice Copeland/Lahontan Regional Water Quality Control Board (email only)

LAS/adwT: Green Valley Foods, 2-15-2011 GVR
File Under: SLT File Room, WDID No. 6B360704003
VVL File Room, WDID No. 6B360704003

EXHIBIT NO. 15

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: July 11, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|----------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Randall Morlan | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 9:15 a.m. Weather is clear, warm, and sunny. No precipitation. The Discharger was not actively discharging to the adjacent west field from the southern discharge pipe. However, discharge was ponded in an area between monitoring wells MW-3 and MW-4, and had a strong smell. There was a large pond associated with the recent discharge, and a large area of wetting to the south near MW-3. No sprinklers noted at time of inspection. Animal tracks were noted, and ground squirrels were noted during the inspection, but no other animals were noted at the time of the site inspection. Not many flies or birds were present. Unmarked 55-gallon drums located adjacent to MW-3 and MW-4, but not near MW-5 or MW-2. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 9:30.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition
Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend follow up inspection to observe and document unauthorized discharges from the facility following the March 31, 2011 compliance date.

FIGURES AND PHOTOGRAPHS



Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. The photograph is taken standing south of monitoring well MW-3, looking north-northeast. A 55-gallon unmarked drum is immediately to the west of the well.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. The photograph is a view of ponded effluent south of MW-3, standing south of MW-3, looking approximately southeast.



Photograph 3a. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This photograph is of ponded effluent north of MW-3, looking approximately northeast.



Photograph 3b. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This photograph is taken standing in the same location as Photograph 3a, looking at the same area of ponding, looking approximately northwest. The dark spot in the ponded effluent in the right hand side of the picture is the same dark spot seen in the center of Photograph 3a.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This is a combination panorama of Photographs 3a and 3b.



Photograph 4a. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This photograph shows an area of ponding between MW-3 and MW-4, standing north of the ponded effluent, looking approximately southeast.



Photograph 4b. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This photograph is taken in the same location as Photograph 4b, looking approximately south-southeast.



Photograph 4c. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This photograph is taken in the same location as Photographs 4a and 4b, looking approximately south.



Photograph 4. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. This is a compilation panorama of Photographs 4a, 4b, and 4c.



Photograph 5. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. The photograph is standing south of MW-4, looking approximately north. A 55-gallon unmarked drum is adjacent to MW-4.



Photograph 6. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 11, 2011. The photograph is a closer view of the 55-gallon drum adjacent to MW-4.

EXHIBIT NO. 16

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: July 22, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|----------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Keith Rivera | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 9:05 a.m. Weather is clear, sunny, warm, and breezy. No precipitation. Evidence of discharge noted upon arrival at the discharge field to the west of the Facility. Ponded effluent was visible on the ground north of monitoring well MW-3. The Discharger started actively discharging to the north of monitoring well MW-3 upon arrival. Flow from the pipe lasted approximately three minutes. Video was taken of the discharge. No discharge was noted in the area of monitoring well MW-4. No sprinklers noted at time of inspection. Animal tracks were noted, and several birds, ground squirrels, and lizards were observed. Strong odor noted. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 9:20.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition

Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend enforcement action to cease discharge to ground.

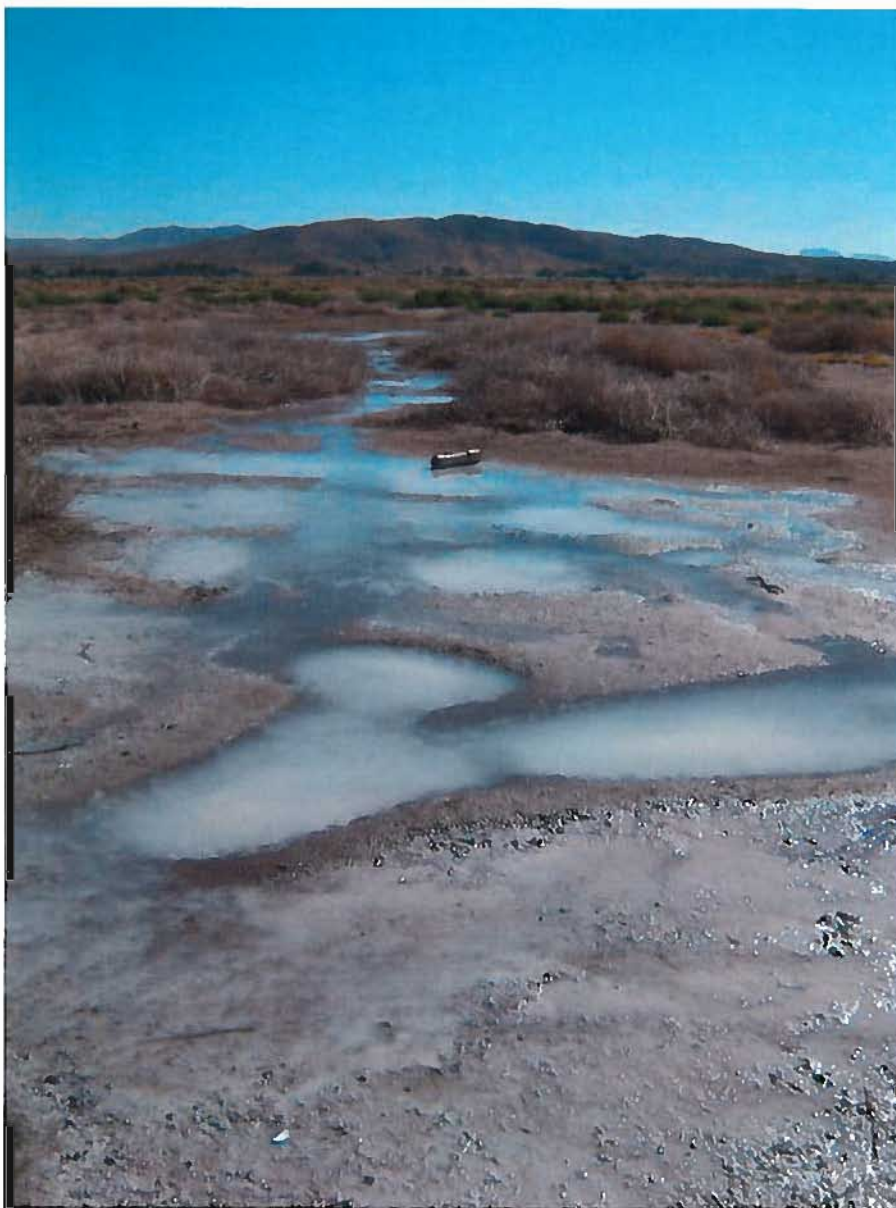
FIGURES AND PHOTOGRAPHS



Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 22, 2011. The photograph is taken standing northwest of monitoring well MW-3, looking approximately southeast. The photograph is of the discharge area upon arrival at the site. Effluent is noted ponded on the ground.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 22, 2011. The photograph is taken standing north of MW-3, looking approximately north-northeast. Effluent is noted ponded on the ground upon arrival at the discharge location.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on July 22, 2011. The photograph is standing northeast of MW-3, looking southwest. The effluent pipe is approximately 10 feet to the north (to the right) of MW-3.

EXHIBIT NO. 17

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: August 26, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|----------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Randall Morlan | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 9:10 a.m. Weather is clear, sunny with some scattered clouds, and hot. No precipitation. Evidence of discharge noted upon arrival at the discharge field to the west of the Facility. Poned effluent was visible on the ground south of monitoring well MW-3. The Discharger started actively discharging to the south of monitoring well MW-3 shortly after arrival. Flow from the pipe lasted approximately three minutes. Video was taken of the discharge. No discharge was noted in the area of monitoring well MW-4. No sprinklers noted at time of inspection. Animal tracks were noted, and several birds, ground squirrels, and lizards were observed. Strong odor noted. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 9:25.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011
Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition
Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend enforcement action to cease discharge to ground.

FIGURES AND PHOTOGRAPHS



Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on August 26, 2011. The photograph is taken standing south of monitoring well MW-3, looking approximately southwest. The photograph is of the discharge area upon arrival at the site. Effluent is noted ponded on the ground.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on August 26, 2011. The photograph is taken standing south of MW-3, looking approximately southeast. Effluent is noted ponded on the ground upon arrival at the discharge location.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on August 26, 2011. The photograph is standing north of MW-3, looking southwest. The effluent pipe shown is approximately 10 feet to the north (to the right) of MW-3. A small amount of effluent is ponded.

EXHIBIT NO. 18

EXHIBIT NO. 19

 **DUPLICATE**

9/17

| | |
|-------------|-----------------------|
| CRWQCB REG# | RECEIVED SEP 2 - 2011 |
| REC'D | BB |
| | |
| | |
| FILE | |

**PRELIMINARY WASTE DISCHARGE
REPORT AND EFFLUENT CONTAINMENT
FOR THE EXISTING GREEN VALLEY
FOODS CHEESE PLANT, LOCATED AT
25684 COMMUNITY BOULEVARD,
BARSTOW/HINKLEY AREA, COUNTY OF
SAN BERNARDINO, CALIFORNIA**

Dated: August 31, 2011

Project No.: I081947-10

Prepared For:

Mr. John Driscoll, C.P.A.
DRISCOLL & ASSOCIATES
C/o Green Valley Foods
43521 Ridge Park Drive, Suite 101
Temecula, California 92590

**LGC
INLAND**

**Geotechnical
Environmental
Materials Testing**

**41635 Enterprise Circle North, Suite A
Temecula, California 92590**

Phone: (951) 719-1340 Fax: (951) 719-2998

August 31, 2011

Project No. I081947-45

Mr. John Driscoll, C.P.A.

DRISCOLL & ASSOCIATES

C/o Green Valley Foods

43521 Ridge Park Drive, Suite 101

Temecula, California 92590

Subject: Preliminary Waste Discharge Report and Effluent Containment for the Existing Green Valley Foods Cheese Plant, Located at 25684 Community Boulevard, Barstow/Hinkley Area, County of San Bernardino, California

Introduction

Pursuant to your request LGC Inland, Inc. (LGC) has prepared this waste discharge report for the effluent being produced by Green Valley Foods, hereby known as "discharger", located at 25684 Community Boulevard, Barstow/Hinkley Area, County of San Bernardino, California. This report presents a summary of our original studies, ongoing field work and laboratory testing of the groundwater monitoring wells and discharge locations, and our conclusions and recommendations.

Based upon our understanding of the site, Green Valley Foods has previously discharged wastewater effluent onto the ground surface of an unoccupied parcel of land. The California Regional Water Quality Control Board (CRWQCB) has sampled the surface effluent and determined that technical reports were required to be prepared.

Background Information

Previously the CRWQCB has conducted tests of the discharge and determined that nitrate/nitrite, total dissolved solids, coliforms, and iron were constituents of concern within the discharge area. Following the initial testing the CRWQCB notified GVF on March 5, 2007 to submit a report relative to waste discharge. Following that notification, the CRWQCB ordered GVF to submit technical reports on December 10, 2007. From that order GVF contracted with LGC Inland, Inc. (LGC) to prepare the technical report of waste discharge. LGC completed a groundwater investigation work plan, installed groundwater monitoring wells, and prepared a groundwater investigation report for the site.

On October 27, 2008 Green Valley Foods was supplied by the California Regional Water Quality Control Board (CRWQCB) with an example of permit for a Surface Impoundment; after which the CRWQCB issued a notice of noncompliance with Industrial Stormwater Program on November 5, 2008. On December 4, 2008 the CRWQCB issued a notice of violation, failure to comply with "Order to Submit Technical Reports" and tentative waste discharge requirements for the GVF. Green Valley Foods (GVF) submitted an initial Report of Waste Discharge (RWD) to indicate a willingness to complete the process of preparing plans in accordance with the requests of the Lahontan Water Board Order to complete surface impoundment drawings and design. The initial design was completed by the National Resource Conservation Service (NRCS) and submitted to the water board for approval on or about May 26, 2009.

The CRWQCB issued tentative waste discharge requirements on July 2, 2009. Subsequently thereafter comments were made at a board meeting in July 7, 2009 and a formal notice was sent out to indicate that the water board will proceed in making amendments and revisions to the submitted drawings. The CRWQCB issued two more notices of tentative waste discharge requirements on September 17, 2009 and December 22, 2009.

The CRWQCB released a document entitled "Evaluation of Potential Water Quality Impacts from Dairy Operations and Development of Regulatory Strategy" on April 8, 2010. Following that release, the CRWQCB issued a response to comments on Tentative Waste Discharge requirements regarding the Class II surface impoundment on April 14, 2010. At the May 13, 2010 board meeting, the CRWQCB, Lahontan Region (Water Board) issued a Board Order No. RGV-2010-0019, entitled "Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility (Board Order)". The Board Order required GVF to submit design plans for the proposed surface impoundment no later than December 30, 2010. Following the revisions to the plans completed by an engineer hired by Green Valley Foods and submitted to NRCS for approval and stamp, the plans were submitted to the Lahontan Region Victorville office on or about June 22, 2010. After review by the water board an additional response was received by GVF on or about September 28, 2010. The design plans for surface impoundment were delayed as a result of shifting economic conditions.

During January of 2011 a violation notice was issued on the 26th from the CRWQCB indicating that GVF was in violation due to the non-submission of the surface impoundment design plans. A response by Driscoll and Associates was issued on February 15, 2011 indicating the timeline of events that have occurred and that GVF was awaiting the approval of the NRCS design plans in order to submit a work plan for the proposed surface impoundment. Following the GVF response to the CRWQCB comments from January, 2011, the CRWQCB issued a response to the GVF February 15 letter on June 27, 2011.

Prior to the issuance of the CRWQCB response letter, LGC prepared a letter on June 24, 2011 for a proposed alternative to the class II surface impoundment contained within the LGC letter, specific details surrounding the use of an environmentally conscientious and sound practice of effluent reuse for agrarian application was identified. The reuse was specifically targeted as a sustainable environmental practice as the Los Angeles County Sanitation District No. 14 has been irrigating 680 acres of alfalfa with municipal effluent water from the Lancaster Water Reclamation Plant, in the Antelope Valley (Cal. Water Plan Update, 2005). Additionally, as a water quality feature, it is our intention of utilizing an Orenco Systems Inc. Advantex - AXMAX Treatment system. The Advantex Unit removes a significant amount or nearly all of the constituents by microorganisms that are located within the system filters, through several treatments, and disinfections. Also, the unit is capable of producing the secondary treated effluent (recycled water - not for consumption) or tertiary treated effluent (for consumption). See AXMAX specifications in Appendix G.

It should be noted that the elimination of the surface impoundment system is beneficial for GVF residential neighbors and concerned citizens. The Advantex unit will eliminate odors and provide superior water quality when compared to the surface impoundment system. As an environmentally conscientious system, Advantex prevents the respective desert animals from becoming subjected to the effluent or any of the evaporated contents, or solids that may possibly become exposed at the surface. Even though the surface impoundment system is a very technical and highly respected design, the import soil that will be placed above the liner will be subjected to the elements, particularly wind. Winds within the valley area can gust up to 100 miles/hr. As previously noted within the comments and responses the CRWQCB is concerned with "Fugitive Dust". The overall result of the alternative system eliminates the need for exposed soil and solids at the surface and will eliminate any concern related to fugitive dust.

Furthermore, in our review of a previous comment letter issued by the Lahontan Water Board to Driscoll and Associates, there appears to be no contestable information that the results produced in the LGC Inland, Inc. (2008) water analysis report that the groundwater has been impacted by the introduction of the cheese facility effluent onto the surface. There have been identified in previous sampling completed in 2007 by the Lahontan Water Board personnel, that coliform and fecal coliform has been identified as a constituent within the samples taken. Although, it is our professional opinion that these levels of any coliform are only present from the actual introduction of cultured products at the cheese facility. It should be noted that since the samples were evaluated in 2007 by water board personnel and then in 2008 by LGC personnel, GVF has initiated a sump clean out regiment, whereby any solids that remain within the effluent are trapped and settled by gravity and removed on a monthly basis by a Waste Hauling Company. The final stages of the effluent discharge require the sump to be filled to a certain height prior to being transmitted within the PVC pipes to the discharge area.

The alternative presented would be an environmentally conscious and integrated approach of transforming commercial effluent into a fully diluted agrarian water source for growing alfalfa onsite. It is through this fusion of wastewater and agriculture that discharge rates can potentially be reduced to near 1% of the original outflow. The following information listed below will identify the usage and the implementation of the proposed onsite facility and future water use.

Groundwater Sampling and Purged Water Disposal

In June and July of 2011, representatives of LGC (which included observations by a State of California Certified Engineering Geologist) visited the site to conduct water sampling of the onsite monitoring wells and discharge points. The monitoring wells were purged approximately 49.0 to 68.0 gallons for 8 to 11 minutes using a Grunfos RediFlo 2 Pump with the flow set at an average flow rate of 6.125 gal/min. Prior to sampling, Enviro-Chem, Inc. of Riverside, California was contacted and provided the appropriate sampling containers (with and without preservatives) for the desired analytes. The groundwater samples were placed into the appropriate containers, properly labeled, placed in a cooled ice-chest, and then transported to the laboratory. Chain-of-Custody forms were completed and included with the test results (Appendix F).

Approximately 1,011 gallons was pumped for purging and 56 gallons was pumped for sampling for a total of about 1,067 gallons. The purged water was placed in an above ground 564-gallon plastic lined, 6-inch thick, monolithically poured, concrete containment pond. The pond was used to evaporate off water purged from the monitoring wells and placed in 55 gallon drums. Water was poured from drums to the containment pond, during July and August, 2011 and has been steadily evaporating. Note: the purged water from June, 2011 was originally placed within the 55-gallon drums onsite and then properly stored until the containment pond system was constructed. The remaining water is estimated to take another 20-25 days to evaporate from our site observation visit on August 23, 2011. LGC will visit the site during mid-September to confirm the evaporation rate and determine if an additional site visit will be necessary.

Site Discharger Information

1. Discharger

Green Valley Foods (GVF) c/o Driscoll and Associates submitted an initial letter report by LGC on June 24, 2011 to indicate a willingness to complete additional sampling and design of the wastewater effluent to be utilized for agrarian use in the process of growing alfalfa. The initial proposed design consisted of converting the effluent into a secondary treated wastewater product for alfalfa usage or tertiary treated wastewater for reuse. This has been made possible by use of the Orenco Systems Inc. Advantex - AXMAX Treatment system. The Advantex Unit removes a significant amount of the constituents by use microorganisms that are located within the system filters, through several treatments, disinfections, and eventually dispersal. Although Total Dissolved Solids (TDS) and Iron (Fe) are not removed, it is our understanding from our monitoring well data collected onsite that TDS and Fe levels have exceeded the minimum specified

requirements of 500 mg/L for TDS and "ferric, free-iron" present within the system. The Iron (Fe) within the groundwater system we understand to be naturally occurring and considered to be ferric iron or "free-iron", which is non-causative to human consumption.

From a degradation standpoint, the groundwater appears to have been impacted by offsite-external sources: a conclusion reached within the LGC, 2008 groundwater report. It is our opinion that the process of diluting a 100:1 ratio of effluent to actual groundwater for the pivot field will considerably reduce the total amount of TDS within the capture zone of the Green Valley Foods facility area.

It is the intent of the formal submittal letter to the CRWQCB prepared by LGC on June 24, 2011 to conduct an engineering and geologic study of the adjacent approximate 160-acre property (acquired and owned by Hector Huerta of Green Valley Foods) and to formally present our results to the board upon completion of our study in late August, 2011.

Within the next 30 to 60 days it is the intention of GVF to install the AXMAX system and connect the discharged effluent outflow into the unit. Concurrently, the pivot field will be prepared to accept the treated water and the initial water testing phase will begin.

2. Facility

Green Valley Foods has proposed to construct a pipeline, maintain, and operate an ultimate Land Treatment Unit (LTU) encompassing approximately 160 acres on the west of Markham Drive or north of the cheese facility to a vacant 25 acres to treat effluents being produced at the cheese facility. The effluent will be initially cleaned by means of an Advantex unit, capable of handling up to 20,000 gallons per day and be applied to the LTU through a pivot irrigation system. The soils and vegetation in the LTU will further reduce the effluent discharge via transpiration and evaporation into the alfalfa field. The LTU on the approximate 160-acres and 25-acres is the location to which the discharge occurs. The existing pivot irrigation system will be moderately adjusted to accept the flows being produced by the Advantex unit. GVF plans to maintain and operate the cheese facility and manage the alfalfa fields for an unspecified length of time. For the purpose of this report, the approximate 160-acres and vacant 25-acres is known as the "facility".

3. Facility Location

The Facility is located east of the community of Hinkley and west of Barstow in San Bernardino County in the Harper Valley Subarea of the Mojave Hydrologic Unit.

4. Reason for Action

In response to the formal board letter termination of the cheese plant effluent discharge, GVF hired LGC Inland, Inc. to perform an engineering and geologic study of the property, the potential effects of the effluent on groundwater, and a technical report of the findings.

5. Site Geology

The soils underlying the Facility are comprised of alternating layers of gravels, sands, silts, and clays. The depth to bedrock is about 175 feet below the Facility. The nearest active fault is the northwest - southeast trending Lenwood fault located about 1-1/2 miles south of the Facility.

6. Site Hydrogeology and Hydrology

The hydrogeology is expected to be similar in characteristics to the existing discharge area. Further geologic and engineering analysis will be required to confirm the subsurface soil within the proposed LTU discharge area.

The closest surface water body is the Mojave River, which is located approximately 1/2-mile south of the Facility.

7. Climatology

The precipitation in the general area of the GVF Facility is approximately three (3) inches annually. The evaporation rate is approximately 74 inches annually

8. Ground Water Quality

The water quality goals for an agricultural water source for TDS are 450 mg/L (Water Quality for Agriculture - Ayers & Westcot). Therefore, some of the ground water in the capture zone does not presently support the beneficial use for an agricultural supply. The TDS concentrations are unsuitable for irrigation of some sensitive crops but are still suitable for moderately tolerable crops, such as alfalfa, that are expected to be grown in this area.

9. Waste Classification

The nitrite/nitrate, total dissolved solids, fecal and total coliforms, and iron discharge is classified as a municipal effluent liquid designated waste.

10. Land Uses

The land uses at, and surrounding, the Facility consist of residential, agricultural, and open desert land. The nearest residence, worker housing for dairy personnel, is located adjacent to the eastern boundary of the LTU.

11. Receiving Waters

The receiving waters are the ground waters of the Harper Valley Hydrologic Area of the Mojave Hydrologic Unit. The Department of Water Resources (DWR) designation for the Harper Valley Hydrologic Area is 628.42.

12. Lahontan Basin Plan

The Regional Board adopted a Water Quality Control Plan for the Lahontan Basin (Basin Plan), which became effective on March 31, 1995.

13. Beneficial Ground Water Uses

The beneficial uses of the ground water of the Middle Mojave River Valley Ground Water Basin as set forth in the Basin Plan are:

- a. MUN - municipal and domestic supply;
- b. AGR - agricultural supply;
- c. IND - industrial supply;
- d. FRSH - freshwater replenishment; and
- e. AQUA - aquaculture.

14. Non-Degradation

In accordance with State Water Resources Control Board (SWRCB) Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and the Water Quality Control Plan for the Lahontan Region (Basin Plan) water degradation may be allowed if the following conditions are met: 1) any change in water quality must be consistent with maximum benefit to the people of the State; 2) will not unreasonably affect present and anticipated beneficial uses; and 3) will not result in water quality less than that prescribed in the Basin Plan; and 4) discharges must use the best practicable treatment or control to avoid pollution or nuisance and maintain the highest water quality consistent with maximum benefit to the people of the State.

The application of municipal effluent to irrigate crops will cause some TDS degradation of the ground water consistent with the effects of crop irrigation observed throughout the watershed. Within the capture zone of the monitored groundwater at the Green Valley Foods Cheese Plant ground water extraction system, nitrate concentrations are less than 6.0 mg/L. TDS for the same area ranges from 451 - 1700 mg/L. However, the TDS degradation will improve over time as the mass is removed from the effluent through by demand from the Green Valley Foods Cheese Plant, processed through the AXMAX unit, then finally dispersed into the field via the pivot on a 100/1 basis. The long-term nitrate concentration in ground water will likely be 6.0 mg/L or less after a period of 5 years.

At the same period of the operation, the estimated TDS concentration of 1,400 mg/L in the aquifer below the LTU is well within the tolerance ranges of crop grown in the area. The TDS degradation, if any, will be localized, minor and will not further adversely impact present or future beneficial uses of the ground water in the area. The LTU and the AXMAX/Pivot combined system are designed to implement an equivalent of the Best Practicable Technology as required by SWRCB's Resolution No. 68-16. The long-term benefit of the project will result in removal of TDS and nitrate from the ground water. The TDS concentration of 1,400 mg/L in the ground water will still be suitable for crops expected to be grown in the area. Therefore, the resulting water quality from this project will be consistent with the SWRCB's Resolution No. 68-16.

Conclusion

Our understanding of the proposed Class II surface impoundment system in comparison to the proposed environmentally conscious system is not by any means a primary solution to the municipal effluent being discharged onsite. In fact the proposed Class II facility will utilize resource dependent construction materials and be initially limited to the proposed maximum output that it is currently designed for. Thus, during increased economic activity and effluent flows the system would likely be under-designed and need to be expanded. The proposed alternative provides a maximum best management practice for Green Valley Foods.

While acknowledging that considerable work has been completed on a surface impoundment design system, a maximum benefit will be provided to the CRWQCB, the adjacent landowners, and concerned citizens who have been made aware of the ongoing conditions at the Green Valley Foods facility. Monitoring will be paramount during the initial stages of the post-constructed AXMAX unit and the dispersed irrigated alfalfa fields. The weekly data will be evaluated and tested to determine the net output of the pivot TDS, Nitrate, and Iron "ferric, naturally occurring" constituents, as we expect these to be the only remaining constituents of concern within the pivot at the conclusion of construction activities.


Closure

It has been a pleasure to present this waste discharge report to Green Valley Foods. If there are any questions regarding the contents of this report please feel free to contact our office at your earliest convenience.

Respectfully,

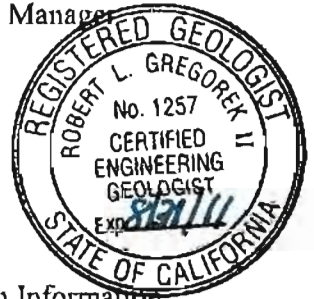
LGC INLAND INC.


Chris Josef
Operations Manager / Engineer


Robert L. Gregorek, II C.E.G.
Geologic Operations Manager

Attachments:

- A. References
- B. Site Location Map
- C. Proposed LTU Site
- D. Groundwater Sampling Logs
- E. Monitoring Well Location Map
- F. Test Results
- G. Orenco Systems Inc. Advantex - AXMAX Treatment system Information



CEJ/RLG

APPENDIX A
REFERENCES

References

- Ayers, R.S., and D.W. Westcot, 1985, Water Quality for agriculture, Food and Agriculture Organization (FAO) of the United Nations, FAO Irrigation and Drainage Paper 29.*
- California Water Plan Update, 2005, chapter 10, South Lahontan Hydrologic Region.*
- California Geological Survey, Note 36, California Geomorphic Provinces.*
- California Laboratory Services, 2007, Results of Analyses for Inlet (On-site well) and Outlet Water Samples, Dated February 23.*
- California Regional Water Quality Control Board, 2007, Order to Submit a Report of Waste Discharge, Green Valley Foods, Barstow, San Bernardino County, Dated March 5.*
- California Regional Water Quality Control Board, 2007, Order to Submit Technical Reports on Threatened Impacts to Groundwater Quality and Beneficial Uses, Green Valley Foods, Barstow, San Bernardino County, WDID No. 6B360704003, Dated December 10.*
- California Regional Water Quality Control Board, 2010, Evaluation of Potential Water Quality Impacts from Dairy Operations and Development of Regulatory Strategy, Dated April 8.*
- California Regional Water Quality Control Board, 2010, Response to Comments on Tentative Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility, Class II Surface Impoundment, San Bernardino County, Dated April 14.*
- California Regional Water Quality Control Board, 2010, New Waste Discharge Requirements, "Green Valley Foods Cheese Processing Facility", Lahontan Regional Water Quality Control Board, Dated May 13.*
- California Regional Water Quality Control Board, 2010, Adopted Waste Discharge Requirements for Green Valley Foods Cheese Processing Facility; Class II Surface Impoundment, San Bernardino County, Board Order No. RgV-2010-0019, Dated May 27.*
- California Regional Water Quality Control Board, 2011, Notice of Violation (NOV), Green Valley Foods, Barstow, San Bernardino County, WDID No. 6B360704003, Dated January 26.*
- California Regional Water Quality Control Board, 2011, Notice of Violation (NOV), Green Valley Foods, Barstow, San Bernardino County, WDID No. 6B360704003, Dated May 31.*
- California Regional Water Quality Control Board, 2011, Response to Green Valley Foods Letter of February 15, 2011, Green Valley Food Products, Inc., Barstow, San Bernardino County, WDID No. 6B360704003, Dated June 27.*

Driscoll & Associates, 2011, c/o Green Valley Foods, Response to Notice of Violation, Dated February 15.

Golden State Water Company, 2011, Barstow water System, Water Quality Report.

LGC Inland, Inc. 2008, Amended Groundwater Investigation Work Plan for the Green Valley Foods Cheese Processing Facility Located at 25684 Community Boulevard in the City of Barstow, San Bernardino County, California, Project No. 1081947-45, dated March 14.

_____, *2008, Investigation for the Green Valley Foods Cheese Processing Facility Located at 25684 Community Boulevard in the City of Barstow, San Bernardino County, California, Project No. 1081947-10, dated June 11.*

_____, *2008, Response to Comments of the Groundwater Investigation for the Green Valley Foods Cheese Processing Facility, Barstow, San Bernardino County, California, Project No. 1081947-10, dated November 7.*

_____, *2011, Response to the Notice of Violation Issued May 31, 2011 and Presentation of a Proposed Alternative Site Modification in Lieu of Onsite Surface Impoundment, for the Cheese Processing Facility, Located in the Unincorporated Area of Barstow, San Bernardino County, California, Dated June 24.*

S.S. Papadopoulos & Associates, Inc., groundwater Flow in a Desert Basin Complexity and Controversy, Undated.

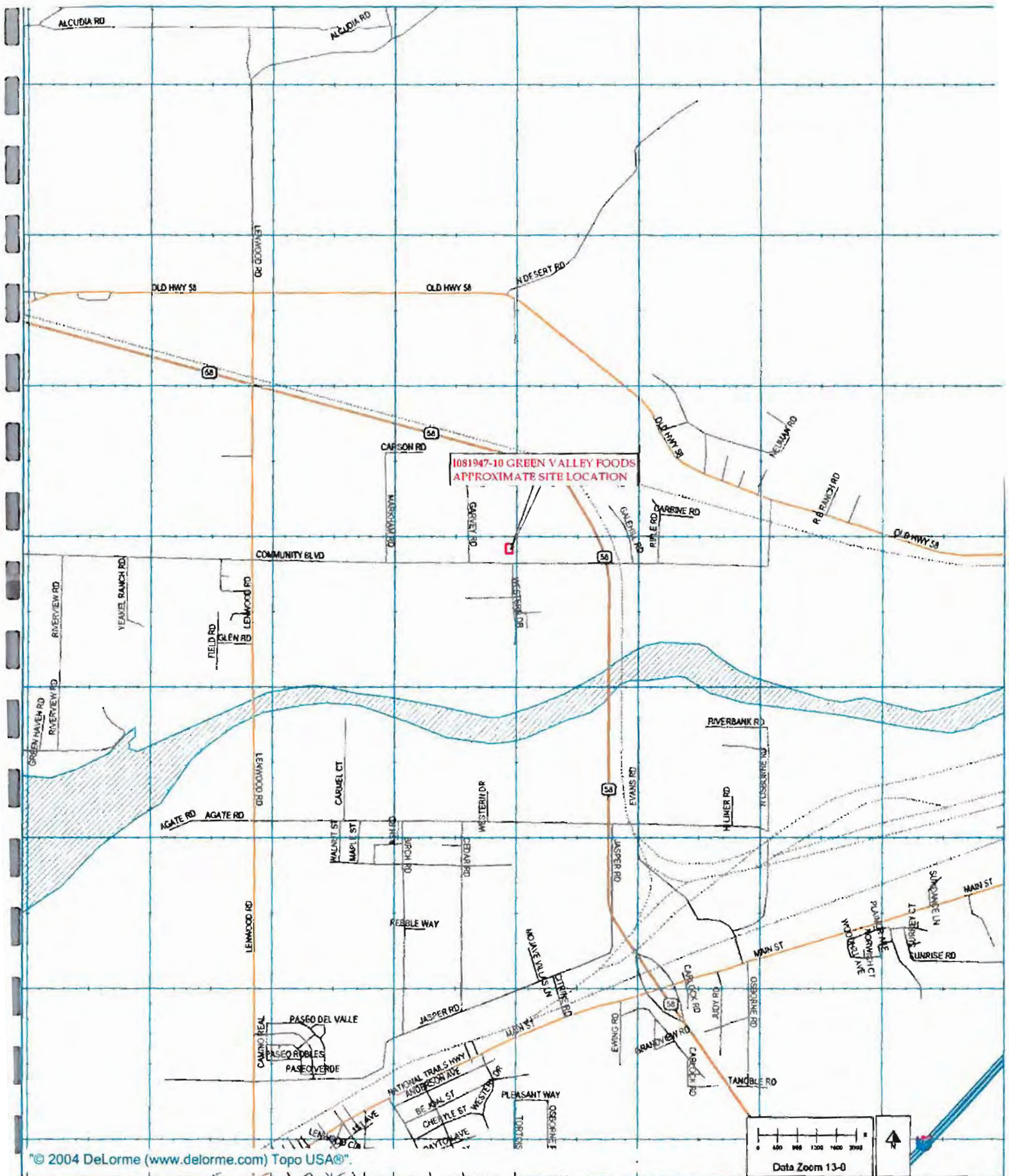
University of California – Agriculture and Natural Resources, 2002, Publication 8066, Irrigation Water Salinity and Crop Production, FWQP Reference Sheet 9.10

United States Department of Agriculture, Natural Resources Conservation Service, 2010, Response to California Regional Water Quality Control Board, Lahontan Region, Comments Supplementing the Drawings and Specification Docket Previously Prepared in April 2009, Dated March 25.

United States Environmental Protection Agency, 2006, EPA/625/R-06/016, "Land Treatment of Municipal Wastewater Effluents", Land Remediation and Pollution Control Division, National Risk Management Research Laboratory, Office of Research and Development, Dated September.

APPENDIX B

SITE LOCATION MAP



LGC
INLAND

FIGURE 1
SITE LOCATION MAP

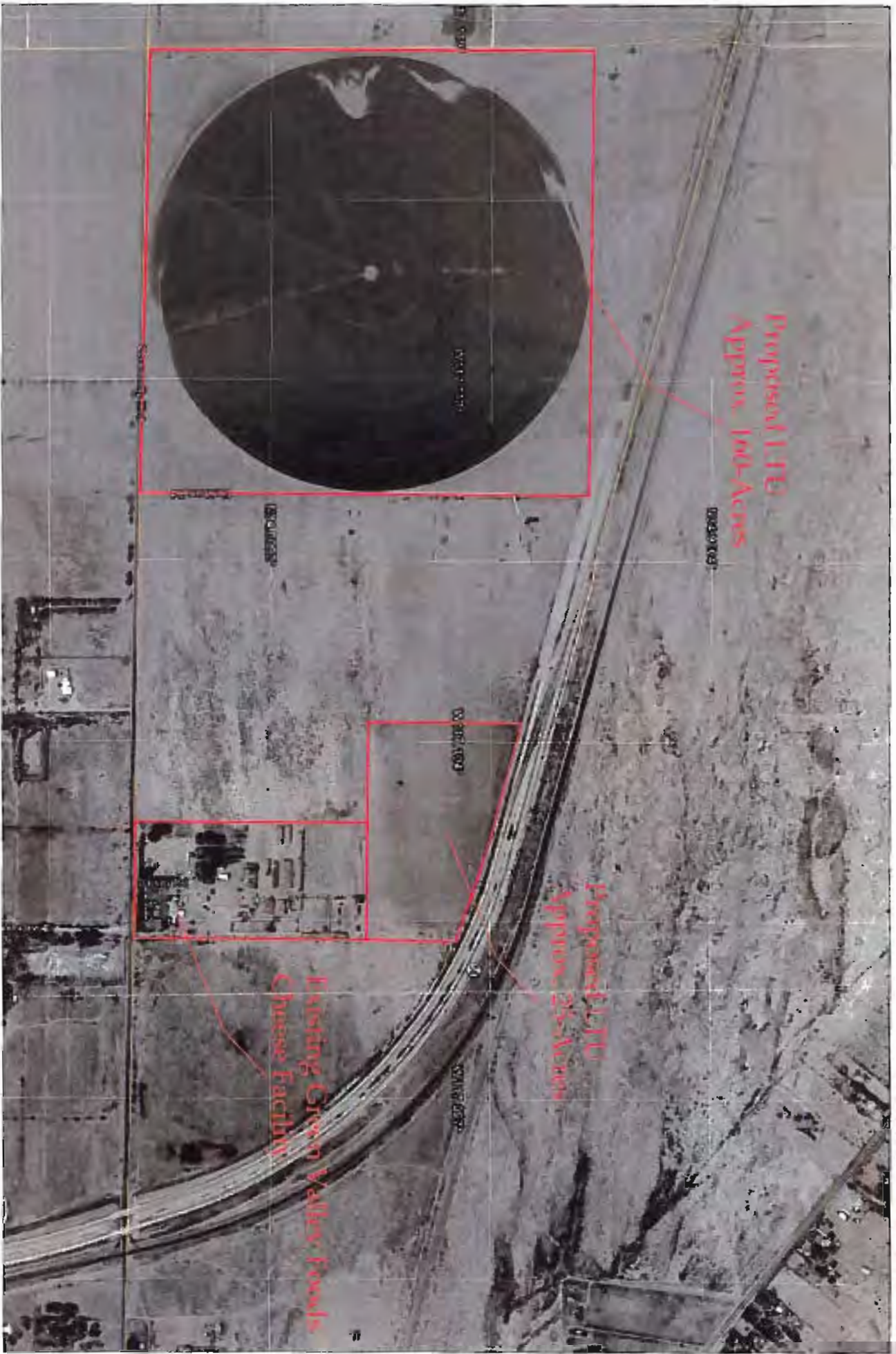
| | |
|--------------|--------------------|
| Project Name | GREEN VALLEY FOODS |
| Project No. | 1081947-10 |
| Geol./ Eng. | RLG/CEJ |
| Scale | NOT TO SCALE |
| Date | AUGUST 2011 |

APPENDIX C

PROPOSED LTU SITE

LEGEND
(Locations are Approximate)

— Indicates Approximate Boundary
of Proposed Land Treatment Unit (LTU)



LGC INLAND
GEO TECHNICAL - ENVIRONMENTAL - MATERIALS TESTING
41625 ENTERPRISE CIRCLE NORTH, SUITE A
THERMIDALE, CALIFORNIA 95920
Office: (925) 718-2888
Fax: (925) 718-2888

Proposed Land Treatment Unit (LTU) Site Location
25684 COMMUNITY BOULEVARD
CITY OF BARSTOW, SAN BERNARDINO COUNTY, CALIFORNIA

| | | | |
|--------------|---|--|--|
| Project Name | DRISCOLL & ASSOCIATES, c/o GREEN VALLEY FOODS | | |
| Project No. | 1081947-10 | | |
| Eng. / Geol. | CEJ/R/LG | | |
| Scale | NOT TO SCALE | | |
| Date | AUGUST 2011 | | |

FIGURE 1

APPENDIX D

GROUNDWATER SAMPLING LOGS

MW-2

Date: 6/24/2011

MW-3

Date: 6/24/2011

MW-1

Project No: 1081967-45 Date: 6/30/2011

MW-2

Project No: I081967-45 Date: 6/30/2011

MW-4

Project No: 1081967-45 Date: 6/30/2011

MW-5

GROUNDWATER SAMPLING LOG

FIELD DATA

Date: 6/30/2011

Weather: Clear and hot

Sampling Crew: RLG & JAM

Amb. Temp.: 89 degrees F

WATER ELEVATION DATA

1) Well Reference Elevation: 2175.58 ft. (above MSL)

Well Reference Point: Top of Well Casing

2) Depth to Water Surface: 62.00 ft.

Well Sounding Method: Ken-Tech water meter

3) Static Water Elevation: 2113.58 ft. (#1-#2)

4) Depth to Well Bottom: 85.00 ft.

5) Height of Water Column: 23.00 ft. (#4-#2)

| | | |
|------------------|------|-----|
| 6) 80 % Recharge | 66.6 | ft. |
|------------------|------|-----|

7) Water Volume in Well = 19.00 gal.

(X 4,5": h x 0.826 gal/ft)

8) Depth to Water Pump: 75.00 ft.

WELL PURGE DATA

Purge Method: Grunfos RediFlo 2 Pump - Flow set at 6.125 gal/min.

Date: 6/30/2011

Total Volume Purged (gallons): 61.3

| Time | Duration | Rate | Volume | Temp | pH | Comments |
|------|----------|------|--------|------|----|----------|
|------|----------|------|--------|------|----|----------|

| Time | Duration | Rate | Volume | Temp | pH | Comments |
|------|----------|-----------|-----------|------|----|----------|
| 1310 | (min) | (gal/min) | (gallons) | (°F) | | |
| | | | | | | |

| | | | | | |
|------|------|-------|------|------|------|
| 1320 | 10.0 | 6.125 | 61.3 | 64.4 | 6.62 |
|------|------|-------|------|------|------|

WATER SAMPLE DATA

Sampler Initials: JAM

Date: 6/30/2011

Time: 1322

Sampling Method: Samples collected from the 1/2" discharge tubing.

Containers Used: (2-VOA 30 ml Glass Vials, 2-300 liter clear poly jars and 5-100 ml clear poly jars):

Sample Preservative: Ice. HCL in VOAs

| | |
|----------------------|-------|
| Physical Appearance: | Clear |
|----------------------|-------|

Comments:

Sample analyses include:

GREEN VALLEY FOODS

Project No: 1081967-45

Date: 6/30/2011

MW-2

Date: 7/12/2011

MW-3

Date: 7/12/2011

MW-4

Date: 6/20/2011

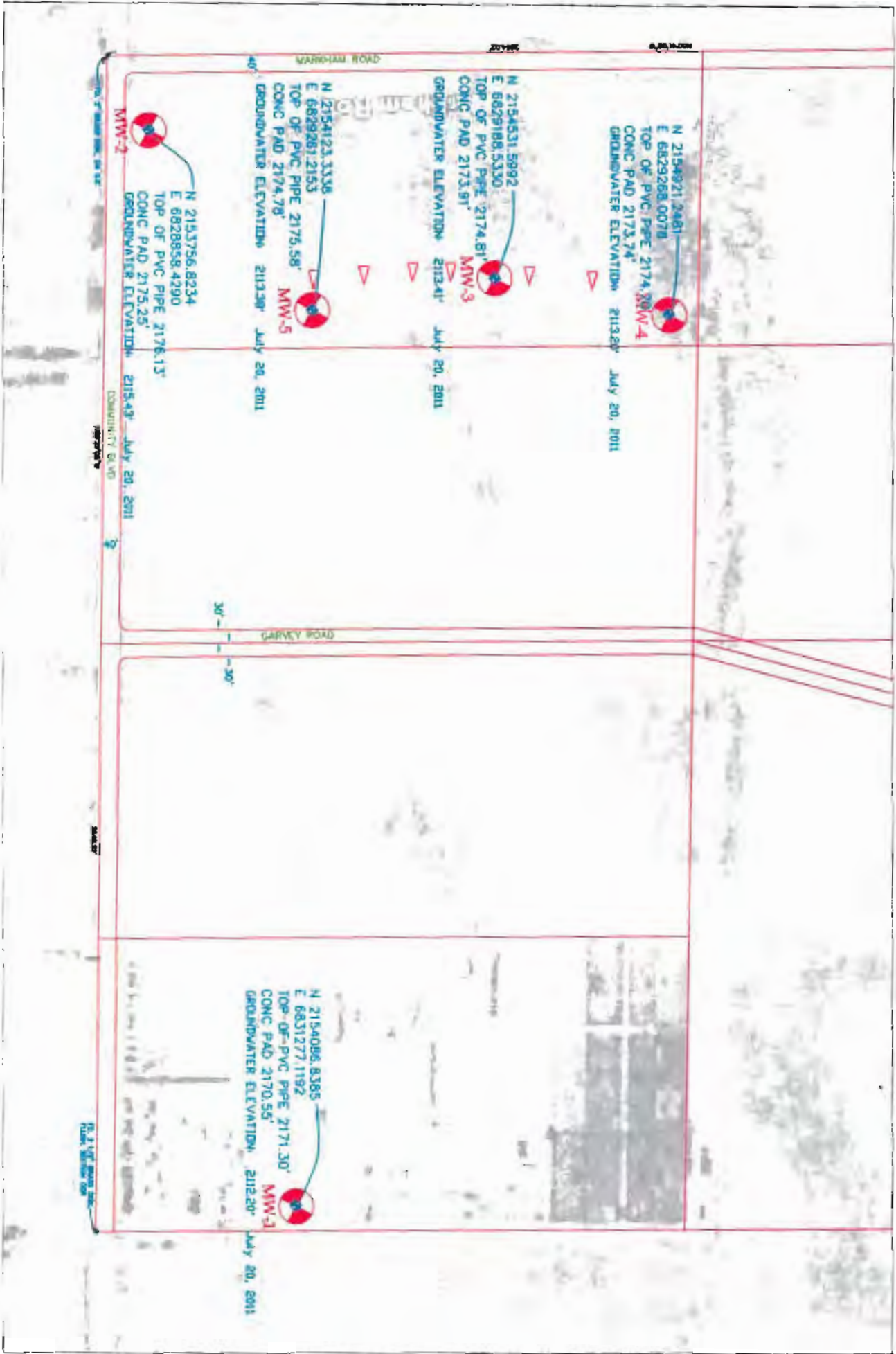
APPENDIX E

MONITORING WELL LOCATION MAP

LEGEND
(Locations are Approximate)


- Location of Monitoring Wells


- Discharge Point



LGC
INLAND

LGC INLAND
41635 ENTERPRISE CIRCLE NORTH, SUITE A
TEMECULA, CALIFORNIA 92590
Office: (951) 758-1340
Fax: (951) 746-3666

MONITORING WELL LOCATION MAP
25684 COMMUNITY BOULEVARD
CITY OF BARSTOW, SAN BERNARDINO COUNTY, CALIFORNIA

| | | | |
|--------------|---------------------|--|--|
| Project Name | GREEN VALLEY FOODS | | |
| Project No. | 1081947-45 | | |
| Eng./Geol. | RLG/CEJ | | |
| Scale | (in ft) 1:300 | | |
| Date | REVISED AUGUST 2011 | | |

APPENDIX F

LABORATORY TEST RESULTS

| Sample Date | Matrix | Monitor Well ID | Ammonia N | Alkalinity-Bicarbonate | Alkalinity-Carbonate | Alkalinity-Hydroxide | Biochemical Oxygen Demand | Chemical Oxygen Demand | Chloride | Specific Conductance | Flouride | Dissolved Iron | Nitrate | Nitrite | pH | Total Dissolved Solids | Total Suspended Solids | Ferrous Iron | Total Kjeldahl Nitrogen | Orthophospahte | Phosphorous | BioChemical Oxygen Demand | Total Coliform |
|-------------|--------|-----------------|-----------|------------------------|----------------------|----------------------|---------------------------|------------------------|----------|----------------------|----------|----------------|---------|---------|------|------------------------|------------------------|--------------|-------------------------|----------------|-------------|---------------------------|----------------|
| 6/22/2011 | Water | MW#1 | ND | 182 | ND | ND | ND | 11.1 | 159 | 1060 | 0.311 | | 5.2 | ND | 6.59 | 620 | 4 | | ND | 0.07 | 0.07 | | <2 |
| 6/24/2011 | Water | MW#2 | ND | 119 | ND | ND | 28 | 28.3 | 65.4 | 506 | 0.353 | | 2.7 | ND | 6.89 | 323 | 69 | | ND | 0.06 | 0.22 | | <2 |
| 6/24/2011 | Water | MW#3 | ND | 255 | ND | ND | ND | 21.9 | 386 | 1200 | 0.243 | | 5.2 | ND | 6.72 | 738 | 13 | | ND | 0.05 | 0.08 | | 240 |
| 6/24/2011 | Water | Discharge #2 | ND | ND | ND | ND | 3600 | 6930 | 3070 | 7530 | 157 | | 5.6 | ND | 3.52 | 4130 | 672 | | 213 | 101 | 117 | | >16000 |
| 6/30/2011 | Water | MW#1 | ND | 248 | ND | ND | ND | 102 | 379 | 1580 | 0.379 | | 22 | ND | 6.84 | 1050 | 23 | | ND | 0.07 | 0.12 | | <2 |
| 6/30/2011 | Water | MW#4 | ND | 226 | ND | ND | ND | 317 | 161 | 1120 | 0.276 | | 10 | ND | 6.8 | 684 | ND | | ND | 0.05 | 0.09 | | <2 |
| 6/30/2011 | Water | MW#3 | ND | 327 | ND | ND | ND | 277 | 778 | 2340 | ND | | 6 | ND | 6.42 | 1380 | 14 | | ND | 0.02 | 0.17 | | 23 |
| 6/30/2011 | Water | Discharge #4 | ND | 147 | ND | ND | 1900 | 1810 | 2000 | 4000 | 21.6 | | 4.1 | ND | 5.92 | 2300 | 99 | | 85 | 39.2 | 47.3 | | >160000 |
| 6/30/2011 | Water | MW#5 | ND | 119 | ND | ND | ND | 121 | 75.8 | 726 | 0.35 | | 1.7 | ND | 6.62 | 451 | ND | | ND | 0.04 | 0.15 | | <2 |
| 6/30/2011 | Water | MW#2 | ND | 127 | ND | ND | ND | 305 | 67.9 | 628 | 0.444 | | 2 | ND | 6.88 | 377 | 19 | | ND | 0.06 | 0.1 | | 2 |
| 7/7/2011 | Water | Discharge #1 | ND | ND | ND | ND | 11000 | 18100 | 3050 | 6610 | 141 | | ND | ND | 4.19 | 4060 | 513 | | | 78.6 | 113 | | >16000000 |
| 7/7/2011 | Water | MW#1 | ND | 240 | ND | ND | ND | 31 | 491 | 1750 | 0.424 | | 37 | ND | 6.91 | 1030 | 4 | | | 0.08 | 0.09 | | <2 |
| 7/7/2011 | Water | MW#4 | ND | 208 | ND | ND | ND | 38.7 | 207 | 915 | 0.291 | | 6.7 | ND | 7.03 | 580 | 3 | | | 0.06 | 0.07 | | <2 |
| 7/7/2011 | Water | Discharge #1 | ND | ND | ND | ND | 3200 | 5190 | 1780 | 4290 | 77.4 | | 4.4 | ND | 4.38 | 2410 | 280 | | | | | | >16000000 |
| 7/12/2011 | Water | Discharge #3 | ND | ND | ND | ND | | 4960 | 1190 | 3210 | 33.7 | | 1.1 | ND | 4.45 | 1830 | 202 | | | | | | |
| 7/12/2011 | Water | MW#4 | ND | 279 | ND | ND | | 28.2 | 495 | 1480 | 0.267 | | 5.6 | ND | 6.44 | 972 | 4 | | | | | | |
| 7/12/2011 | Water | MW#3 | ND | 212 | ND | ND | | 30.3 | 209 | 792 | 0.23 | | 13 | ND | 6.65 | 544 | 13 | | | | | | |
| 7/12/2011 | Water | MW#5 | ND | 115 | ND | ND | | 22 | 69.3 | 465 | 0.334 | | 1.9 | ND | 6.81 | 286 | ND | | | | | | |
| 7/12/2011 | Water | MW#2 | ND | 125 | ND | ND | | 130 | 67.4 | 477 | 0.45 | | 2.2 | ND | 6.98 | 243 | 86 | | | | | | |
| 7/20/2011 | Water | MW#1 | ND | 263 | ND | ND | | 20.6 | 534 | 1670 | 0.377 | ND | 37 | ND | 6.85 | 1120 | 9 | ND | ND | 0.08 | 0.08 | ND | <2 |
| 7/20/2011 | Water | MW#2 | ND | 123 | ND | ND | | 16.3 | 79.2 | 569 | 0.469 | ND | 2.2 | ND | 7.03 | 386 | 4 | ND | ND | 0.06 | 0.07 | ND | <2 |
| 7/20/2011 | Water | MW#5 | ND | 133 | ND | ND | | 22.7 | 85.1 | 493 | 0.326 | ND | 1.8 | ND | 6.92 | 312 | 3 | ND | ND | 0.04 | 0.04 | ND | <2 |
| 7/20/2011 | Water | MW#3 | ND | 289 | ND | ND | | 31.4 | 583 | 1340 | 0.244 | ND | 5.2 | ND | 6.67 | 911 | 6 | ND | 0.6 | 0.05 | 0.1 | ND | <2 |
| 7/20/2011 | Water | Discharge #2 | ND | ND | ND | ND | | 6560 | 2280 | 5760 | 57.8 | 1.15 | 2 | ND | 4.16 | 3560 | 405 | ND | 91 | 89.6 | 102 | 4000 | >1600000 |
| 7/20/2011 | Water | MW#4 | ND | 226 | ND | ND | | 16.3 | 209 | 1220 | 0.263 | ND | 12 | ND | 6.97 | 786 | 13 | ND | 1.2 | 0.06 | 0.07 | ND | <2 |

[illegible]

| | | |
|---|---|---------------------------|
| N | O | TRANS-131-Dichloropropene |
| N | O | Ethylbenzene |
| N | O | 2-Hexanone |
| N | O | Hexachlorobutadiene |
| N | O | Isopropylbenzene |
| N | O | 4-Isopropyltouene |
| N | O | 4-Methyl-2-Pentanone |
| N | O | Methyl tert-Butyl Ether |
| N | O | Methylene Chloride |
| N | O | Naphthalene |
| N | O | N-Propylbenzene |
| N | O | Styrene |
| N | O | 1,1,1,2-Tetrachloroethane |
| N | O | 1,1,2,2-Tetrachloroethane |
| N | O | Tetrachloroethene |
| N | O | Toluene |
| N | O | 1,2,3-Trichlorobenzene |
| N | O | 1,2,4-Trichlorobenzene |
| N | O | 1,1,1-Trichloroethane |
| N | O | 1,1,2-Trichloroethane |
| N | O | Trichloroethene |
| N | O | Trichlorofluoromethane |
| N | O | 1,2,3-Trichloropropoane |
| N | O | 1,2,4-Trimethylbenzene |
| N | O | 1,3,5-Trimethylbenzene |
| N | O | Vinyl Chloride |
| N | O | M/P-Xylene |
| N | O | O-Xylene |

| Sample Date | Matrix | Monitor Well ID | Barium | Iron | Manganese | Potassium | Sodium | Zinc |
|-------------|--------|-----------------|--------|-------|-----------|-----------|--------|-------|
| 6/22/2011 | Water | MW#1 | 0.104 | ND | ND | 3.83 | 90.1 | 0.033 |
| 6/24/2011 | Water | MW#2 | ND | 4.12 | 0.16 | 3.31 | 87.7 | 0.028 |
| 6/24/2011 | Water | MW#3 | ND | 0.419 | ND | 4.21 | 150 | ND |
| 6/24/2011 | Water | Discharge #2 | ND | 1.01 | ND | 162 | 1090 | 0.12 |
| 6/30/2011 | Water | MW#1 | 0.1 | 0.89 | 0.131 | 8.61 | 152 | 0.019 |
| 6/30/2011 | Water | MW#4 | 0.107 | 0.74 | 0.04 | 4.4 | 88.8 | 0.17 |
| 6/30/2011 | Water | MW#3 | 0.121 | 0.981 | 0.078 | 5.52 | 192 | 0.018 |
| 6/30/2011 | Water | Discharge #4 | ND | 0.529 | ND | 69.1 | 794 | 0.045 |
| 6/30/2011 | Water | MW#5 | ND | 2.54 | 0.141 | 3.24 | 59.9 | 0.021 |
| 6/30/2011 | Water | MW#2 | ND | 1.57 | 0.057 | 3.3 | 58.4 | 0.028 |
| 7/7/2011 | Water | Discharge #1 | ND | 1.61 | ND | 461 | 1020 | 1.555 |
| 7/7/2011 | Water | MW#1 | ND | ND | ND | 5.42 | 175 | 0.017 |
| 7/7/2011 | Water | MW#4 | ND | 0.184 | ND | 4.07 | 116 | 0.013 |
| 7/7/2011 | Water | Discharge #1 | ND | 1.14 | ND | 105 | 917 | 0.104 |
| 7/12/2011 | Water | Discharge #3 | ND | 1 | ND | 144 | 906 | 0.047 |
| 7/12/2011 | Water | MW#4 | ND | ND | ND | 3.98 | 168 | ND |
| 7/12/2011 | Water | MW#3 | 0.101 | 0.342 | ND | 3.96 | 97.2 | ND |
| 7/12/2011 | Water | MW#5 | ND | ND | ND | 2.5 | 76.7 | 0.017 |
| 7/12/2011 | Water | MW#2 | ND | 2.03 | 0.076 | 2.85 | 64.9 | 0.024 |
| 7/20/2011 | Water | MW#1 | 0.102 | ND | ND | 4.88 | 179 | 0.02 |
| 7/20/2011 | Water | MW#2 | ND | 0.31 | 0.012 | 2.62 | 69.5 | 0.026 |
| 7/20/2011 | Water | MW#5 | ND | 0.133 | ND | 3.04 | 69.8 | 0.078 |
| 7/20/2011 | Water | MW#3 | ND | 0.129 | ND | 4.69 | 214 | 0.041 |
| 7/20/2011 | Water | Discharge #2 | ND | 1.16 | ND | 148 | 1190 | 0.062 |
| 7/20/2011 | Water | MW#4 | ND | 0.486 | 0.019 | 3.49 | 93 | 0.022 |

APPENDIX G

**ORENCO SYSTEMS INC.
ADVANTEX – AXMAX TREATMENT SYSTEM SPECIFICATION**

AdvanTex® AX-MAX Treatment Systems



Applications

Orenco's AdvanTex AX-MAX is a complete, fully-plumbed, AdvanTex Wastewater Treatment Plant for residential, commercial, municipal, and mobile applications with medium-to-large-flows and permits requiring secondary treatment or better. It can be used as a stand-alone unit or in multi-unit arrays under adverse conditions in a wide range of environments.

The AX-MAX is ideal for:

- Small sites and poor soils
- Sites that require shallow bury
- Mobile and temporary installations
- Disaster response sanitation
- Remote locations
- Extreme hot or cold climates

General

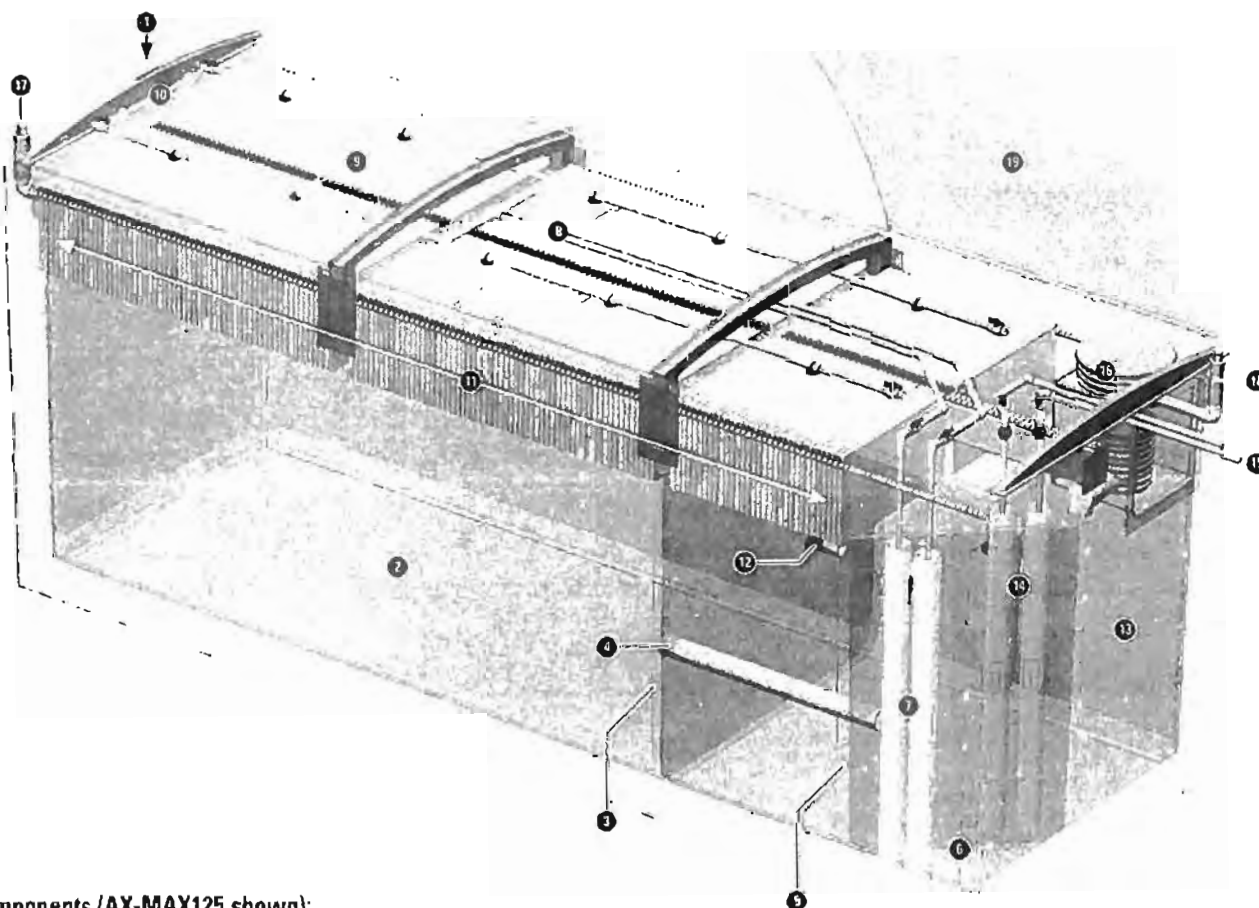
The AX-MAX is a modular system that can be preceded by primary treatment or configured to incorporate primary, secondary, and tertiary wastewater treatment before reuse or dispersal.

The heart of the AX-MAX system is the AdvanTex Recirculating Treatment Tank, a sturdy, watertight, corrosion-proof fiberglass tank that includes the same dependable, textile treatment media found in all AdvanTex products.

Standard Models

AX-MAX100-14, AX-MAX150-21, AX-MAX200-28, AXMAX-250-35, AX-MAX300 (Units without pump systems.)

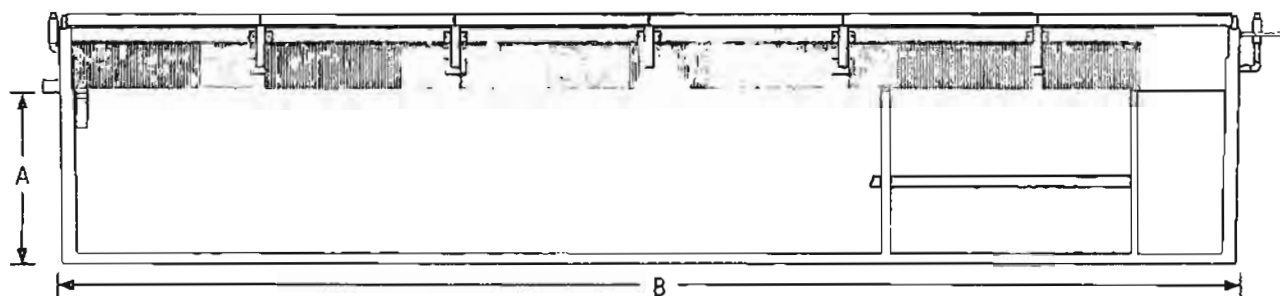
AX-MAX75-14, AX-MAX125-21, AX-MAX175-28, AX-MAX225-35, AX-MAX275-42 (Units with pump systems.)



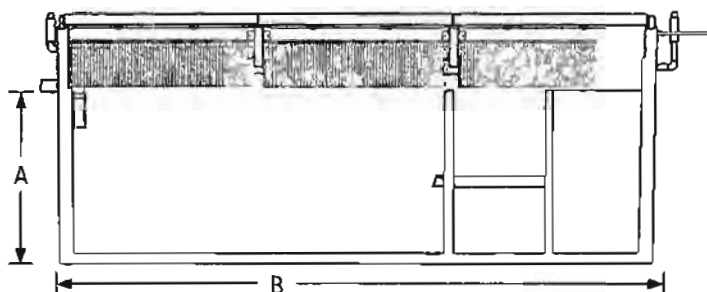
Components (AX-MAX125 shown):

- | | | | |
|-------------------------|-------------------------|-----------------------------|----------------------|
| 1 Inlet, not shown | 6 Pump vault | 11 AdvanTex textile filter | 16 Vent fan assembly |
| 2 Recirc-blend chamber | 7 Recirc pumping system | 12 Recirc-return valve | 17 Air inlet |
| 3 Tank baffle | 8 Distribution manifold | 13 Recirc-filtrate chamber | 18 Air outlet |
| 4 Recirc-crossover pipe | 9 Spray nozzles | 14 Discharge pumping system | 19 Lid, typical |
| 5 Pump vault baffle | 10 Lateral ball valves | 15 Outlet | |

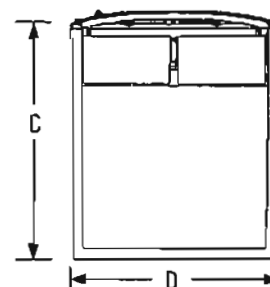
AdvanTex® AX-MAX (continued)



AdvanTex AX MAX300-42, side view



AdvanTex AX-MAX125-21, side view



AdvanTex AX-MAX, end view (all models)

Specifications

Nominal Dimensions*

| Model | AXMAX100-14 | AXMAX150-21 | AXMAX200-28 | AXMAX250-35 | AXMAX300-42 |
|---------------------|--------------|--------------|--------------|--------------|--------------|
| A, ft (m) | 5.7 (1.7) | 5.7 (1.7) | 5.7 (1.7) | 5.7 (1.7) | 5.7 (1.7) |
| B, ft (m) | 14.00 (4.2) | 21.00 (6.4) | 28.00 (8.5) | 35.00 (10.7) | 42.0 (12.8) |
| C, ft (m) | 8.0 (2.4) | 8.0 (2.4) | 8.0 (2.4) | 8.0 (2.4) | 8.0 (2.4) |
| D, ft (m) | 7.5 (2.3) | 7.5 (2.3) | 7.5 (2.3) | 7.5 (2.3) | 7.5 (2.3) |
| Footprint, ft2 (m2) | 112.0 (10.4) | 168.0 (15.6) | 224.0 (20.8) | 280.0 (26.0) | 336.0 (31.2) |
| Model | AXMAX75-14 | AXMAX125-21 | AXMAX175-28 | AXMAX225-35 | AXMAX275-42 |
| A, ft (m) | 5.7 (1.7) | 5.7 (1.7) | 5.7 (1.7) | 5.7 (1.7) | 5.7 (1.7) |
| B, ft (m) | 14.00 (4.2) | 21.00 (6.4) | 28.00 (8.5) | 35.00 (10.7) | 42.0 (12.8) |
| C, ft (m) | 8.0 (2.4) | 8.0 (2.4) | 8.0 (2.4) | 8.0 (2.4) | 8.0 (2.4) |
| D, ft (m) | 7.5 (2.3) | 7.5 (2.3) | 7.5 (2.3) | 7.5 (2.3) | 7.5 (2.3) |
| Footprint, ft2 (m2) | 112.0 (10.4) | 168.0 (15.6) | 224.0 (20.8) | 280.0 (26.0) | 336.0 (31.2) |

*See AdvanTex® AX-MAX Treatment System drawings for exact dimensions and specific treatment configurations.

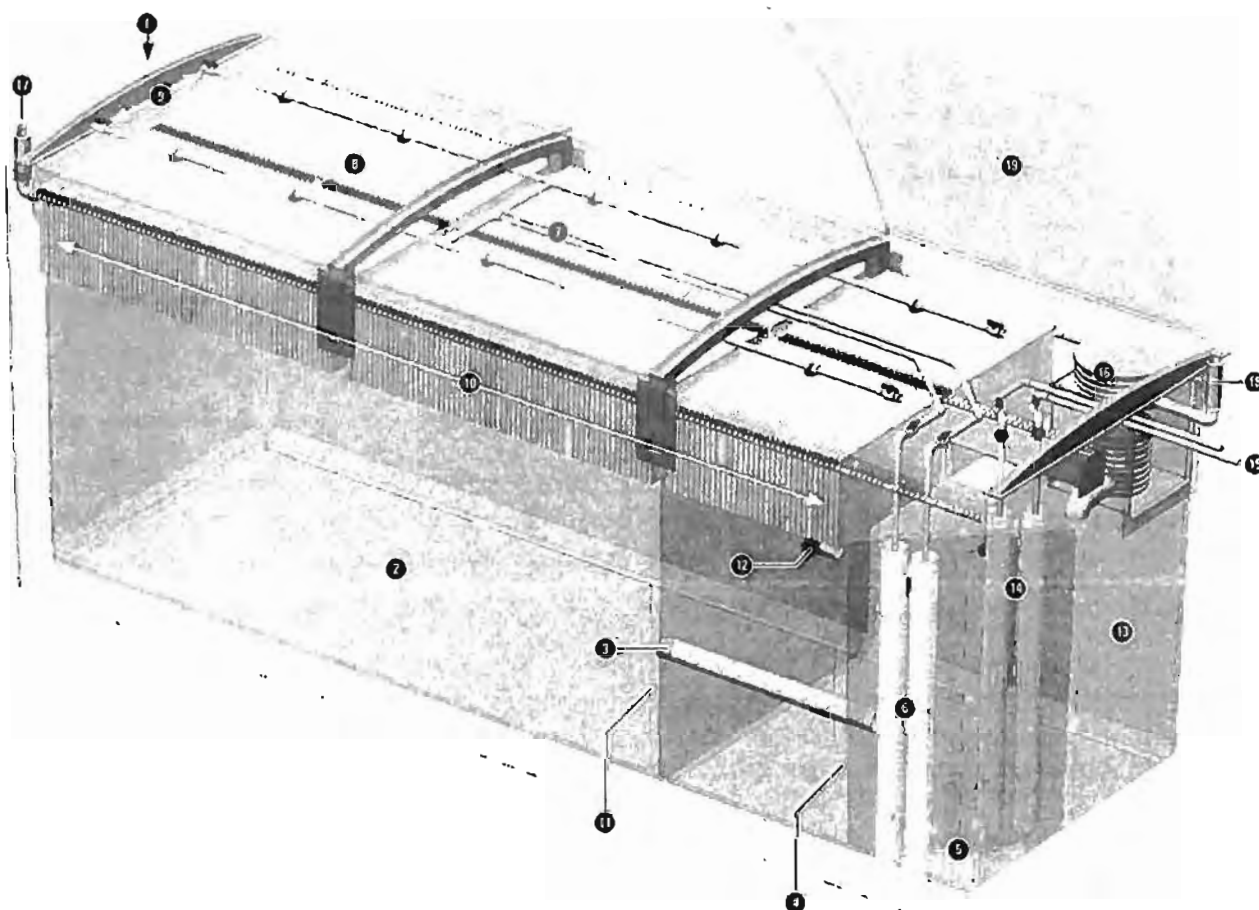
AdvanTex® AX-MAX Design Criteria

For Residential, Commercial, Municipal, and Mobile Applications

Standard System Description and Treatment Process

The AdvanTex AX-MAX® Treatment System is a multiple-pass, packed bed aerobic wastewater treatment technology specifically designed and engineered for long-term processing of domestic-strength wastewater. It features the same outstanding textile filter performance as AdvanTex multi-pod configurations, but in a fully pre-engineered, complete package. Because it has a streamlined system configuration and few components, the AX-MAX requires little operation and maintenance. AX-MAX systems are ideally suited for municipal applications or residential developments.

Figure 1. AdvanTex AX-MAX-125-21 Treatment Unit, cutaway view (other sizes available)

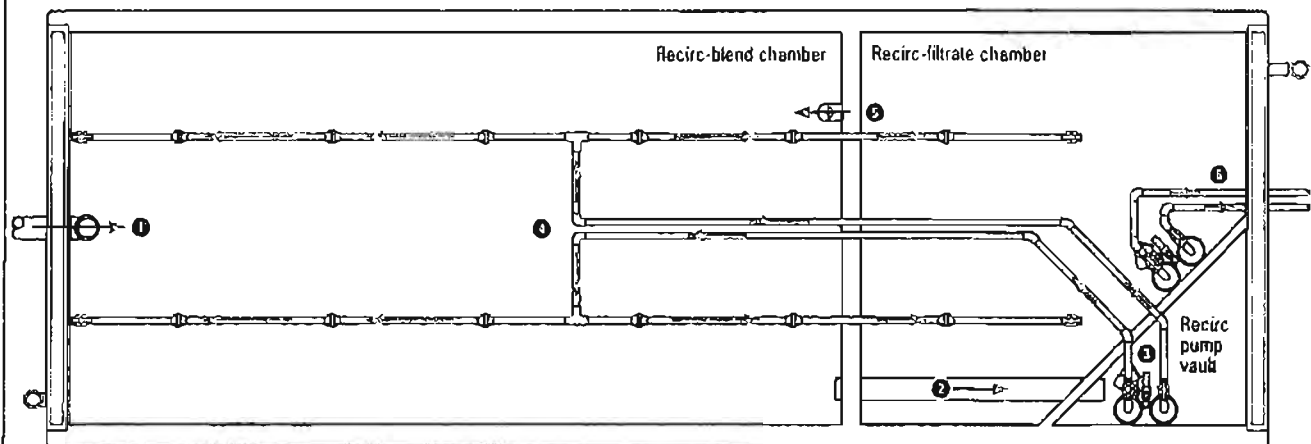


Components:

- | | | | |
|-------------------------|---------------------------|----------------------------|---------------------|
| ① Inlet, not shown | ⑥ Recirc pumping system | ⑪ Tank baffle | ⑭ Vent fan assembly |
| ② Recirc-blend chamber | ⑦ Distribution manifold | ⑫ Recirc-return valve | ⑮ Air inlet |
| ③ Recirc-crossover pipe | ⑧ Spray nozzles | ⑬ Recirc-filtrate chamber | ⑯ Air outlet |
| ④ Pump vault baffle | ⑨ Lateral ball valves | ⑰ Discharge pumping system | ⑲ Lid, typical |
| ⑤ Pump vault | ⑩ AdvanTex textile filter | ⑱ Outlet | |

AdvanTex AX-MAX Design Criteria (cont.)

Figure 2. Typical Flow Pattern, AdvanTex AX-MAX Treatment Unit (AX-MAX-125-21 shown)



Flow path:

- ① Filtered effluent from collection system enters recirc-blend chamber.
- ② Effluent from the recirc-blend chamber flows through the recirc crossover pipe into the recirc pump vault.
- ③ Recirc pumping system pumps effluent through the manifold to the spray nozzles.
- ④ Effluent percolates through media (not shown) and is split between the recirc-blend and recirc-filtrate chambers.
- ⑤ Recirc-return valve allows one-way flow from recirc-filtrate chamber during low-use periods.
- ⑥ Recirc-filtrate chamber provides tertiary treatment (where required) and storage before dispersal.

AdvanTex AX-MAX systems are typically integrated into multi-stage treatment facilities incorporating sludge and scum segregation, anaerobic digestion, and flow equalization in the first stage; filtration and aerobic digestion in the second stage; and disinfection and final discharge for dispersal or reuse in the third stage.

In the first (primary/anaerobic) stage, organic matter segregates into sludge and scum layers, which undergo digestion by typical anaerobic processes. The primary stage is capable removing more than 60% of suspended solids and organic strength. In many cases, the AX-MAX is preceded by an effluent sewer, but it can be configured to receive domestic wastewater from other collection systems as well.

In the second (secondary/aerobic) stage, Orenco's proven AdvanTex treatment process provides aerobic oxidation and digestion for both organic and nutrient reduction. Incoming effluent from the primary treatment chamber enters the recirc-blend chamber opposite the recirculation pumping system. The effluent is blended and diluted with filtrate from the AdvanTex system before being dosed onto the AdvanTex filter by the recirculation pumping system. The recirculation pump package transports the effluent to a distribution manifold above the AdvanTex filter. Effluent percolates down through the textile media, where organic and inorganic matter is treated by naturally occurring heterotrophic & autotrophic microorganisms that populate the filter. These microbes colonize down through the media relative to the degree of organic and nutrient treatment occurring. No outside chemicals are required for standard effluent reduction. The flow is automatically diverted between the recirc-blend chamber and the recirc-filtrate chamber via a recirc-return valve, controlling the liquid level within the chambers. During extended periods of low forward flow, 100% of the treated effluent is returned to the recirc-blend chamber. A final pass section of the AdvanTex treatment system provides the final polishing of the effluent prior to entering the recirc-filtrate chamber.

In the third (tertiary) stage, several treatment, disinfection, and discharge options are available. Post-aeration, post-nitrate reduction, tertiary filtration, disinfection, and/or final discharge storage are all possible uses of the final dosing chamber. The dispersal method can be designed to be batch or continuous, with gravity or pump discharge options available.

Figure 1 shows an optional layout of an AX-MAX configured as an advanced secondary treatment facility (primary treatment and dispersal not shown). AX-MAX units can be buried below grade or set above ground (AX-Mobile applications). An example of the typical flow pattern for a standard AX-MAX application is shown in Figure 2.

AdvanTex AX-MAX Design Criteria (cont.)

Specifications and Operating Summary

- Flows up to 1 MGD
- Capital costs: \$7 - \$12 USD per treated gallon; installed (secondary treatment only)
- Power Requirements: 15 hp per 0.1 MGD
- Low level nutrient removal capability
- Re-use capable
- Average hydraulic loading rate: 25 gpd/ft²

- Peak hydraulic loading rate: 50 gpd/ft²
- Average organic loading rate: 0.04 lbs/day BOD/ft²
- Standard recirculation ratio: 4:1
- Standard dosing ("ON") times: 60 to 90 seconds
- Standard rest ("OFF") times: 4 to 120 minutes
- Standard dosing frequencies: 12 to 72 doses per day

System Performance and Typical Effluent Quality

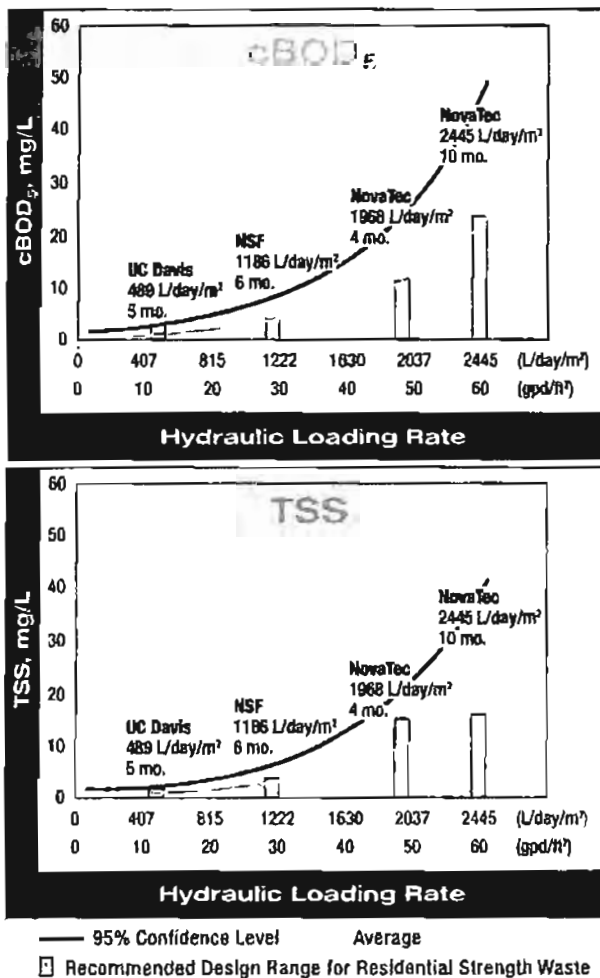
AdvanTex Treatment Systems are capable of processing typical domestic strength wastewater (see Table 1) to "better than secondary standards." With additional components they can meet more advanced treatment levels with little additional operation and maintenance. Standard systems achieve <10/10 cBOD₅/TSS. In addition, total nitrogen reduction will typically exceed 60% with 98% nitrification, provided there are adequate concentrations of alkalinity and liquid temperatures levels are greater than 45° F (7.2° C). When influent alkalinity is limited or

greater nitrogen reduction is required, an alkalinity feed unit can be incorporated.

Figure 3.

Effluent Quality vs. Hydraulic Loading Rates

(ANSI/NSF Standard 40 and Other Third Party Testing Results)



Performance is a function of the expected typical loads with periodic weekly peaks. Effluent quality is dependent on a number of factors, including influent characteristics and loading rates. Third party ANSI/NSF 40 testing results are shown in Figure 3. The results demonstrate that low-to-moderate loading rates* can produce cBOD₅ and TSS of <5 mg/L, and TN of < 25 mg/L. Higher loading rates produce cBOD₅ and TSS in the range of 15-25 mg/L.

System Requirements:

Typical Wastewater Influent Strength

Wastewater strengths are expected to remain within typical influent limits as shown in Table 1. For higher waste strength applications, consult Orenco or an authorized AdvanTex Dealer. If the collection system is something other than an effluent sewer, then a primary treatment system will need to be incorporated into the treatment facility design. The AX-MAX can be designed to enhance other processes as well, such as stressed package plants, membranes, advanced nutrient removal, or wetlands.

System Requirements:

Recommended Primary Treatment

Primary treatment for the AX-MAX must be capable of meeting the requirements listed in Table 1. The primary stage of the AX-MAX should incorporate a Biotube[®] effluent filter, which prevents solids greater than 1/8-inch (3-mm) from passing through to the second stage. Although pre-processing of effluent is not usually required, some applications may benefit from pre-treatment, screening, and trash compacting using packaged sewage receiving stations.

* Influent concentrations of 162 mg/L BOD₅ and 291 mg/L TSS, with peak influent concentrations of 550 mg/L BOD₅ and 1600 mg/L TSS

AdvanTex AX-MAX Design Criteria (cont.)

Table 1. Typical Commercial AdvanTex Influent Wastewater Strength*

| Characteristic | Average (mg/L) † | Weekly Peak (mg/L) | Rarely Exceed (mg/L) |
|------------------|------------------|--------------------|----------------------|
| BOD ₅ | 150 | 250 | 500 |
| TSS | 40 | 75 | 150 |
| TKN | 65 | 75 | 150 |
| G&O | 20 | 25 | 30 |
| pH | 7 | 6.5 to 7.5 | 6 to 9 |
| Alkalinity | 250 | 150 ‡ | 100 ‡ |

* Wastewater strength characteristics (primary treated) entering the recirc-blend chamber of an AdvanTex AX-MAX Treatment System are considered "typical strength" when they fall within the expected ranges shown above.

† Commercial systems will occasionally vary in strength based upon changes in flow characteristics or ownership. As the average influent strength approaches 80% of the weekly peak levels, consideration must be given to providing supplemental pre-treatment, additional treatment units, or process oversight.

‡ Wastewater alkalinity should rarely drop below these levels if nitrogen reduction is necessary.

Retention times of several days are built into the primary treatment system to provide the best possible settling and digestion, with sufficient solids retention time to ensure that long-term biosolids digestion and reduction are maximized, with minimal energy cost. Reductions in cBOD₅ and TSS are typically between 50-90% through the first stage of treatment.

Alternative primary treatment devices may be appropriate for flows over 20,000 gpd (75,708 L/day) or for higher-strength applications. For higher-strength applications, a pre-treatment aeration device can be added to aid in BOD removal prior to secondary treatment. Contact Orenco to discuss alternative options for primary treatment.

System Requirements: Recirculation-Blend Tankage

Effluent from the primary treatment chamber discharges to the recirc-blend chamber, where it blends with the filtrate recirculating back to the recirc-blend chamber. The filtrate dilutes the primary concentrations by the rate at which the recirculation-blend ratio (R_p) is set. The recirc-blend chamber is typically sized to equal the actual average flow (Q_p). A larger chamber may be recommended based on the expected organic or peak design hydraulic loads, enhanced nitrogen reduction, or to accommodate special surge capacities or operator response capabilities.

System Design Loading Rates: Standard

Multi-pass systems, such as the AX-MAX, are capable of sustaining greater loading capacities than single-pass systems because hydraulic, biological, and chemical surges are blended and diluted with a portion of the aerobically treated filtrate. The continual recirculation and intermittent dosing to the media ensures a moist environment and stable diet for the biota. The critical factors in controlling the environment are the recirculation ratio and time-controlled dosing.

Orenco's suggested design loading rates are based on typical per capita flow rates and average influent strength characteristics as listed in Table 1. The AX-MAX Treatment System's packed bed media is configured in the same manner as our ANSI/NSF Standard 40 Class I treatment units. Figure 3 shows ANSI/NSF testing results for average performance at the 95% confidence level.

The base nominal AdvanTex hydraulic loading rate (HLR) is 25 gpd/ft² with a base organic loading rate (OLR) of 0.04 lbs/day BOD/ft². At these loading rates, "actual" design criteria targets a 5/5 effluent quality in the discharge effluent. Effluent quality may be projected at a 95% confidence level relative to the HLR. Peak HLR's of 50 gpd/ft² or peak OLR's of 0.08 lbs/day BOD/ft² can be handled for short periods of time with little effect on performance. Higher loading rates may be applicable relative to higher discharge limits or sufficient operating documentation, but normally should be limited to 50 gpd/ft² at the typical average characteristics presented in Table 1. A thorough evaluation of all of the typical wastewater characteristics will guide design limits. High oil and grease concentrations may require some pretreatment to ensure maintenance frequencies are not excessive.

System Design Loading Rates: Nitrogen Reduction

Nitrogen is a nutrient, and is essential to plant and microbial development and growth. In most wastewater, however, there is more nitrogen than can be assimilated into cell tissue. The removal of excess nitrogen is accomplished in two conversion steps, nitrification and denitrification. In the first step (nitrification), ammonia ($\text{NH}_3\text{-N}$) is oxidized biologically to nitrate (Nitrite $\text{NO}_2\text{-N}$ and then $\text{NO}_3\text{-N}$). In the second step (denitrification), nitrate ($\text{NO}_3\text{-N}$) is reduced to nitrogen gas (Typically N_2), which is released harmlessly to the atmosphere. Total nitrogen (TN) is the sum of organic and ammonia nitrogen, nitrate nitrogen, and nitrite nitrogen:

$$\text{TN} = \text{ON} + \text{NH}_3\text{-N} + \text{NO}_2\text{-N} + \text{NO}_3\text{-N}$$

or

$$\text{TN} = \text{TKN} - \text{N} + \text{NO}_2\text{-N} + \text{NO}_3\text{-N}$$

Nitrogen removal (or "nitrification/denitrification") is a biochemical process in which ammonia is oxidized to nitrate (nitrification) (2NH_3 converts to $2\text{NO}_3 + 2\text{H}_2\text{O}$) and then nitrate is reduced through bacterial action (denitrification) (10NO_3 converts to $5\text{N}_2 + 3\text{H}_2\text{O} + 10\text{OH}$) to nitrogen gas.

Total nitrogen reduction in the standard configuration will typically exceed 60 percent (with no special or supplemental process features). Using an alternative configuration, total nitrogen reduction can exceed 80 percent, depending on wastewater strength and other characteristics such as BOD_5 , grease and oils, pH, tankage (HRT), temperature, and alkalinity concentrations.

The first phase of nitrification (conversion of ammonia to nitrite) liberates hydrogen ions into the solution, which lowers the pH levels, causing the influent alkalinity to be consumed. Consequently, nitrification can be inhibited if the natural buffering capacity (alkalinity) is too low. On a theoretical basis, 7.14 mg/L of alkalinity as CaCO_3 is needed to nitrify 1 mg/L of NH_4^+ .

For nitrogen-sensitive areas requiring greater than 99% ammonia reduction or 65% total nitrogen reduction, the recirc-blend chamber may be sized greater than the actual average flow. Pre-aeration tanks, pre-anoxic tanks, post-anoxic reactors, chemical feed devices, post-aeration devices, and/or post-anoxic treatment devices may also be necessary depending on specific limits. The typical hydraulic loading rate may need adjustment if the expected influent organic load is higher than residential strength or the incoming ammonia levels are above 75 mg/L. For more information on nitrogen reduction, contact Orenco.

Recirculation-Blend Ratios and Timer Settings

The Recirculation Ratio (R_b) is defined as the ratio of the daily flow returned (Q_r) to the recirc-chamber to blend with the daily inflow (influent or forward) wastewater flow (Q_i) as shown in the following expression:

$$R_b = Q_r / Q_i$$

$$Q_r = R_b \times Q_i$$

where:

R_b is the recirculation (recirc-blend) ratio.

Q_r is the daily flow returned to the recirc-blend chamber, in gpd or L/day.

Q_i is the daily inflow (or forward flow), in gpd or L/day

Typical operating recirculation-blend ratios will vary between 2:1 to 6:1, and the system's "OFF" time varies as a function of the recirc-blend ratio. AdvanTex AX-MAX controls are initially set to a 4:1 recirc-blend ratio, and initial timer settings are established based on the expected average daily flow, influent organic, total nitrogen, pH, and alkalinity levels. If or when flows vary significantly, the control panel features automatically adjust the timer settings based on predetermined parameters.

The function of the R_b is as critical to process management for multiple-pass attached-growth packed bed filter systems as return sludge, waste sludge, and air management are to suspended-growth processes. Proper management of the R_b assures aeration and wetting needs, but most importantly it establishes equilibrium with respect to the desired endogenous respiration rate by maintaining food-to-microorganism (F/M) ratios relative to influent hydraulic and biological loads. The recirculation ratio is well documented in textbooks and design manuals.

It's important to understand that there are both high and low R_b limits to watch for. Higher ratios may be preferred to prevent odor problems, but generally should not exceed 6 or 7; ratios of 2 or 3 – with normal strength influent – are typically sufficient for controlling odors and providing treatment.

AdvanTex AX-MAX Design Criteria (cont.)

An excessively high R_b — 7:1 or 8:1 in typical domestic-strength applications — can have many adverse effects on the biology, chemistry, and performance of a system. It can deplete the base alkalinity concentration sufficiently to cause the pH to fall below acceptable levels. The ecosystem then becomes especially suited for filamentous microbes, which tend to cluster and overpopulate on the pump screens, accelerating the system's cleaning needs. In addition, a high R_b doesn't allow sufficient time for filtrate dissolved oxygen (DO) levels to deplete within the recirc-blend chamber. This tends to inhibit denitrification and cause greater nitrate concentrations to pass through the system. Not only can an excessively high R_b increase maintenance demands and degrade effluent quality, it also consumes more energy than necessary. A high R_b can cause process degradation, regardless of the growth process (suspended or attached) when not properly controlled.

An excessively low R_b can have adverse effects as well. A low R_b may not provide sufficient aeration for organic or nutrient demand, causing insufficient treatment. In addition, low R_b can lead to anaerobic conditions that lead to odor control issues.

Dosing Frequency - Cycle Time (DF - CT)

The dosing frequency is typically reported as the number of doses or dosing events/day, but more specifically represents the time span between doses (the time measure is generally in minutes) or, in control terminology, cycle time (CT). There are two components to the dosing frequency: "ON" dosing time and the "OFF" resting time, as shown in the following expression:

$$CT = DF = T_o + T_i$$

and also

$$DF = 1440 \text{ min per day/dpd}$$

$$dpd = Q_i / T_o Q_d$$

$$dpd = (R_b + 1) Q_i / T_o Q_d$$

$$DF = 1440 T_o Q_d / (R_b + 1) Q_i$$

$$R_b = (1440 T_o Q_d - 1) / Q_i (T_i + T_o)$$

where:

CT is the dose cycle time in minutes

DF is the dose frequency time in min/dose

dpd is the number of doses per day

T_i is the rest time in minutes ("OFF")

T_o is the dose time in minutes ("ON")

Q_d is the dosing rate to the filter, in gpm

The dosing frequency is related to the R_b as well as to particular features of the media, such as its texture, void ratio, water-holding capacity etc. Considerable academic work has been done to establish relative dosing frequencies for various media. It's well established that small frequent doses improve filter performance. Increasing the dosing frequency (number of occurrences over a given time period) reduces the volume of wastewater applied per dose and increases coliform removal (Mohammed, 1991).

The dosing time is the "ON" time span. The dosing time is related to the application dose rate, in gpm/ft², and the water holding capacity (WHC) of the filter media. Critical factors include keeping the applied dose to a fraction of the water holding capacity of the media and within the typical R_b limits based on influent flows, food values, and other constituents. Standard "ON" times are 1 to 1.5 minutes.

The resting time is the "OFF" time span. The resting time is primarily dependent on the recirculation ratio, "ON" time, and the influent flows. Being the dependent variable, the resting time is typically determined as shown in the following expression:

$$T_i = DF - T_o$$

or

$$T_i = [1440 T_o Q_d / (R_b + 1) Q_i] - T_o$$

AdvanTex AX-MAX Design Criteria (cont.)

The critical issue with the resting period is that it not be excessively long. One dose per 90 to 120 minutes is typically sufficient for maintaining wetting of the biomass during low flow periods. By adjusting the R_b , the dilution and blend concentrations within the recirc-blend chamber can be balanced, as shown by the following expression.

$$Q_i S_i + Q_r S_r = Q_{i+1} S_b$$

$$Q_i S_i + Q_i R_b S_r = (R_b + 1) Q_i S_b$$

or

$$S_i + R_b S_r = (R_b + 1) S_b$$

where:

Q_{i+1} is the daily filter hydraulic load, in gpd

or

$$Q_{i+1} = Q_i (R_b + 1)$$

where

Q_i is the daily flow returned to the recirc-blend chamber, in gpd

S_i is the inflow substrate concentration, in mg/L

S_r is the filtrate substrate concentration, in mg/L

S_b is the blended substrate concentration, in mg/L

By varying R_b within the limits of the application's wastewater characteristics, optimization of the HRT and substrate concentrations within the recirc-blend chamber can be accomplished. Biological respiration rates tend to adjust according to the available food and oxygen. Therefore, to ensure the best performance and sustain the most efficient and effective working environment, the substrate equations (above and below) are used to establish programmed timer settings to maintain an R_b within an acceptable range. The recirc-blend chamber's blended substrate concentration may be determined directly by the following expression:

$$S_b = (S_i + R_b S_r) / (R_b + 1)$$

The dose frequency and recirculation ratio are directly related to and dependent on each other, but only one at a time can be the independent variable. Typical design practice calls for maintaining a recirc-ratio within a bandwidth making it (the recirc-ratio) the controlling or independent variable, thus leaving the dosing frequency as the dependent variable. Within the expression for the dosing frequency are the dosing period and resting period. The dosing period (T_d) is governed by the characteristics in the make-up of the media and must be kept within a narrowly limited range. The resting period (T_r) has the greatest flexibility and is, therefore, the most desirable choice for the dependent variable.

AdvanTex AX-MAX Control System

The method in which the effluent is loaded onto the AdvanTex filter is critical to the successful performance of the AX-MAX Treatment System. Over the past three decades, timer-controlled applications have proven to play an essential role in optimizing the performance of both fixed and suspended growth biological systems. A timer-controlled pump in the recirc-blend chamber periodically doses effluent to a distribution system on top of the AdvanTex filter media. Each time the filter is dosed, effluent slowly percolates through the filter media and is treated by naturally-occurring microorganisms that populate the filter. During periods of high flow, a timer override float will temporarily adjust the timer settings to process the additional flow. The controller can also be programmed to change to an energy economy mode during extended periods of low inflow.

A telemetry-based panel — which can be connected to a land line, cellular service, or satellite service — controls all equipment. Remote telemetry control panels are an integral part of all commercial AdvanTex Treatment System equipment packages. The remote telemetry feature provides real-time operator monitoring and control over system components, as well as data collection of key operational parameters and events. If additional equipment for pretreatment, tertiary treatment, or disinfection are required, the controls for each component can easily be incorporated into the telemetry control panel. This also allows the manufacturer to contact the panel directly to assist the operator in system evaluation and troubleshooting or to manually override operations. Remote telemetry control panels also provide additional alarm functions to automatically page the operator in the event that trend data indicate potential problem conditions (e.g. high flows). Orenco control panels can also integrate into existing SCADA systems.

AdvanTex AX-MAX Design Criteria (cont.)

Reuse

After advanced treatment, effluent is usually clear and odorless, but it still contains pathogens at levels that can cause illness if ingested. At this point, it can be reused in applications where people will be unlikely to come into contact with it. For example, it can be used for subsurface drip irrigation of landscape vegetation. Here, the nutrients remaining in the effluent are put to use by plants and other soil organisms. Using treated effluent for irrigation saves potable water for other purposes.

However, many reuse applications, such as toilet flushing and industrial process water, require a higher level of purity. For these applications, the effluent will typically undergo tertiary treatment. This can include the use of fine mesh filter processes, such as polishing sand filters; multi-media filtration; micro-, ultra- or nano-filtration through membranes; reverse osmosis; or cloth/disc filters, in addition to chemical or ultraviolet disinfection.

Surge Volume

AX-MAX tankage design is consistent with that of other packed bed fillers. Flow equalization should be designed into the primary tankage with controlled (metered) feed to the recirc-blend chamber. If surging needs to be done in the recirc-blend chamber, then sizing and timer controls will be programmed to optimize performance and surge capacity. Churches, schools, destination resorts, dining establishments, and assembly halls are typical applications where weekly surge control practices provide optimum filter sizing.

Pumping Equipment

The integrated treatment package includes one or more Orenco pump packages. Typically, duplex pumps are used to energize the distribution manifold and are specified for redundancy in each of the textile treatment channels. This can be accomplished with a single pump per channel in larger flow applications. Pump models will vary based on number of units, flow path, and system configuration.

Venting Equipment

AX-MAX Treatment Systems typically come with an incorporated active vent system. With the active vent system, air changes occur about every 2 hours. The active vent system is available with an activated charcoal filter for increased odor reduction.

Sludge Handling Equipment

AdvanTex systems can be equipped with a sludge removal pump that can be activated manually if sludge needs to be purged from the primary chamber. Primary chamber sizing is roughly one-three days HRT based on actual flow, influent characteristics, and pre-treatment devices; sludge purging may be required. Sludge is typically about 1-5% solids and may require dewatering and lime treatment prior to land application. Solids removal devices may be placed prior to the primary chamber to reduce overall chamber sizes. Solids removal devices will, however, require regular maintenance and/or disposal of solids cake on a regular frequency.

Supplemental Process Equipment

Additional processes can be included in the design of an AX-MAX, such as sewage headworks, primary treatment, septage handling, solids handling, pH/alkalinity adjustment, carbon feed, post aeration, disinfection, advanced nitrogen removal, phosphorus removal, turbidity removal, disinfection, and dispersal.

Climate Considerations and System Enclosures

AX-MAX systems are designed to withstand climates ranging from temperatures of -60° F (-51°C) to 125° F (52° C). Units are constructed with 4-inch-thick foam cells providing an estimated 26R insulation value. AX-MAX systems are also available with an optional build-on control module, to provide a climate-controlled environment for easy operation and maintenance.

Alternatively, the AX-MAX can be enclosed in a building for maximum privacy, efficiency, and climate control. AX-MAX systems are compatible with a variety of enclosure types. Typical construction materials for the enclosure include a combination of concrete, fiberglass, steel and wood.

Energy Consumption

Orenco's AX-MAX systems and their components are designed in a manner that allows for highly cost-effective operation for the life of the system. Unlike most other aerobic treatment systems, AdvanTex has low energy consumption due to the intermittent use of low horsepower, high-head turbine pumps and a small ventilation fan. With lower power costs and lifecycle costs than many of the available alternatives, AX-MAX is an ideal option for "green" projects. For information on obtaining LEED credits, please visit our website at www.orenco.com.

AdvanTex AX-MAX Design Criteria (cont.)

Sample power consumption for 50,000 gpd AX-MAX system with an average flow of 25,000 gpd:

Assumptions:

Four sets of ¾-hp duplex pumps, operating at 15% of available hours annually

Pump "ON" time of 1 min, Pump "OFF" time of 6 min. $1/(6 + 1) = 15\%$ (230 V, 10.1 A, 1-Phase)

One 1.4-A (115 V) ventilation fan operating at 100% of available hours annually

Energy cost of 0.10 \$/kWh (USD)

Energy cost, pumps:

$$[4 \times (230 \text{ V} \times 10.1 \text{ A}) \times 15\%] / 1000 = 1.380 \text{ kWh/h}$$

$$1.380 \text{ kWh/h} \times 8760 \text{ hr/year} \times 0.10 \text{ \$/kWh} = \$1209 \text{ (USD), annually}$$

Energy cost, ventilation fan:

$$[1 \times (115 \text{ V} \times 1.4 \text{ A}) \times 100\%] / 1000 = 0.161 \text{ kWh/h}$$

$$0.161 \text{ kWh/h} \times 8760 \text{ hr/year} \times 0.10 \text{ \$/kWh} = \$141 \text{ (USD) annually}$$

Energy cost, control panel:

$$[1 \times (115 \text{ V} \times .3 \text{ A}) \times 100\%] / 1000 = 0.0345 \text{ kWh/h}$$

$$0.0345 \text{ kWh/h} \times 8760 \text{ hr/year} \times 0.10 \text{ \$/kWh} = \$30 \text{ (USD) annually}$$

$$\text{Total kWh/h} = 1.58 \text{ kWh/h}$$

$$\text{Total kWh/d} = 37.81 \text{ kWh/d}$$

$$\text{Total kWh/year} = 13,801.4 \text{ kWh/year}$$

$$\text{Total estimated annual energy cost} = \$1209 + \$141 + \$30 = \$1380 \text{ (USD), annually}$$

In some cases, efficiencies may allow for the reduction of recirculation ratios, resulting in even lower energy consumption, as well as process configuration that would reduce overall electrical equipment and power consumption. This includes the operation of surge pumps, recirculation pumps, ventilation system components, pump controls, and discharge pumps.

For custom applications, AdvanTex Treatment Systems can be designed to operate on photovoltaic (PV) systems. Power sources incorporating diesel, gasoline, or battery generators can also be custom-designed into an AX-MAX system configuration. Call Orenco for more details.

Sustainability

Decentralized package treatment plants and their manufacturers are not all alike. Orenco has always been committed to the long term performance and low operating cost of its treatment systems; our engineers know that design integrity and product support matter. Orenco AX-MAX Treatment Systems meet the requirements of sustainability by protecting the "triple bottom line" of social, environmental, and financial benefits. For these reasons, AdvanTex is consistently chosen by developers and municipalities looking for wastewater technology that supports their sustainability goals.

Operation and Maintenance

The AX-MAX has a streamlined system configuration designed to achieve high effluent quality and low power consumption, with minimal maintenance requirements and low life-cycle costs. O&M activities include effluent sampling for performance data collection, as well as scheduled cleaning of effluent filters, textile sheets, laterals, and spray nozzles. In units equipped with dry-chemical feed units, regular loading of the feed hopper is necessary. For units equipped with UV disinfection, the UV bulbs require yearly replacement. Recirculation chambers typically have minimal sludge accumulations and rarely require pumping.

Operationally, the module's flexible and easily serviceable features make AX-MAX units an ideal, efficient, and effective solution for all wastewater treatment applications with typical domestic waste characteristics. The AX-MAX dependably produces high-quality effluent with no need for full-time staffing. And its controls and telemetry features give service providers the opportunity to provide remote operational oversight as necessary.

AdvanTex AX-MAX Design Criteria (cont.)

To assist in reliability and ease of maintenance, AX-MAX systems are built with rugged, dependable parts and components, designed to work together for long service lives. The replacement cycle for liquid level switches is typically five years. The replacement cycle for Orenco high-head effluent pumps and various small components in the control panel is typically 10-15 years. Orenco's high-head effluent pumps can be rebuilt in the field with simple tools and the pump motors are easily replaced.

In addition, Orenco has a dedicated, experienced Asset Management division to support wastewater assets in the field.

Education

Orenco provides AdvanTex Design programs for designers, engineers, and regulators. Orenco also provides regular installation and O&M trainings for contractors, operators, and users. Check with Orenco's training department for information on upcoming courses. Training for end users can help ensure influent characteristics, chemical use, and operating practices are properly managed and maintained through an understanding of how microbial toxic thresholds can retard or inhibit performance in wastewater processes.

References and Performance Data

Since 1981, Orenco has been involved in thousands of commercial and community wastewater systems, providing education, design assistance, equipment, installation oversight, and operational support. References of system owners, engineers, and operators are available from Orenco. In addition, project tours are often available through the local regulatory jurisdiction or an Orenco equipment distributor. Call Orenco at 800-348-9843 or +1-541-459-4449 for more information about references or tours.

EXHIBIT NO. 20



Matthew Rodriguez
Secretary for
Environmental Protection

California Regional Water Quality Control Board Lahontan Region



Edmund G. Brown Jr.
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September 30, 2011

Certified Mail # 7009 1410 0001 7938 5113
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NOTICE OF INCOMPLETE REPORT OF WASTE DISCHARGE, GREEN VALLEY FOODS, SAN BERNARDINO COUNTY

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received an application/ report of waste discharge (ROWD) on September 2, 2011, for the Green Valley Foods cheese processing facility (Facility) in Barstow. The ROWD was prepared by LGC Inland (LGC) and submitted on behalf of Green Valley Foods (Discharger). Representatives of the Discharger also met with Water Board staff in the Victorville office on September 15, 2011, to discuss the ROWD. The ROWD was submitted to revise Board Order No. R6V-2010-0019. Water Board staff has reviewed the ROWD and determined that the report is **incomplete**. The information needed to complete the ROWD is described in this letter.

Please note that from this point forward, you must send two copies of any submittals, one to the Victorville office, and one to the South Lake Tahoe office. This will increase the efficiency of staff in both offices as we assist you with your Facility and activities.

SITE HISTORY

Board Order No. R6V-2010-0019 (Board Order) requires the Discharger to contain the waste effluent from the Facility in a California Code of Regulations (CCR), title 27, class II Surface Impoundment, and to cease discharge to land. Nonetheless, the Discharger has submitted this ROWD as an alternative solution to the requirements of the existing Board Order.

Waste Classification

The ROWD classifies discharge from this Facility as "municipal effluent liquid designated waste," but presents no lines of evidence for such a waste classification nor clearly defines what is meant by the term "municipal effluent liquid designated waste." The Facility is not a municipality nor is it located within a city or connected to a municipal sewer system. In addition, the Board Order established that the waste

discharged from the Facility is classified as a **designated waste**, pursuant to California Water Code (CWC), section 13173, subdivision (b).

Impacts to Groundwater

The stand-alone table of groundwater data presented in the ROWD (Appendix F), as well as previously submitted reports from GVFs, support Water Board staff's conclusion that the ongoing discharge from the Facility has impacted groundwater in the area. Your statement that a source (or sources) other than GVFs is causing the degradation of groundwater in the vicinity of the Facility remains unsubstantiated and unsupported by the data presented to date. The ROWD must justify such statements with direct supporting evidence.

PROPOSED ALTERNATIVES

The ROWD proposes several alternatives to the requirements of the Board Order including treatment, dilution, application of wastes to an adjacent alfalfa field at agronomic rates, and application of wastes to an adjacent parcel of land to be used as a land treatment unit (LTU). However, the ROWD does not make clear which alternative was selected as the preferred treatment and/or disposal method, and additional information is needed.

AXMAX Treatment System

One alternative proposes to use an Orenco Systems, Inc., Advantex AXMAX treatment system (AXMAX), which is designed to treat domestic sewage. As stated earlier, the cheese processing waste discharged from the Facility is a **designated waste**, which contains many constituents at very different concentrations than sewage. The AXMAX system may not be an appropriate treatment system for designated waste. The ROWD must include direct evidence that such a system will work for cheese processing waste.

In accordance with the information presented in the ROWD, the AXMAX system can treat up to 20,000 gallons per day of domestic sewage waste. The Discharger has reported a discharge of up to 10,000 gallons per day of waste from the Facility. The ROWD proposes to dilute this discharge at a ratio of 100 to 1 (100:1), but it is not clear whether or not the Discharger intends to dilute and then treat, or treat and then dilute. If the intent is to dilute and then treat, additional treatment capacity will be needed in order to treat up to 1,000,000 gallons per day. The proposed design must include sufficient treatment capacity for the total volume of waste discharged and treated from the Facility and be appropriate for the specified waste type.

The proposed AXMAX system specifications for typical influent wastewater strengths (ROWD, Appendix G) shows the range of acceptable concentrations that the system is capable of treating for parameters such as biological oxygen demand (BOD), total suspended solids (TSS), and pH. The effluent generated from the Facility exceeds these "typical" concentrations (BOD between approximately 3,000 and 11,000 mg/L; TSS between approximately 200 and 600 mg/L; and pH between approximately 3 and 4

pH units). In fact, the AXMAX system **lowers** the pH level of the effluent through nitrification in the treatment process. The pH of the Facility's effluent discharge is *already* at low levels, near a pH of 3 pH units. Should the pH levels be further reduced, the AXMAX treatment may cause the pH to reach hazardous levels. Further, the technical papers do not describe the effluent concentrations following treatment. The ROWD must include data demonstrating that this treatment system is capable of treating your Facility's waste (i.e., wastes with characteristics similar to the Facility's wastes) as well as provide analytical data showing the expected concentrations of the effluent following treatment.

The ROWD stated that the AXMAX system is superior to a surface impoundment because the new system will eliminate odors, provide superior water quality, and prevent exposure to native wildlife. However, no direct evidence was provided in support of these statements; the Discharger must provide sufficient evidence that the AXMAX system will function to treat the cheese processing waste (designated waste) to levels appropriate for agricultural use and protection of groundwater quality.

AXMAX System and Dilution

The AXMAX treatment system does not remove TDS or iron, which are elevated constituents of concern in the discharge from the Facility. Other systems would need to be installed to treat or remove such constituents (such as reverse osmosis for removal of salts). The ROWD proposes to dilute the *discharge* at a ratio of 100:1, but does not identify the source water or its quality for the dilution process or describe the methodology to be used for dilution. This must be submitted in the ROWD. The Board Order finds that the Facility may discharge up to 10,000 gallons per day of waste; however, if this volume of water was diluted at 100:1, the Discharger would be responsible for disposing of up to 1,000,000 gallons per day. However, the ROWD does not describe or justify if the agricultural field(s) proposed could handle the discharge of up to 1,000,000 gallons per day, nor state exactly what the agronomic rate is for the crops proposed. Furthermore, the groundwater underlying the Facility has elevated concentrations of TDS and may not be acceptable source water for dilution. Again, no data were presented in the ROWD to clearly show how dilution processes will not further degrade groundwater in this area. The ROWD must demonstrate that dilution and the AXMAX system will function properly to remove the wastes as well as demonstrate that the agricultural re-use of this waste will also not degrade the groundwater beneath the crop fields.

Discharge

The ROWD states that the Discharger intends to transform the effluent from this Facility into a "fully diluted agrarian water source for growing alfalfa onsite," and states that "through this fusion of wastewater and agriculture that discharge rates can potentially be reduced to near 1% of the original outflow." However, the ROWD does not describe the methodology that will be used for this "fusion" process, nor does it describe how the discharge rates will be reduced to near 1%. In fact, this statement seems contradictory considering the plan to dilute the discharge at a ratio of 100:1.

The ROWD states that applying the treated effluent to surrounding soils and vegetation will reduce the concentration of constituents of concern through transpiration and evaporation. However, no data were submitted to support this statement. The ROWD states that the water quality goal TDS for an agricultural water source is 450 mg/L. However, the concentration of TDS in the Facility area is approximately 1,000 mg/L. The ROWD also states that the current TDS concentrations are not suitable for use on "sensitive crops," but that it would be suitable for use on "moderately tolerable crops, such as alfalfa, that are expected to be grown in this area." The ROWD must present appropriate data to support these statements.

The ROWD proposes to install the AXMAX system and appropriate discharge pipes to discharge water to an adjacent alfalfa field and begin to collect samples within 30 to 60 days. As you are aware, you are **prohibited** from discharging waste to the ground surface, pursuant to the requirements and prohibitions of the Board Order. **This prohibition includes diluting your waste and using it to irrigate crops.** Should you wish to treat and dilute a portion of the discharge and/or apply this treated/diluted waste to crops, you would be required to obtain the appropriate Water Board permits *before* such an activity could be conducted and an additional ROWD must be submitted for any proposed pilot study involving discharge of wastes to land.

ADDITIONAL COMMENTS

Engineering and Geological Study

The ROWD states that the Discharger intends to conduct an engineering and geologic study of the adjacent parcel proposed to be used for watering alfalfa and present the results to the Water Board upon completion in late August 2011. No study report has been submitted. The results of the study must be presented in a revised ROWD. This study should include the hydrogeology and hydrology of the area proposed to be used for discharge. As stated above, and unless prior approval has been obtained from the Water Board, **you are prohibited from discharging waste to water crops.**

Climatology

The ROWD states that the average annual precipitation in the area of the Facility is approximately three inches, but does not include a reference for this data. According to the Western Regional Climate Center, the average annual rainfall is 4.40 inches in Barstow. Please ensure that data presented is properly referenced.

Sampling and Analysis

The ROWD, Appendix F contains a summary table presenting the analytical results of samples collected from the site during June and July 2011 sampling events. However, no accompanying analytical reports from a State-certified laboratory were presented. In addition, no chains-of-custody forms were included, as stated in the ROWD. **Please provide copies of the complete analytical reports and any chains-of-custody**

forms for the data presented immediately. The table itself was deficient as no units were included for the parameters shown and the data for each monitoring well or other sampling point were scattered by date, making direct comparison of each well or sampling point difficult. In addition, the table includes data for several sampling points labeled "Discharge" with various associated numbers, but does not describe or define the "Discharge" nor is the "Discharge" sampling point located on a map. The ROWD must clearly label all sampling points on a map as well as describe them in the text and present data tables with complete information.

During sampling of the groundwater monitoring wells, a pump was used to purge the wells prior to collection of the samples. It was noted on the purge logs that approximately three wells volumes were purged from each well before a sample was collected. However, only one field measurement was taken prior to sample collection. Stabilization cannot be determined without several consecutive readings to prove that the groundwater parameters had stabilized prior to sample collection and, thus, whether or not the sample was representative of the aquifer conditions. As presented, none of these samples can objectively be considered representative of the aquifer.

Anti-Degradation

The ROWD states that degradation of the groundwater will occur as a result of this proposal, but will improve over time. In accordance with State Water Resources Control Board Resolution No. 68-16, (Anti-Degradation Policy), if you propose a discharge that will degrade water quality, you must demonstrate that the following conditions are met: 1) any change in water quality must be consistent with the maximum benefit to the people of the State; 2) the discharge will not unreasonably affect present and anticipated beneficial uses; 3) the discharge will not result in water quality less than what is prescribed in the Basin Plan; and 4) discharges must use the best practicable treatment or control to avoid pollution or nuisance and maintain the highest water quality consistent with maximum benefit to the people of the State. The information presented in the ROWD did not demonstrate that the above conditions would be met. A revised ROWD must include a thorough anti-degradation analysis that clearly demonstrates the above conditions will be met.

Water Reclamation Requirements

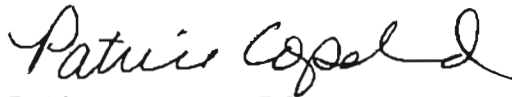
In accordance with the California Water Code, section 13523, should you wish to pursue treatment, dilution, and/or discharge of the reclaimed effluent from your Facility, you will also be required to meet water reclamation requirements. The ROWD must include information in support of water reclamation requirements.

CLOSING

Additional information and data are required to complete your report of waste discharge. **Immediately, we request you submit copies of the laboratory test results and chains-of-custody forms obtained for samples collected in support of the ROWD.** Per your September 15, 2011 request, we are enclosing additional

information related to submittal of a complete report of waste discharge. This information was originally provided to you in May 2007.

We look forward to working with you in a manner that protects water quality. If you have any questions regarding this letter, please feel free to contact Brianna Bergen at (760) 241-7305 (bbergen@waterboards.ca.gov), or me at (760) 241-7404 (pcopeland@waterboards.ca.gov).



Patrice Copeland, PG
Senior Engineering Geologist

cc: Mailing List

Enclosure 1: Form 200 – Report of Waste Discharge Application Form
Enclosure 2: Checklist of Information to Support a Report of Waste Discharge
Enclosure 3: Checklist of Information to Support a Report of Wastewater Reclamation
Enclosure 4: Pertinent Regulatory Considerations

BBVc\U:\GVF\ROWD-GVF_Revised092911_pjc_1.doc

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ENCLOSURE 1

FORM 200

SOURCES
FORM 2000

APPLICATION / REPORT
OF WASTE DISCHARGE
GENERAL INFORMATION
FORM FOR
INDIES PERMITS
AND
WASTE DISCHARGE
REQUIREMENTS

INTRODUCTION

This application package constitutes a Report of Waste Discharge (ROWD) pursuant to California Water Code Section 13260. Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of the waters of the State, other than into a community sewer system, shall file a ROWD containing information which may be required by the appropriate Regional Water Quality Control Board (RWQCB).

This package is to be used to start the application process for all waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permits* issued by a RWQCB except:

- a) Those landfill facilities that must use a joint Solid Waste Facility Permit Application Form, California Integrated Waste Management Board Form E-1-77; and
- b) General WDRs or general NPDES permits that use a Notice of Intent to comply or specify the use of an alternative application form designed for that permit.

This application package contains:

- 1 Application/General Information Form for WDRs and NPDES Permits (Form 200 (10/97)).
- 2 Application/General Information Instructions.

Instructions

Instructions are provided to assist you with completion of the application. If you are unable to find the answers to your questions or need assistance with the completion of the application package, please contact your RWQCB representative. *The RWQCBs strongly recommend that you make initial telephone or personal contact with RWQCB regulatory staff to discuss a proposed new discharge before submitting your application.* The RWQCB representative will be able to answer procedural and annual fee related questions that you may have. (See map and telephone numbers inside of application cover.)

All dischargers regulated under WDRs and NPDES permits must pay an annual fee, except dairies, which pay a filing fee only. The RWQCB will notify you of your annual fee based on an evaluation of your proposed discharge. Please do NOT submit a check for your first annual fee or filing fee until requested to do so by a RWQCB representative. Dischargers applying for reissuance (renewal) of an existing NPDES permit or update of an existing WDR will be billed through the annual fee billing system and are therefore requested NOT to submit a check with their application. Checks should be made payable to the State Water Resources Control Board.

Additional Information Requirements

A RWQCB representative will notify you within 30 days of receipt of the application form and any supplemental documents whether your application is complete. If your application is incomplete, the RWQCB representative will send you a detailed list of discharge specific information necessary to complete the application process. The completion date of your application is normally the date when all required information, including the correct fee, is received by the RWQCB.

* **NPDES PERMITS:** If you are applying for a permit to discharge to surface water, you will need an NPDES permit which is issued under both State and Federal law and may be required to complete one or more of the following Federal NPDES permit application forms: Short Form A, Standard Form A, Forms 1, 2B, 2C, 2D, 2E, and 2F. These forms may be obtained at a RWQCB office or can be ordered from the National Center for Environmental Publications and Information at (513) 891-6561.



State of California
Regional Water Quality Control Board
**APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT**



INSTRUCTIONS
**FOR COMPLETING THE APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR:**
WASTE DISCHARGE REQUIREMENTS/NPDES PERMIT

If you have any questions on the completion of any part of the application, please contact your RWQCB representative. A map of RWQCB locations, addresses, and telephone numbers is located on the reverse side of the application cover.

L. FACILITY INFORMATION

You must provide the factual information listed below for ALL owners, operators, and locations and, where appropriate, for ALL general partners and lease holders.

A. FACILITY:

Legal name, physical address including the county, person to contact, and phone number at the facility.
(NO P.O. Box numbers! If no address exists use street and nearest cross street.)

B. FACILITY OWNER:

Legal owner, address, person to contact, and phone number. Also include the owner's Federal Tax Identification Number

OWNER TYPE:

Check the appropriate Owner Type. The legal owner will be named in the WDRs/NPDES permit.

C. FACILITY OPERATOR (The agency or business, not the person):

If applicable, the name, address, person to contact, and telephone number for the facility operator. Check the appropriate Operator Type. If identical to B. above, enter "same as owner".

D. OWNER OF THE LAND:

Legal owner of the land(s) where the facility is located, address, person to contact, and phone number. Check the appropriate Owner Type. If identical to B. above enter "same as owner".

E. ADDRESS WHERE LEGAL NOTICE MAY BE SERVED:

Address where legal notice may be served, person to contact, and phone number. If identical to B. above, enter "same as owner".

F. BILLING ADDRESS

Address where annual fee invoices should be sent, person to contact, and phone number. If identical to B. above, enter "same as owner".



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II. TYPE OF DISCHARGE

Check the appropriate box to describe whether the waste will be discharged to A. Land, or B. Surface Water

Check the appropriate box(es) which best describe the activities at your facility

Hazardous Waste - If you check the Hazardous Waste box, STOP and contact a representative of the RWQCB for further instructions.

Landfills - A separate form, APPLICATION FOR SOLID WASTE FACILITY PERMIT/WASTE DISCHARGE REQUIREMENTS, California Integrated Waste Management Board Form E-1-77, may be required. Contact a RWQCB representative to help determine the appropriate form for your discharge.

III. LOCATION OF THE FACILITY

1. Enter the Assessor's Parcel Number(s) (APN), which is located on the property tax bill. The number can also be obtained from the County Assessor's Office. Indicate the APN for both the facility and the discharge point.
2. Enter the Latitude of the entrance to the proposed/existing facility and of the discharge point. Latitude and longitude information can be obtained from a U.S. Geological Survey quadrangle topographic map. Other maps may also contain this information.
3. Enter the Longitude of the entrance to the proposed/existing facility and of the discharge point.

IV. REASON FOR FILING

NEW DISCHARGE OR FACILITY:

A discharge or facility that is proposed but does not now exist, or that does not yet have WDRs or an NPDES permit.

CHANGE IN DESIGN OR OPERATION:

A material change in design or operation from existing discharge requirements. Final determination of whether the reported change is material will be made by the RWQCB.

CHANGE IN QUANTITY/TYPE OF DISCHARGE

A material change in characteristics of the waste from existing discharge requirements. Final determination of whether the reported change would have a significant effect will be made by the RWQCB.

CHANGE IN OWNERSHIP/OPERATOR:

Change of legal owner of the facility. Complete Parts I, III, and IV only and contact the RWQCB to determine if additional information is required.

WASTE DISCHARGE REQUIREMENTS UPDATE OR NPDES PERMIT REISSUANCE:

WDRs must be updated periodically to reflect changing technology standards and conditions. A new application is required to reissue an NPDES permit which has expired.

OTHER:

If there is a reason other than the ones listed, please describe the reason on the space provided. (If more space is needed, attach a separate sheet.)



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VI. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

It should be emphasized that communication with the appropriate RWQCB staff is vital before starting the CEQA documentation, and is recommended before completing this application. There are Basin Plan issues which may complicate the CEQA effort, and RWQCB staff may be able to help in providing the needed information to complete the CEQA documentation.

Name the Lead Agency responsible for completion of CEQA requirements for the project, i.e., completion and certification of CEQA documentation.

Check YES or NO. Has a public agency determined that the proposed project is exempt from CEQA?

If the answer is YES, state the basis for the exemption and the name of the agency supplying the exemption on the space provided. (Remember that, if extra space is needed, use an extra sheet of paper, but be sure to indicate the attached sheet under Section VII. Other.)

Check YES or NO. Has the "Notice of Determination" been filed under CEQA? If YES, give the date the notice was filed and enclose a copy of the Notice of Determination and the Initial Study, Environmental Impact Report, or Negative Declaration. If NO, check the box of the expected type of CEQA document for this project and include the expected date of completion using the timelines given under CEQA. The date of completion should be taken as the date that the Notice of Determination will be submitted. (If not known, write "Unknown")

VI. OTHER REQUIRED INFORMATION

To be approved, your application MUST include a COMPLETE characterization of the discharge. If the characterization is found to be incomplete, RWQCB staff will contact you and request that additional specific information be submitted.

This application MUST be accompanied by a site map. A USGS 7.5' Quadrangle map or a street map, if more appropriate is sufficient for most applications.

VII. OTHER

If any of the answers on your application form need further explanation, attach a separate sheet. Please list any attachments with the titles and dates on the space provided.

VIII. CERTIFICATION

Certification by the owner of the facility or the operator of the facility if the operator is different from the owner, is required. The appropriate person must sign the application form.

Acceptable signatures are:

- 1 for a corporation, a principal executive officer of at least the level of senior vice-president;
- 2 for a partnership or individual (sole proprietorship), a general partner or the proprietor;
- 3 for a governmental or public agency, either a principal executive officer or ranking elected/appointed official.

DISCHARGE SPECIFIC INFORMATION

In most cases, a request to supply additional discharge specific information will be sent to you by a representative of the RWQCB. If the RWQCB determines that additional discharge specific information is not needed to process your application, you will be so notified.



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Regional Water Quality Control Board
**APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT**



I. FACILITY INFORMATION

A. Facility:

| | | | |
|-----------------|---------|-------------------|-----------|
| Name: | | | |
| Address: | | | |
| City: | County: | State: | Zip Code: |
| Contact Person: | | Telephone Number: | |

B. Facility Owner:

| | | | | |
|-----------------|--|-------------------|--|--|
| Name: | | | Owner Type (Check One) | |
| Address: | | | 1. <input type="checkbox"/> Individual 2. <input type="checkbox"/> Corporation | |
| City: | | | 3. <input type="checkbox"/> Governmental Agency 4. <input type="checkbox"/> Partnership Agency | |
| State: | | | 5. <input type="checkbox"/> Other: _____ | |
| Zip Code: | | | | |
| Contact Person: | | Telephone Number: | Federal Tax ID | |

C. Facility Operator (The agency or business, not the person):

| | | | | |
|-----------------|--|-------------------|--|--|
| Name: | | | Operator Type (Check One) | |
| Address: | | | 1. <input type="checkbox"/> Individual 2. <input type="checkbox"/> Corporation | |
| City: | | | 3. <input type="checkbox"/> Governmental Agency 4. <input type="checkbox"/> Partnership Agency | |
| State: | | | 5. <input type="checkbox"/> Other: _____ | |
| Zip Code: | | | | |
| Contact Person: | | Telephone Number: | | |

D. Owner of the Land:

| | | | | |
|-----------------|--|-------------------|--|--|
| Name: | | | Owner Type (Check One) | |
| Address: | | | 1. <input type="checkbox"/> Individual 2. <input type="checkbox"/> Corporation | |
| City: | | | 3. <input type="checkbox"/> Governmental Agency 4. <input type="checkbox"/> Partnership Agency | |
| State: | | | 5. <input type="checkbox"/> Other: _____ | |
| Zip Code: | | | | |
| Contact Person: | | Telephone Number: | | |

E. Address Where Legal Notice May Be Served:

| | | |
|-----------------|-------------------|-----------|
| Address: | | |
| City: | State: | Zip Code: |
| Contact Person: | Telephone Number: | |

F. Billing Address:

| | | |
|-----------------|-------------------|-----------|
| Address: | | |
| City: | State: | Zip Code: |
| Contact Person: | Telephone Number: | |



**APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
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II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application (A or B):

☐ A. WASTE DISCHARGE TO LAND

☐ B. WASTE DISCHARGE TO SURFACE WATER

Check all that apply:

- | | | |
|---|--|---|
| <input type="checkbox"/> Domestic/Municipal Wastewater Treatment and Disposal | <input type="checkbox"/> Animal Waste Solids | <input type="checkbox"/> Animal or Aquacultural Wastewater |
| <input type="checkbox"/> Cooling Water | <input type="checkbox"/> Land Treatment Unit | <input type="checkbox"/> Biosolids/Residual |
| <input type="checkbox"/> Mining | <input type="checkbox"/> Dredge Material Disposal | <input type="checkbox"/> Hazardous Waste (see instructions) |
| <input type="checkbox"/> Waste Pile | <input type="checkbox"/> Surface Impoundment | <input type="checkbox"/> Landfill (see instructions) |
| <input type="checkbox"/> Wastewater Reclamation | <input type="checkbox"/> Industrial Process Wastewater | <input type="checkbox"/> Storm Water |
| <input type="checkbox"/> Other, please describe: _____ | | |

III. LOCATION OF THE FACILITY

Describe the physical location of the facility.

1. Assessor's Parcel Number(s)
Facility:
Discharge Point:

2. Latitude
Facility:
Discharge Point:

3. Longitude
Facility:
Discharge Point:

IV. REASON FOR FILING

- | | |
|---|---|
| <input type="checkbox"/> New Discharge or Facility | <input type="checkbox"/> Changes in Ownership/Operator (see instructions) |
| <input type="checkbox"/> Change in Design or Operation | <input type="checkbox"/> Waste Discharge Requirements Update or NPDES Permit Reissuance |
| <input type="checkbox"/> Change in Quantity/Type of Discharge <input type="checkbox"/> Other: _____ | |

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency: _____

Has a public agency determined that the proposed project is exempt from CEQA? ☐ Yes ☐ No

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.

Basis for Exemption/Agency: _____

Has a "Notice of Determination" been filed under CEQA? ☐ Yes ☐ No

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Expected CEQA Documents:

☐ EIR ☐ Negative Declaration

Expected CEQA Completion Date: _____



APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT



VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name _____

Title _____

Signature _____

Date _____

FOR OFFICE USE ONLY

| | | | |
|------------------------|-----------------------|----------------------|---------|
| Date Form 100 Received | Letter to Discharger: | Fee Amount Received: | Check # |
|------------------------|-----------------------|----------------------|---------|

Legislative and Public Affairs: (916) 657-1247
Water Quality Information: (916) 657-0687

Clean Water Programs Information: (916) 227-2400
Water Rights Information: (916) 657-2470

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

NORTH COAST REGION (1)

5550 Skylark Blvd., Ste. A
Santa Rosa, CA 95403
(707) 576-2220

SAN FRANCISCO BAY REGION (2)

2101 Webster Street, Ste. 500
Oakland, CA 94612
(510) 286-1255

CENTRAL COAST REGION (3)

61 Figure Street, Ste. 200
San Luis Obispo, CA 93401-5427
(805) 549-3147

LOS ANGELES REGION (4)

101 Centre Plaza Drive
Monterey Park, CA 91754-2156
(213) 266-7500

CENTRAL VALLEY REGION (5)

3443 Roulter Road, Suite A
Sacramento, CA 95827-3098
(916) 255-3000

FRESNO BRANCH OFFICE

3614 East Ashlan Avenue
Fresno, CA 93726
(209) 445-5116

REDDING BRANCH OFFICE

415 Knollcrest Drive
Redding, CA 96002
(916) 224-4845

LAHONTAN REGION (6)

2501 South Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(916) 542-5400

VICTORVILLE BRANCH OFFICE

15428 Civic Drive, Ste. 100
Victorville, CA 92392-2383
(760) 241-6583

COLORADO RIVER BASIN REGION (7)

73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491

SANTA ANA REGION (8)

California Tower
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
(909) 782-4130

SAN DIEGO REGION (9)

9771 Clairemont Mesa Blvd., Ste. A
San Diego, CA 92124
(619) 467-2952



ENCLOSURE 2

INFORMATION TO SUPPLEMENT A REPORT OF WASTE DISCHARGE FOR THE GREEN VALLEY FOODS FACILITY

The following required information is separated into three sections: 1) General information on the facility, 2) specific information on the cheese processing operations, and 3) specific information on the animal feeding operations.

GENERAL INFORMATION

1. General location map(s) or drawing(s) not larger than 8-1/2 x 11 inches and reproducible. The map(s) or drawing(s) should include the following features, at a minimum, within 1000 feet of the facility property boundaries:
 - a. Property boundaries.
 - b. Location of on-site cheese processing facilities and animal feeding operations.
 - c. Topographic map (including the section, township and range) showing elevation contours, natural ground slopes, drainage patterns, and other topographic features.
 - d. Floodplain – Identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of relevant Federal Emergency Management Agency (FEMA) flood map, if used or the calculations, assumptions, modeling, and maps used where a FEMA map is not available. The submittal must also identify the 100-year floodplain and any other special flooding factors (e.g., wave action, flash flood potential), which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.
 - e. Any surface waterbodies.
 - f. Location and description of all private and public drinking water wells, irrigation wells, and groundwater monitoring wells.
2. Climatology
 - a. Precipitation – Estimated maximum and minimum annual precipitation at the facility.
 - b. Design Storm – Maximum expected 24-hour precipitation.

3. Types of adjacent land use (e.g., residential, commercial, industrial, agricultural, recreational).
4. Statement of land ownership, including Assessor's Parcel Numbers, for areas where waste will be treated, stored, or disposed.
5. Copies of any pertinent permits or approvals that have been granted by any local, state, regional, or federal agencies or copies of applications for these permits or approvals.

SPECIFIC INFORMATION FOR CHEESE PROCESSING OPERATIONS

1. Process Information

- a. A description of the type of food processed and how it is processed (e.g., pasteurization, brine curing, etc.).
- b. A description of the chemicals used in processing and/or equipment cleaning that may be present in the wastewater and the amounts of each chemical used on a daily and annual basis.

2. Waste Characteristics

- a. Constituents – A list of the types, quantities, and concentrations of wastes proposed to be discharged must be addressed in the ROWD. Wastes and waste constituents shall be specifically identified according to the most descriptive nomenclature. Include a chemical analysis of key wastewater constituents including at a minimum Total Dissolved Solids (TDS), Biological Oxygen Demand (BOD), pH, nitrogen species, and phosphorus.
- b. Treatment, Storage, and Disposal Methods – A description of proposed waste treatment, storage, and disposal methods. The description should provide details on waste treatment, storage, and disposal, including but not limited to:
 - I. Types of wastes to be treated and expected volumes of each type.
 - II. A description of the treatment technologies and equipment to be utilized.
 - III. Locations and capacities of treatment, storage, and disposal facilities.
 - IV. Methods and facilities for preventing or minimizing unplanned releases of wastewater.
 - V. Methods and facilities for preventing or minimizing releases of pollutants in stormwater.

VI. Methods and facilities for odor and vector control.

VII. Methods and facilities for disposal of waste materials that cannot be treated or stored on-site.

3. An estimate of the volume of wastewater produced per calendar year, and a detailed description of the type and location of a flow meter(s) that has been installed to measure all process water flows. The flow meter(s) must be able to measure both the volume of wastewater discharged to land and the volume of wastewater hauled off-site.
4. An estimate of the volume of solid wastes produced per calendar year and the method to be used to record the volume of solid waste hauled off-site for reuse or disposal.

5. Design Report and Operations Plan

- a. Preliminary and As-Built Plans – As part of the ROWD, dischargers who own or operate waste management facilities must submit, for each facility, detailed preliminary and (later, after completion) as-built plans, specifications, and descriptions, including all liners and other containment structures, and precipitation and drainage control facilities. In addition, the ROWD must contain a description of, and location data for, ancillary facilities including roads, waste handling areas, buildings, and equipment cleaning facilities, only insofar as the location and operation of these ancillary facilities could have an effect upon water quality.
- b. Inspection and Monitoring Procedures – Dischargers shall submit operation plans describing those facility operations which could affect water quality, including but not limited to:
 - I. A description of inspection and maintenance programs which will be undertaken regularly during facility operations.
 - II. A description of monitoring systems and procedures to verify regulatory compliance and ensure that water quality is protected.
 - III. Contingency plans for the failure or breakdown of waste handling facilities or containment systems, including notice of any such failure, or any detection of waste in monitoring facilities, to the Water Board, local governments, and water users down-gradient of facilities.
- c. The name and address of the California-licensed civil engineer acting in responsible charge for all engineering calculations, designs, and specifications associated with the waste treatment, storage, and disposal operations. A signature block with appropriate professional engineering stamp is required.

SPECIFIC INFORMATION FOR ANIMAL FEEDING OPERATIONS

1. A general description of the animal feeding operation (AFO) including the size (acreage) and types of facilities (i.e., corrals, washing areas, milking barns, disposal facilities, etc.).
2. The average and maximum number of animals that are maintained at the AFO.
3. Of the maximum number of animals, the number of specific types of animals including, but not limited to, mature animals, heifers, and calves.
4. A description of the manner in which liquid and solid wastes (i.e., wastewater, manure, trash, animal carcasses, etc.) from the AFO are handled and disposed, the quantities of wastes generated per day, location and construction details of all on-site waste treatment, storage, or disposal facilities, and the final disposition of any waste removed from the facility for off-site disposal.
5. If crops are grown on the AFO, describe:
 - a. total number of acres available for wastewater and manure applications, on-site and off-site.
 - b. wastewater and manure application rates.
 - c. type of crops grown.
 - d. acreage of specific crops and their locations.
 - e. number of harvests per year.
 - f. projected crop rotation.
 - g. estimated crop yield per year.
 - h. amount and type of fertilizer added per year (lbs/acre).

ENCLOSURE 3

INFORMATION TO SUPPORT A REPORT OF WASTEWATER RECLAMATION FOR GREEN VALLEY FOODS

1. The name, address, and telephone number of the owner of the property on which the reuse is proposed. The name, address, and telephone number of the owner's agent, if any, for this proposed project.
2. Location and size of each application area, including street addresses.
3. The Assessor's Parcel Number(s) where the reuse is proposed to occur.
4. Beginning and ending dates for period of proposed reuse.
5. A topographic map of the parcel(s) on which the reuse area(s) is to be located showing contours at intervals sufficient to determine ground slope of land in the proposed reuse area. Locations of buildings, parking areas, watercourses (either permanent or seasonal flow), embankments, road cuts, rock outcrops, or other features likely to affect the reuse of wastewater shall be clearly designated on the map. The map(s) must be 8 1/2 x 11-inch paper and reproducible.
6. The location and use of nearby wells within 1000 feet of the reuse area(s).
7. Distance from soil surface in the proposed reuse area to the current groundwater table and to the maximum high groundwater table of record.
8. A narrative description of the reuse project including the intended use, method, size, and capacity of conveyance from source to application site, average daily volume, method and level of treatment, method and level of disinfection of the reclaimed water proposed for reuse, if applicable, and the method of application.
9. Design criteria and engineering calculations for the wastewater disinfection system, if any.
10. Description and/or calculations showing the hydraulic loading rate and nutrient loading rate to crops (including, but not limited to: Total Dissolved Solids, Biological Oxygen Demand, Nitrogen, Phosphorus, and Potassium in pounds per acre per year).
11. The type(s) of crops to be irrigated with reclaimed wastewater.
12. Quantitatively describe whether dilution will take place through the application of irrigation water and the concentrations of chemical constituents (in milligrams per liter or other appropriate units of concentration) to be applied with irrigation water.

13. An estimate of the number of acres required for prevention of groundwater degradation and a description of how the wastewater will be evenly applied over the land at acceptable agronomic rates.
14. Methods to prevent wastewater from entering surface waters.
15. Procedures to ensure wastewater will not be applied to land 24 hours before a predicted storm, during a storm, within 24 hours after the storm ceases, or when the ground is saturated. Include any other measures to ensure wastewater will not commingle with stormwater.
16. Description of how reclaimed wastewater will be retained on site and how ponding of wastewater will be prevented on site.
17. Methods of storage of wastewater (e.g., above-ground or underground tank) during storm events and other periods when irrigation is not appropriate (e.g., when crops are drying for harvest).
18. Type of land use of properties adjacent to the proposed reuse area. Distance and direction from the property line of the proposed reuse area to all inhabited adjacent properties and roadways.
19. Description of how the public will be excluded from the site and warned that reclaimed wastewater is in use at the site.

ENCLOSURE 4

PERTINENT REGULATORY CONSIDERATIONS

The following sections present regulatory considerations including applicable regulations and policies that may be relevant to your project.

Basin Plan Designated Beneficial Uses

The project site is located in the Mojave Hydrologic Unit and the Middle Mojave Hydrologic Area (Dept. of Water Resources Hydrologic Unit No. 628.30). Beneficial uses listed in Table 2-1 of the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) for minor surface waters in this subarea are:

| | |
|-------|-------------------------------|
| MUN | Municipal and Domestic Supply |
| AGR | Agricultural Supply |
| GWR | Groundwater Recharge |
| POW | Hydropower Generation |
| REC-1 | Water Contact Recreation |
| REC-2 | Non-contact Water Recreation |
| WARM | Warm Freshwater Habitat |
| COLD | Cold Freshwater Habitat |
| WILD | Wildlife Habitat |

Minor surface waters include, but are not limited to: ephemeral or intermittent stream channels, desert washes, and other unnamed water bodies.

The project site is located within the Middle Mojave River Valley groundwater basin (Dept. of Water Resources Basin No. 6-41). Beneficial uses listed in Table 2-2 of the Basin Plan for this groundwater basin are:

| | |
|------|-------------------------------|
| MUN | Municipal and Domestic Supply |
| AGR | Agricultural Supply |
| IND | Industrial Supply |
| FRSH | Freshwater Replenishment |
| AQUA | Aquaculture |

A copy of the Basin Plan can be accessed at the following link:

<http://www.waterboards.ca.gov/lahtontan/BPlan/Bplan.pdf>

Basin Plan Prohibitions

The Water Board can prohibit specific types of discharges to certain areas pursuant to CWC Section 13243. Discharge prohibitions and exemption criteria are described

in Section 4.1 of the Basin Plan. Exemptions to these region-wide prohibitions may be granted for restoration projects that meet appropriate criteria.

Region-wide prohibitions include:

1. The discharge of waste¹ which causes violation of any narrative water quality objective contained in the Basin Plan, including the Non-degradation Objective, is prohibited.
2. The discharge of waste which causes violation of any numeric water quality objective in the Basin Plan is prohibited.
3. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste which causes further degradation or pollution is prohibited.
4. The discharge of untreated sewage, garbage, or other solid wastes, or industrial waste into surface waters of the Lahontan Region is prohibited.
5. For municipal and industrial discharges:
 - a. The discharge, bypass, or diversion of raw or partially treated sewage, sludge, grease, or oils to surface waters is prohibited.
 - b. The discharge of wastewater except to the designated disposal site (as designated in WDRs) is prohibited.

Non-degradation Objective

This objective applies to all waters of the Lahontan Region (including surface waters, wetlands, and groundwater). On October 28, 1968, the State Water Resources Control Board (SWRCB) adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California." SWRCB Resolution No. 68-16 can be found in Appendix B of the Basin Plan and can be reviewed and downloaded from the following link:

<http://www.waterboards.ca.gov/plnspols/docs/wqplans/res68-16.pdf>

Potential Project Activities Affecting Waters

The following potential project activities may affect waters of the State and are within Water Board jurisdiction:

¹ Waste is defined to include any waste or deleterious material including but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock or other organic or mineral material) and any other waste as defined in CWC section 13050(d).

1. Construction activities (including grading and other excavations) that result in one acre, or greater, of land disturbance.
2. Planned or unplanned releases of wastes by stormwater, leachate, off-site vehicle tracking, or any other means that could introduce pollutants (e.g., nutrients, metals, pesticides, pathogens) to surface waters or groundwater.
3. Treatment or discharge of wastes that cause nuisance odors or attract vectors (e.g., mosquitoes or flies).
4. Discharge of wastes to land for reuse, treatment, storage, or disposal.
5. Discharge of wastes from an animal feeding operation that may affect water quality.

Additional project activities within Water Board jurisdiction may become evident when complete project information is provided in the ROWD.

EXHIBIT NO. 21

Lisa Scoralle - Fwd: RE: estimated costs for reports/plans preparation

From: Howard Hold
To: Lisa Scoralle
Date: 10/12/2011 4:02 PM
Subject: Fwd: RE: estimated costs for reports/plans preparation
CC: Doug Smith; Wyels, Wendy

Lisa, I'm sorry I did not have more time for this review, but I assumed you needed it today. I tried to locate the cost estimates of a few sites that I have with surface impoundments. Not knowing the site, I made some assumptions. .

As you are aware the biggest cost saving to the Discharger was not doing the physical work itself. The cost of the well drillers, earthmovers for the liner installation, CQA testing, the liner material etc, would cost significantly more than these reports. So I simply looked at the proposed costs as labor costs associated with the time for engineers, geologists, and other professionals to develop the project plans,

1. Work Plan for Surface Impoundment Construction was estimated 5K. This value is low. I would increase the cost to a minimum of 15 k – 20k. This plan must include a CQA plan as well, which would increase the original estimate.
2. Odor Control Plan. 5K seems reasonable. I would imagine it would be a fairly simple report
3. Not included in the original email. A surface impoundment must have an Operations Plan (see T27 Section 20375(b)). Try 5K for this plan.
4. Monitoring and Reporting Plan with a Sampling and Analysis Plan. From the plans I see, most of them are boiler plate text, so again 5K would be a low bid for this report.
5. Detection Monitoring Plan. Again not knowing the site, I thought this would be included in the Original ROWD. Assuming no more than 4 wells. One each side of the pond, using boiler plate text from the consultant regarding the field procedures. Nonetheless, 5K is okay.
6. Closure Plan and Cost Estimate. 10K
7. Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument. I just did this for a site. It was prepared by the site's lawyer so the labor costs must have been high. Assume, \$500 hr for the lawyer, our estimate was a cover letter from the lawyer and the letter of credit from the Bank, so I would say it took 20 hours for the lawyer to negotiate the deal. at a minimum it probably took 10K to put the estimate together.
8. Monitoring System Installation Report. 7.5 K seems ok.

9. Final Construction Quality Assurance Report. The final construction report estimate seems low. At a minimum it should equal the cost of the design document of 15k – 20k..

I hope this helps. Again, these are just estimates.

Howard Hold, P.G
Engineering Geologist
Title 27 Enforcement Group
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114
Sacramento, California 95827
1-916-464-4679
1-916-464-4681(FAX)
hhold@waterboards.ca.gov

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>>> On 10/12/2011 at 1:07 PM, Lisa Scoralie <LScoralie@waterboards.ca.gov> wrote:

hi howard

I obtained the attached cost estimates for preparation of the documents listed in the email. can you please review and comment?

thanks,
lisa

Lisa Scoralie, PG
Engineering Geologist
California Regional Water Quality Control Board,
Lahontan Region
2501 Lake Tahoe Blvd
South Lake Tahoe, CA 96150
(530) 542-5452 phone
(530) 544-2271 fax
lscoralie@waterboards.ca.gov

EXHIBIT NO. 22

From: Howard Hold
To: Lisa Scorallo
Date: 10/18/2011 12:37 PM
Subject: Fwd: RE: estimated costs for reports/plans preparation

Lisa, it is pretty ho hum, but here you go.

Bachelors Degree in Geology, Cal State Sacramento
Graduate Studies in Hydrogeology, Boise State University
7 years of Consulting Experience with Site Investigations and Site Cleanup at DOD facilities in California and Alaska
California Professional Geologist 7466
Started work with the Central Valley Regional Water Quality Control Board in January 2000
I have been working in the Title 27 unit for my entire tenure with the State.
Currently, I am responsible for Compliance and Enforcement for the Landfills and Industrial Impoundments within the following counties: San Joaquin, Amador, El Dorado, Tuolumne, Stanislaus, and Alameda.

Let me know if you need more detail.

Howard Hold, P.G
Engineering Geologist
Title 27 Enforcement Group
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114
Sacramento, California 95827
1-916-464-4679
1-916-464-4681(FAX)
hhold@waterboards.ca.gov

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EXHIBIT NO. 23

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: October 28, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|------------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Patrice Copeland | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 4:45 p.m. Weather is clear, sunny with some scattered clouds, and mild. No precipitation. Evidence of discharge noted upon arrival at the discharge field to the west of the Facility. Ponded effluent was visible on the ground north of monitoring well MW-3. Animal tracks were noted, and many flies were observed. Strong odor noted. No sampling conducted. Depart site at 4:55.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition

Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

RECOMMENDED ACTIONS

Recommend enforcement action to cease discharge to ground.

FIGURES AND PHOTOGRAPHS



Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on October 28, 2011. The photograph is taken standing north of monitoring well MW-3, looking approximately north. The photograph is of the discharge area upon arrival at the site. Effluent is noted ponded on the ground.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on October 28, 2011. The photograph is taken standing north of MW-3, looking approximately northeast. Effluent is noted ponded on the ground upon arrival at the discharge location.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on October 28, 2011. The photograph is standing north of MW-3, north of Photograph 1, looking approximately northeast. Effluent is noted ponded on the ground.

EXHIBIT NO. 24

**FACILITY INSPECTION REPORT
GREEN VALLEY FOODS**

WDID No. 6B360704003
Board Order No. R6V-2010-0019
Status Code: Active
Permit Type: WDR
Facility Site Name: Green Valley Foods
Facility Location: 25684 Community Blvd.
Barstow, CA 92311

Site Contact:
Site Phone Number:
Facility Size: 20 Acres
SIC Code:

Date of Inspection: November 8, 2011

| | <u>Name</u> | <u>Agency</u> |
|-------------|----------------|----------------|
| Inspectors: | Brianna Bergen | Lahontan RWQCB |
| | Randall Morlan | Lahontan RWQCB |

| | <u>Name</u> | <u>Title</u> |
|---------------------|-------------|--------------|
| Facility Personnel: | None | |

Type of Inspection: Compliance

OBSERVATIONS

Arrive on site at 11:00 a.m. Weather is clear, sunny with some scattered clouds, and mild. No precipitation. No discharge or ponding noted upon arrival at the discharge field to the west of the Facility. Darker areas were visible in areas of previous ponding in the vicinity of monitoring well MW-3. Animal tracks were noted, and flies were observed. Strong odor noted. Rabbits, birds, and a dog were present on site. No sampling conducted. No construction has commenced for the proposed surface impoundment. Depart site at 11:15.

VIOLATIONS

Board Order No. R6V-2010-0019:

Section II.A.1. - Discharge noted on the ground following March 30, 2011

Section II.A.8. - prohibits discharge outside of the Surface Impoundment

Section V.E.1. - requires the Surface Impoundment and associated monitoring systems be installed; however, no construction has commenced

Standard Provisions for Waste Discharge Requirements:

Number 2.a. - pursuant to CWC section 13267, subdivision (b), the Discharger shall notify the Regional Board by telephone when there is an adverse condition
Number 4 - failure to comply with the WDRs may constitute a violation of the CWC

Number 6 - the Discharger must properly operate and maintain all facilities used for treatment and control to achieve compliance with the WDRs

RECOMMENDED ACTIONS

Recommend enforcement action to cease discharge to ground.

FIGURES AND PHOTOGRAPHS



Figure 1. This figure shows the location of Green Valley Foods' Cheese Processing Facility, the location of the proposed Surface Impoundment, which has not been constructed, and the location of the discharge area on a parcel to the west of the Green Valley Foods facility.



Photograph 1. Taken by Brianna Bergen, Lahontan RWQCB staff, on November 8, 2011. The photograph is taken standing south of monitoring well MW-3, looking approximately southeast. The photograph is of the discharge area upon arrival at the site. Darker areas are noted from previous discharge to the ground.



Photograph 2. Taken by Brianna Bergen, Lahontan RWQCB staff, on November 8, 2011. The photograph is taken standing north of MW-3, looking approximately north. The photograph is of the discharge area upon arrival at the site. Darker areas are noted from previous discharge to the ground.



Photograph 3. Taken by Brianna Bergen, Lahontan RWQCB staff, on November 8, 2011. The photograph is standing north of MW-3, looking approximately northeast. The photograph is of the discharge area upon arrival at the site. Darker areas are noted from previous discharge to the ground. The light spot in the middle of the discharge area appears to be remnants of solids from the discharge. This is the same area as noted in Photograph 3 in the October 28, 2011 inspection.



Photograph 4. Taken by Brianna Bergen, Lahontan RWQCB staff, on November 8, 2011. The photograph is standing south of MW-4, looking approximately north.



Photograph 5. Taken by Randall Morlan, Lahontan RWQCB staff, on November 8, 2011. The photograph is standing north of the Facility, looking approximately south. No construction has commenced on the proposed surface impoundment.

EXHIBIT NO. 25

Property Information Management System

**San Bernardino County
Office of the Assessor**



FORMATTED NAME SEARCH RESULTS REPORT

Search Criteria

**Last Name: HUERTA
First Name: HECTOR
Active/Inactive: Active**

**Search Results**

| Seq. | Parcel Number | Parcel Status | Tax Status | Name / Address |
|------|---------------|---------------|--------------------|--|
| 001 | 0488121030000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 002 | 0488121040000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR N/A |
| 003 | 0494031610000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR N/A |
| 004 | 0497031080000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 005 | 0497031250000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 006 | 049708109Z002 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 007 | 0497081090000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 008 | 0497081270000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 009 | 0497091280000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR N/A |
| 010 | 049722114P000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |
| 011 | 0449013210000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR S N/A |
| 012 | 0497221100000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR S N/A |
| 013 | 0497221130000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR S Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |

San Bernardino County Assessor



| Seq. | Parcel Number | Parcel Status | Tax Status | Name / Address |
|------|---------------|---------------|-----------------------|--|
| 014 | 0497221140000 | ACTIVE | ASSESSED BY COUNTY | HUERTA, HECTOR S Protected per CA. Govt. Code Sect. 6254.21 Protected per CA. Govt. Code Sect. 6254.21 |

Total Records: 14

[Close Window](#)**PARCEL TYPE**

| Code | Description |
|------|---|
| A | AIRCRAFT |
| B | BOAT |
| F | AGRICULTURAL PERSONAL PROPERTY |
| L | LEASED EQUIPMENT |
| P | BUSINESS PROPERTY |
| S | SERVICE STATION PERSONAL PROPERTY |
| T | TIMESHARE |
| W | POSSESSORY INTEREST |
| X | POSSESSORY INTEREST, UNPATENTED MINING CLAIMS |
| Y | POSSESSORY INTEREST, GOVERNMENT OWNED HOUSING |
| Z | BUILDING ON LEASED LAND |
| 0 | REAL PROPERTY |
| 1 | BUSINESS PROPERTY |
| 2 | AGRICULTURAL PERSONAL PROPERTY |
| 3 | SERVICE STATION PERSONAL PROPERTY |
| 4 | CO-OP |
| 5 | WATER RIGHTS |
| 6 | MANUFACTURED HOME |
| 7 | SEPARATED RIGHTS |
| 8 | WATER DISTRIBUTION |
| 9 | OIL AND GAS LEASE |

[Close Window](#)

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0488-121-03-0000



Parcel 0488121030000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code SFR
Land Access CHECK
Size 0 TO 4,999 SQ. FEET
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|-------------------------------|---------------------|--------|
| TRA 56092 | Land Value | 9,068 |
| Supplement NO | Improvement Value | 27,203 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0488121030000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 36,271 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 36,271 |

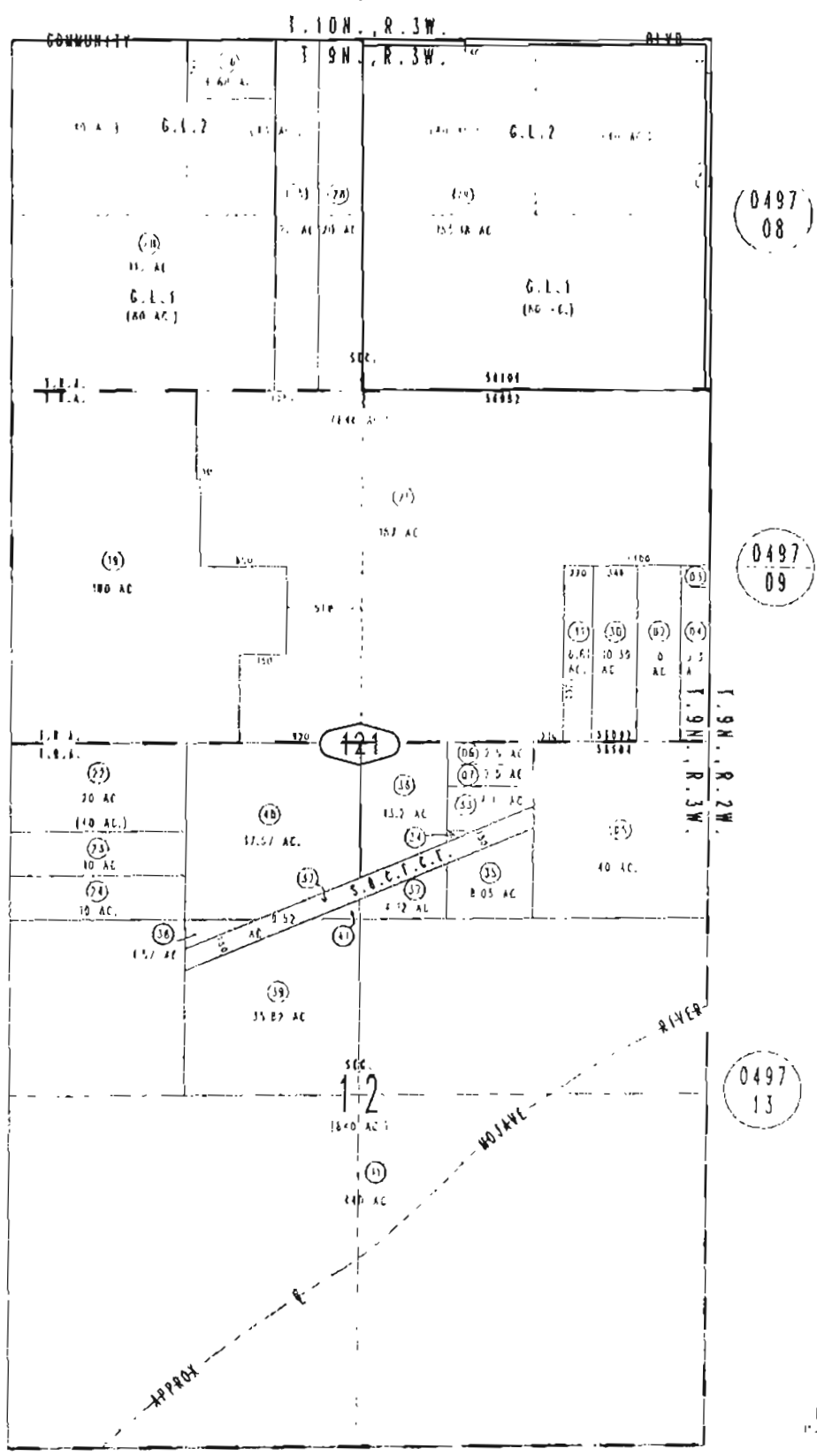
RECEIVED
FEB 2 2004
COUNTY CLERK
SAN BERNARDINO COUNTY



Sec. 1&12, T. 9N., R. 3W., S.B.B.&M.

Borslow Unified
Tax Role Area
56092, 56104, 56109

0488-12



Assessor's Map
Book 0488 Page 12
San Bernardino County

RECEIVED

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0488-121-04-0000



Parcel 0488121040000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code VACANT
Land Access CHECK
Size 3.501 TO 7.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
 &USE EX HPC/MHM(1-4
 UTS,CHURCH)

Prior Roll History

Year: 2011

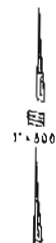
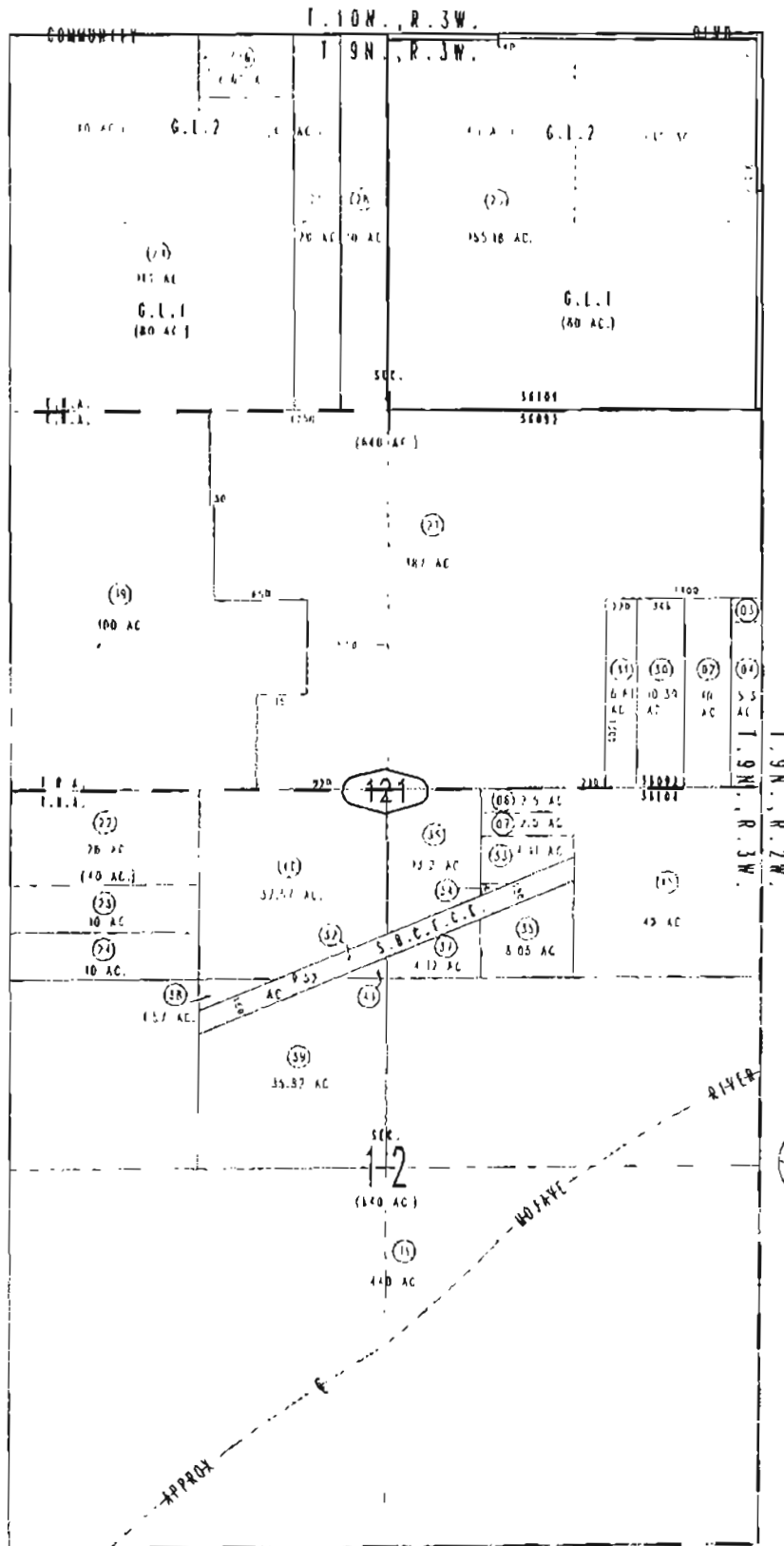
| | | |
|--------------------------------------|----------------------------|--------|
| TRA 56092 | Land Value | 14,609 |
| Supplement NO | Improvement Value | 0 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0488121040000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 14,609 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 14,609 |



Sec. 1 & 12, T. 9 N., R. 3 W., S. B. B. & M.

Barstow Unified
Tax Rate Area
56092, 56104, 56109

0488-12



Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0494-031-61-0000



Parcel 0494031610000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code VACANT
Land Access CHECK
Size 3.501 TO 7.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|-------------------------------|---------------------|--------|
| TRA 56109 | Land Value | 25,424 |
| Supplement NO | Improvement Value | 0 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0494031610000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 25,424 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 25,424 |

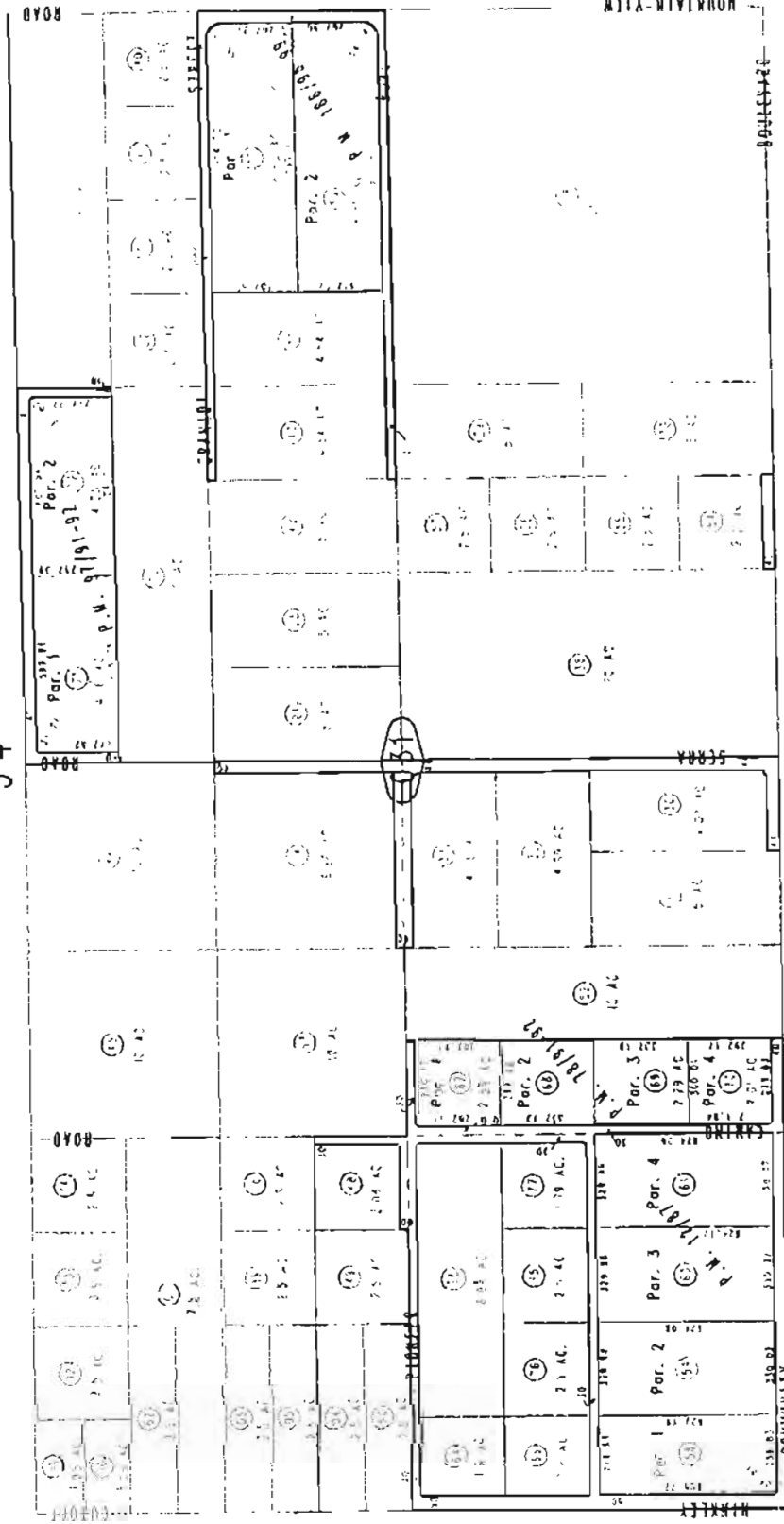
South 1/2 Sec.34, T.10N.,R.3W., S.B.B.&M.

Barstow Unified
Tax Rate Area
56109 0494-03

THIS MAP IS FOR THE PURPOSES
OF THE BARSTOW TAX RATE AREA



20
34



0488
15

Parcel Map No. 8937 P.M. 97/91-32
Parcel Map No. 1552 P.M. 18/91-92
Parcel Map No. 1454 P.M. 12/87
Parcel Map No. 1493 P.M. 186/98-55

Assessor's Map
Book 0494 Page 03
San Bernardino County

February 2004

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-031-08-0000

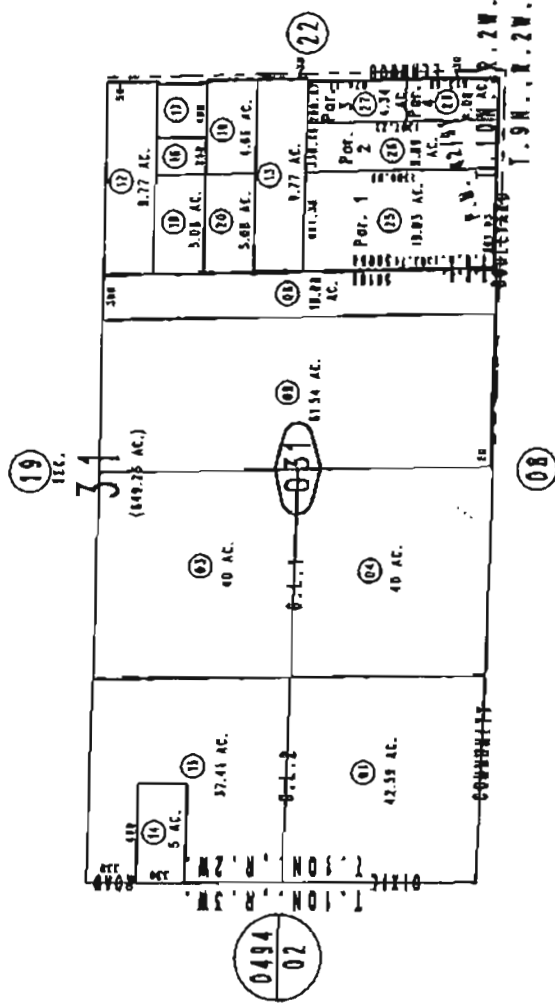
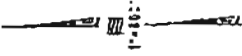


Parcel 0497031080000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code SFR
Land Access PUBLIC PAVED
Size 14.001 TO 25.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
 &USE EX HPC/MHM(1-4
 UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|--------------------------------------|----------------------------|--------|
| TRA 56109 | Land Value | 14,955 |
| Supplement NO | Improvement Value | 59,823 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497031080000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 74,778 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 74,778 |



Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-031-25-0000

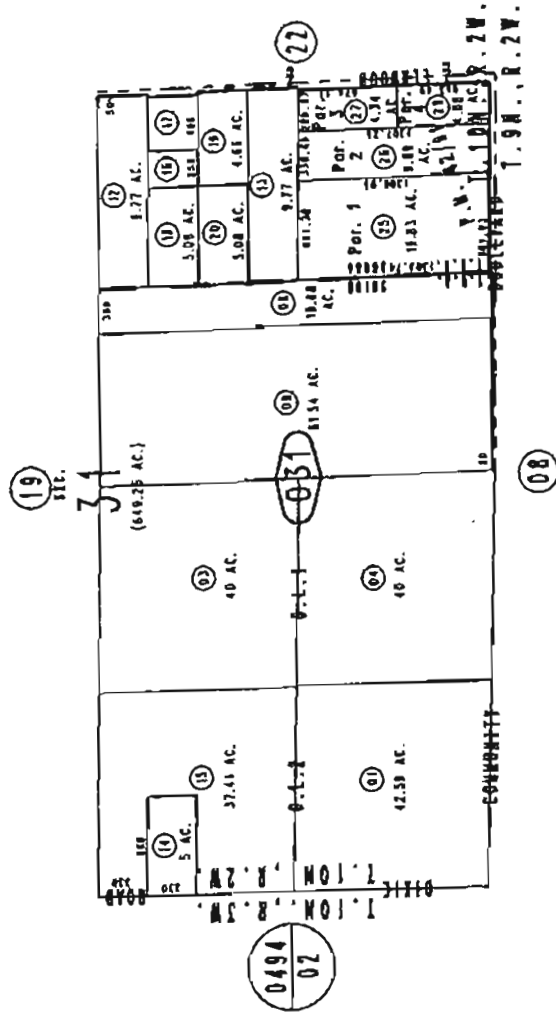
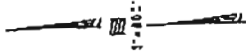


Parcel 0497031250000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code MHM FEE
Land Access PUBLIC PAVED
Size 25.001 ACRES AND OVER
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|--------------------------------------|----------------------------|--------|
| TRA 56084 | Land Value | 69,717 |
| Supplement NO | Improvement Value | 27,682 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497031250000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 97,399 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 97,399 |



Q351A JB

Assessor's Map
Book 0497 Page 03
San Bernardino County

Parcel Map No. 4525, P.W. 42/91

February 2004

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-081-09-Z002



Parcel 049708109Z002
Parcel Status ACTIVE
Parcel Type BUILDING ON LEASED
LAND
Property ID LAF2115
Tax Status ASSESSED BY COUNTY
Use Code MHM FEE
Land Access PUBLIC UNPAVED
Size 0 TO 4,999 SQ. FEET
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|-------------------------------|---------------------|--------|
| TRA 56109 | Land Value | 0 |
| Supplement NO | Improvement Value | 23,523 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 049708109Z002 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 23,523 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 23,523 |

[Maximize](#)[Property Info](#) [Roll Values History](#) [Parcel History](#) [Owner History](#) [Supplement History](#) [View ASSR Parcel Map](#) [Repo](#)

No parcel map exists for parcel 049708109Z002

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-081-09-0000



Parcel 0497081090000

Parcel Status ACTIVE

Parcel Type REAL PROPERTY

Property ID

Tax Status ASSESSED BY COUNTY

Use Code LIVESTOCK

Land Access PUBLIC UNPAVED

Size 25.001 ACRES AND OVER

Land Type SINGLE FAMILY RESIDENT

District BARSTOW

Resp Group REAL PROPERTY

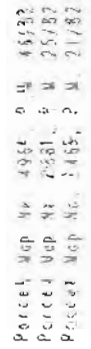
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|--------------------------------------|----------------------------|---------|
| TRA 56109 | Land Value | 189,812 |
| Supplement NO | Improvement Value | 123,497 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497081090000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 313,309 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 313,309 |

Barslow Unified
Tax Rate Area
56084,56109
0497-08



Assessor's Map
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San Bernardino County

February 2004

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-081-27-0000



Parcel 0497081270000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code SFR
Land Access PUBLIC PAVED
Size 3.501 TO 7.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

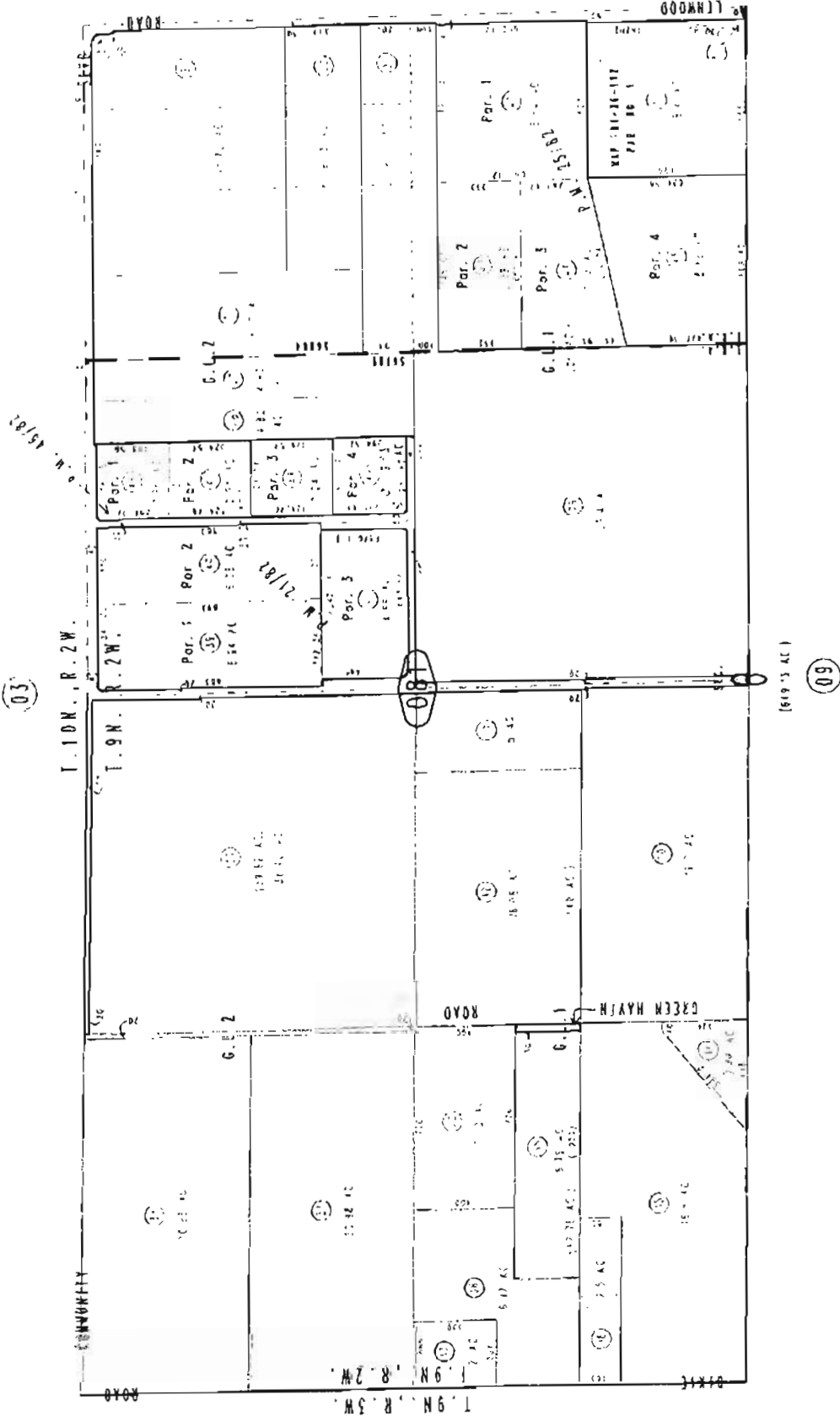
| | | |
|-------------------------------|---------------------|--------|
| TRA 56109 | Land Value | 4,994 |
| Supplement NO | Improvement Value | 22,750 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497081270000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 27,744 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 27,744 |

N.1/2 Fractional Sec.6, T.9N.,R.2W., S.B.B.&M.

Barstow Unified
Tax Rate Area
56084,56109

0497 - 08

2003 MAP 5 FOR THE 2003
N.1/2 FRACTIONAL SEC. 6, T.9N., R.2W., S.B.B. & M.



2003 MAP 5 FOR THE 2003
N.1/2 FRACTIONAL SEC. 6, T.9N., R.2W., S.B.B. & M.

Assessor's Map
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San Bernardino County

February 2004

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-091-28-0000



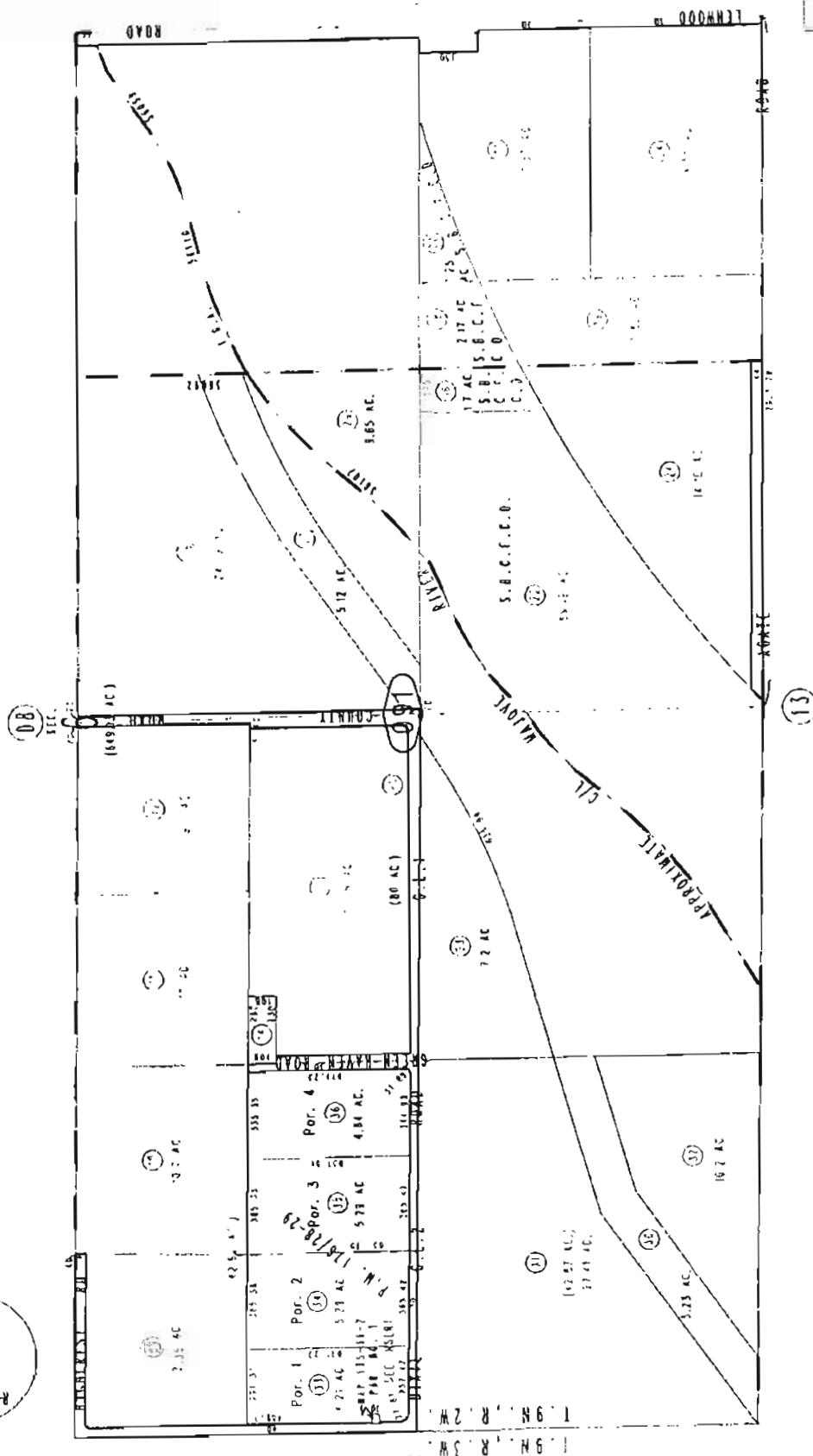
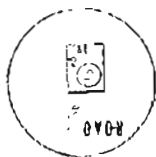
Parcel 0497091280000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code VACANT
Land Access CHECK
Size 14.001 TO 25.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
 &USE EX HPC/MHM(1-4
 UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|--------------------------------------|----------------------------|---------------|
| TRA 56092 | Land Value | 29,405 |
| Supplement NO | Improvement Value | 0 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497091280000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 29,405 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 29,405 |

Borstell Unified
Tax Rate Area
56059.56092
56107.56110

[illegible]

Assessor's Map
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San Bernardino County

14228, P U 176, 73-73

February 2004

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-221-14-P000



Parcel 049722114P000

Parcel Status ACTIVE

Parcel Type BUSINESS PROPERTY

Property ID

Tax Status ASSESSED BY COUNTY

Use Code MFG DAIRY

Land Access

Size

Land Type

District BARSTOW

Resp Group PERSONAL PROPERTY

Resp Unit MANUFACTURING &
PROCESSING (BCC 1101 -
1406)

Prior Roll History

Year: 2011

| | | |
|--------------------------------------|----------------------------|---------|
| TRA 56084 | Land Value | 0 |
| Supplement NO | Improvement Value | 416,779 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 112,894 |
| Original Parcel 049722114P000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR | Total Penalties | 0 |
| Joint Owner | Total Value | 529,673 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 529,673 |

[Maximize](#)[Property Info](#) [Roll Values History](#) [Parcel History](#) [Owner History](#) [Supplement History](#) [View ASSR Parcel Map](#) [Repo](#)

No parcel map exists for parcel 049722114P000

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0449-013-21-0000



Parcel 0449013210000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code VACANT
Land Access CHECK
Size 25.001 ACRES AND OVER
Land Type SINGLE FAMILY RESIDENT
District HESPERIA
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MMH(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|-------------------------------|---------------------|--------|
| TRA 88002 | Land Value | 82,474 |
| Supplement NO | Improvement Value | 0 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0449013210000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR S | Total Penalties | 0 |
| Joint Owner | Total Value | 82,474 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 82,474 |

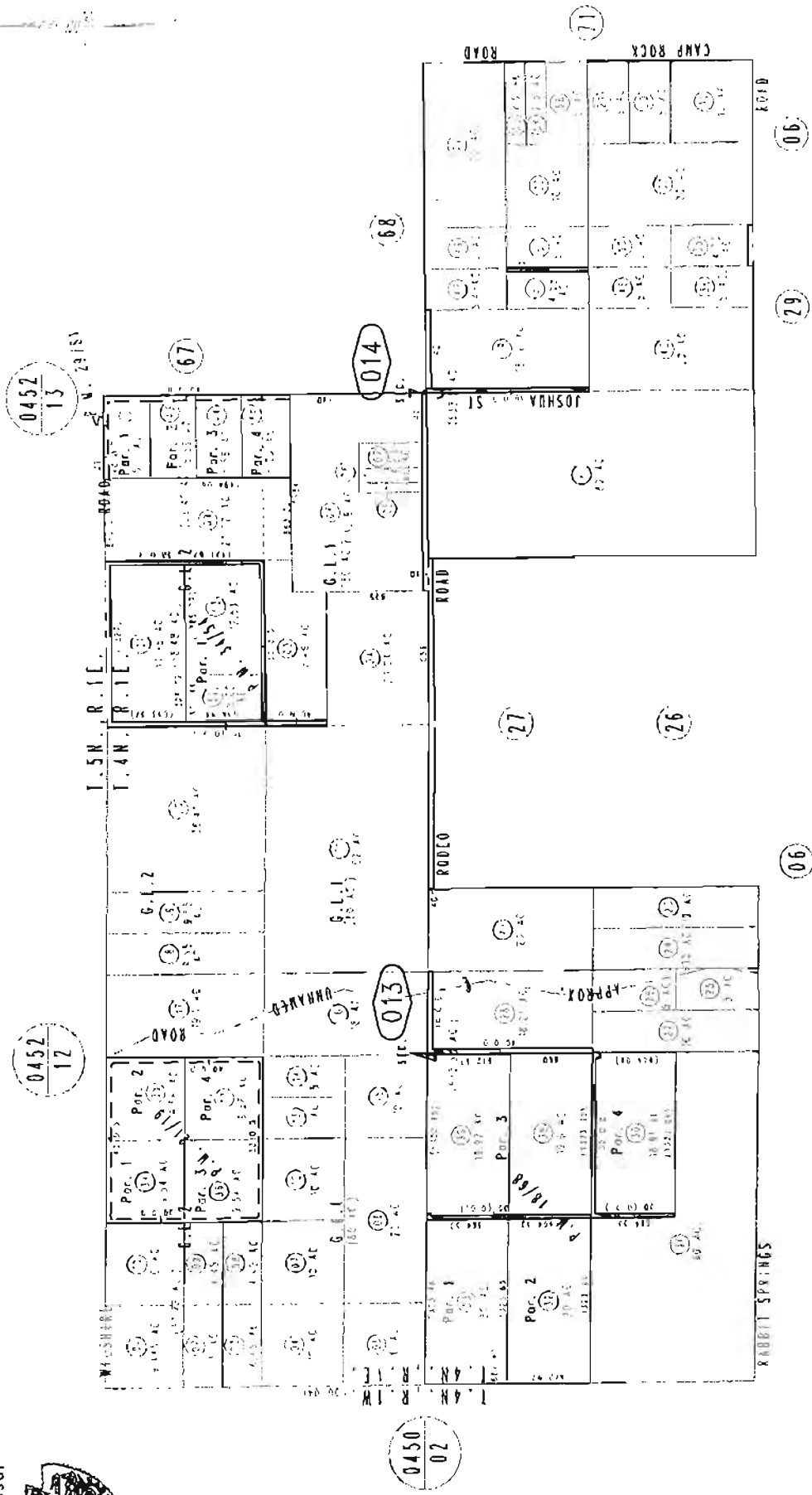
Ptn. Fractional Sec.3&4, T.4N.,R.1E., S.B.B.&M.

Lucerne Valley Union 0449-01
Tax Rate Area
88002

Assessor



THIS MAP IS FOR THE PURPOSES OF THE 1990-91 FISCAL YEAR ONLY



Parcel Map No 3001, P U 34/34
Parcel Map No 3000, P U 29/28
Parcel Map No 2182, P U 21/19
Parcel Map No 2046, P U 18/85

Assessor's Map
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San Bernardino County

April 2005

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-221-10-0000



Parcel 0497221100000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code VACANT
Land Access CHECK
Size 25.001 ACRES AND OVER
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

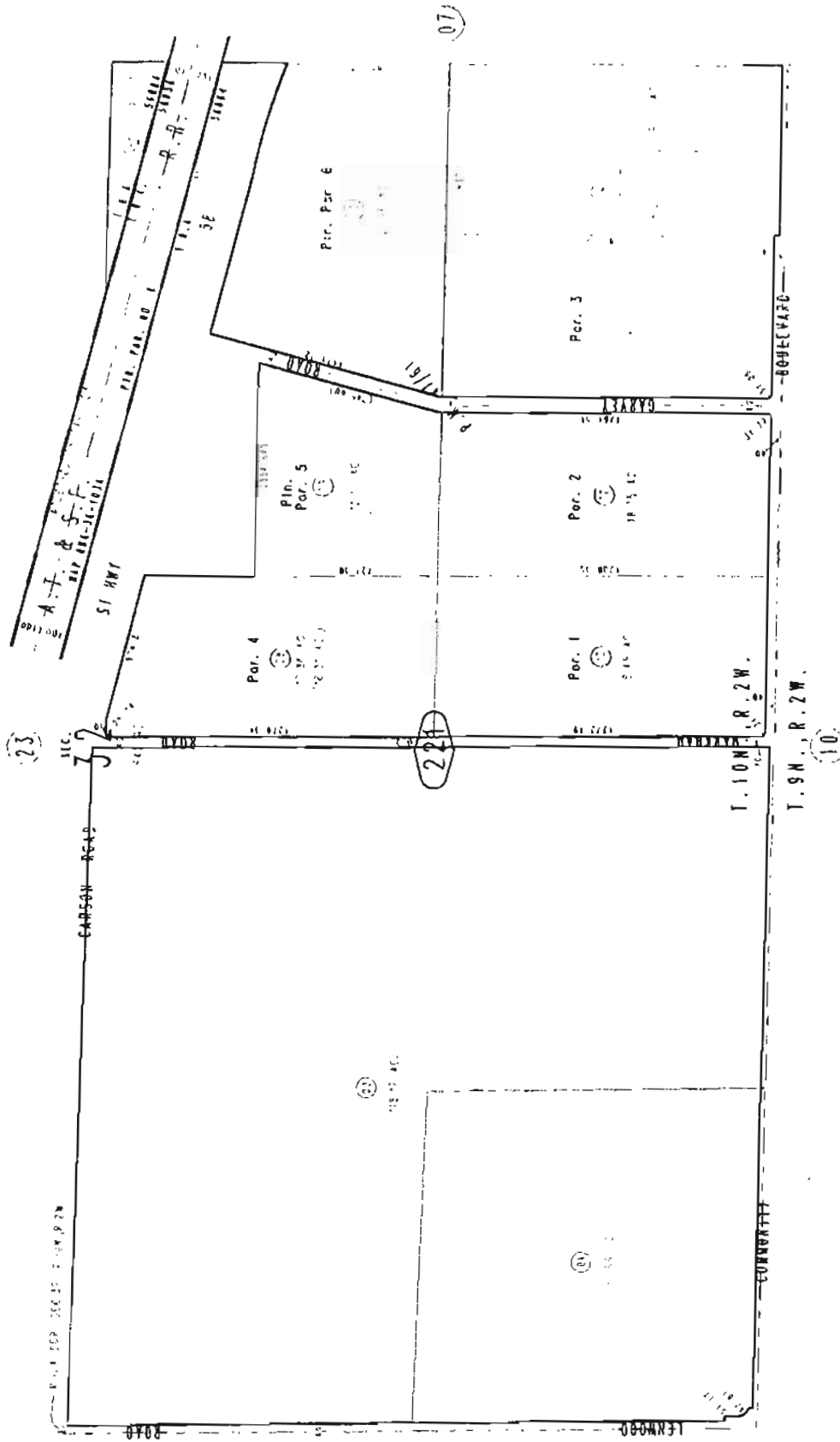
| | | |
|-------------------------------|---------------------|---------|
| TRA 56084 | Land Value | 192,624 |
| Supplement NO | Improvement Value | 0 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497221100000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR S | Total Penalties | 0 |
| Joint Owner | Total Value | 192,624 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 192,624 |

Barstow Unified
Tax Rate Area
56056,56084

Assessor's Map
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San Bernardino County

1971-1972

February 2004



Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-221-13-0000



Parcel 0497221130000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code SFR
Land Access CHECK
Size 14.001 TO 25.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

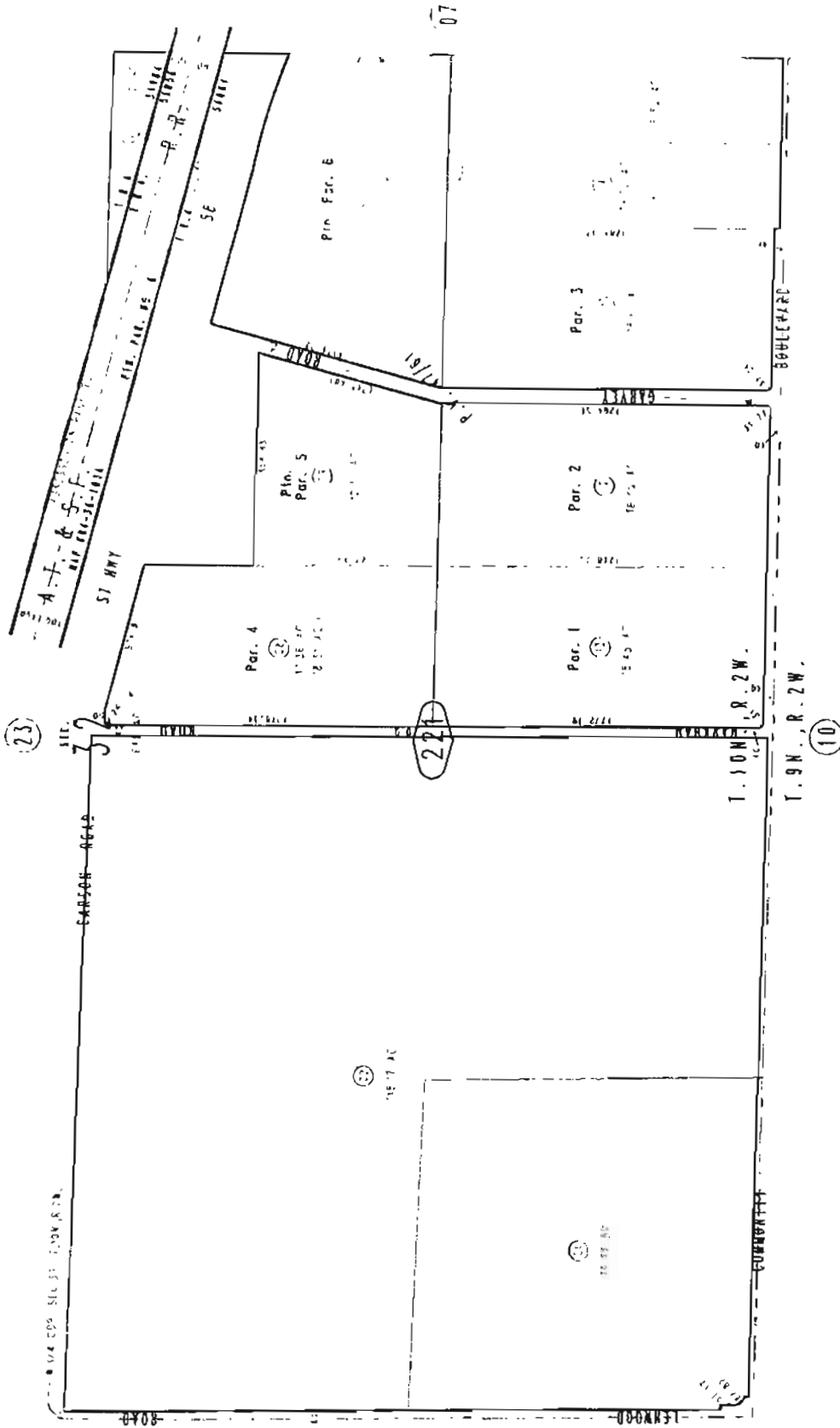
| | | |
|-------------------------------|---------------------|--------|
| TRA 56084 | Land Value | 24,925 |
| Supplement NO | Improvement Value | 24,925 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497221130000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR S | Total Penalties | 0 |
| Joint Owner | Total Value | 49,850 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 49,850 |

[illegible]

0497-22

2025

February 2004



Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-221-14-0000



Parcel 0497221140000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code FOOD PROC
Land Access PUBLIC PAVED
Size 14.001 TO 25.000 ACRES
Land Type SINGLE FAMILY RESIDENT
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

| | | |
|-------------------------------|---------------------|---------|
| TRA 56084 | Land Value | 63,418 |
| Supplement NO | Improvement Value | 332,715 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497221140000 | Pers Prop Penalty | 0 |
| Billed Owner HUERTA, HECTOR S | Total Penalties | 0 |
| Joint Owner | Total Value | 396,133 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 396,133 |

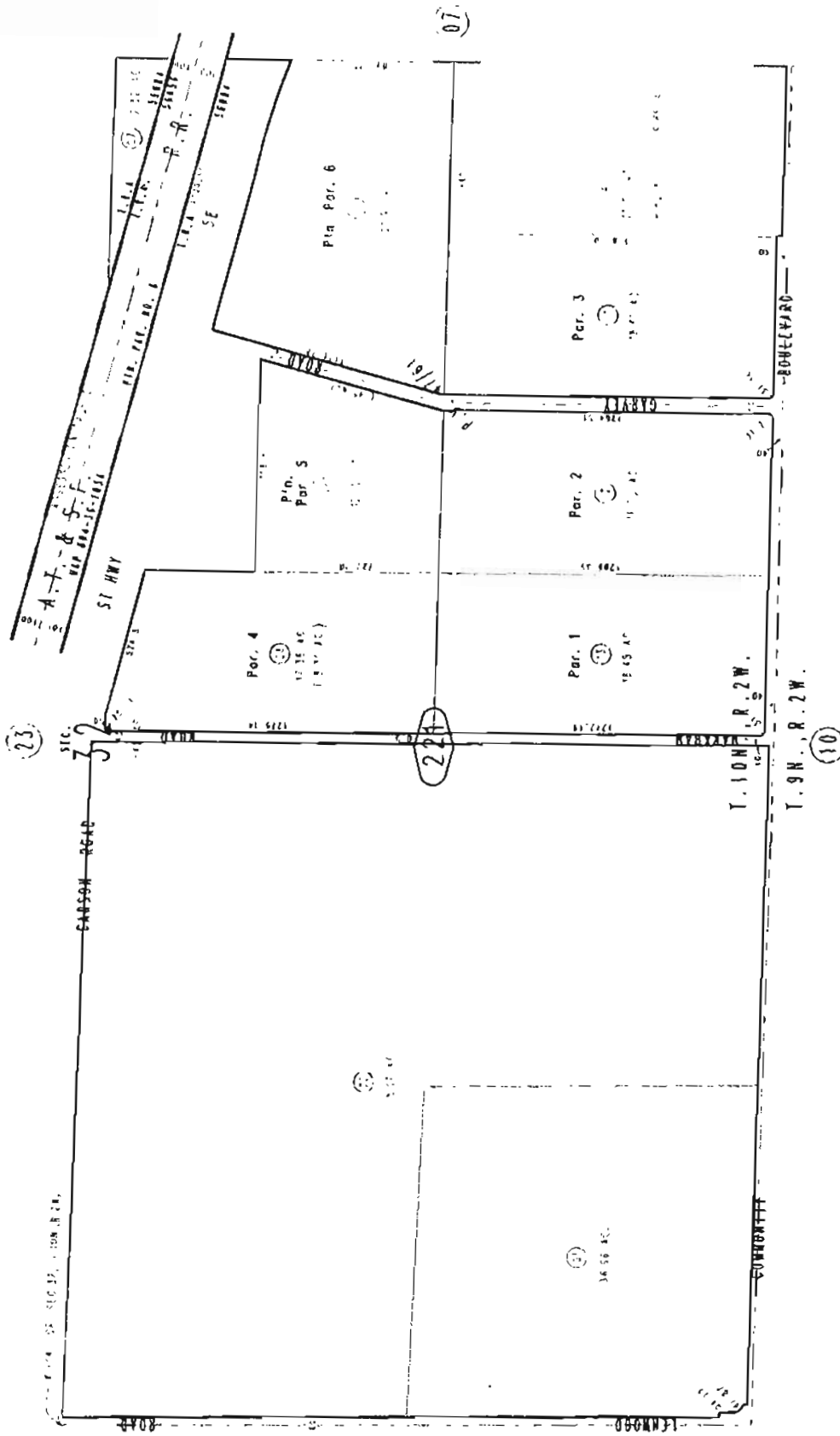
S.1/2 Sec.32, T.10N.,R.2W., S.B.B.&M.

Borstow Unified
Tax Rate Area
56056,56084

0497-22



THIS MAP IS FOR SBC PURPOSE
IN NO MANNER ALTERATION ONLY



Parcel Map No. 497-22

Assessor's Map
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San Bernardino County

February 2004

Property Information Management System

**San Bernardino County
Office of the Assessor**



PROPERTY INFORMATION REPORT FOR PARCEL 0497-221-01-0000

**Property Information**

Parcel 0497221010000

Property Address (Main Situs) Protected per CA. Govt. Code
Sect. 6254.21
Protected per CA. Govt. Code
Sect. 6254.21

Parcel Status ACTIVE**Parcel Type** REAL PROPERTY**Property ID****Tax Status** ASSESSED BY COUNTY**Use Code** FLD CROPS**Land Access** PUBLIC PAVED**Size** 25.001 ACRES AND OVER**Land Type** AGRICULTURAL**District** BARSTOW**Resp Group** REAL PROPERTY**Resp Unit** RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Owner and Mailing Address GREEN VALLEY FOODS
PRODUCTS INC

Protected per CA. Govt. Code
Sect. 6254.21

Protected per CA. Govt. Code
Sect. 6254.21

Effective Date 08/10/2011**Current Owners****Name** GREEN VALLEY FOODS PRODUCTS INC**Document Numbers****R/I** CORPORATION

20110314980

% Int 100.0000000**Type** BILLED OWNER**Acquisition Date** 08/03/2011**Document Date** 08/03/2011**Inactive Date** NONE**Legal Parcel Map**

| Parcel Map | Parcel Nbr | Unit | Book | Page |
|------------|---------------|------|------|------|
| | 0497221010000 | | | |

Legal Description

SW 1/4 SW 1/4 SEC 32 TP 10N R 2W EX S 20 FT CO RD AND EX W 30 FT CO RD EX ST PER 9-10-86
#86-260343

No Legal Reason for Change Found



No Active Homeowner's Exemptions Found

Property Information Management System

**San Bernardino County
Office of the Assessor**



OWNERSHIP HISTORY REPORT FOR PARCEL 0497-221-01-0000



Parcel 0497221010000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code FLD CROPS
Land Access PUBLIC PAVED
Size 25.001 ACRES AND OVER
Land Type AGRICULTURAL
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Ownership History

Owner Name: GREEN VALLEY FOODS PRODUCTS INC

| | Document Numbers |
|------------------------------------|-------------------------|
| R/I CORPORATION | |
| % Int 100.0000000 | 20110314980 |
| Type BILLED OWNER | |
| Acquisition Date 08/03/2011 | |
| Document Date 08/03/2011 | |
| Inactive Date NONE | |

Owner Name: HARMSSEN FAMILY TRUST 3/21/00

| | Document Numbers |
|------------------------------------|-------------------------|
| R/I TRUST UNKNOWN | |
| % Int 30.9362000 | 20090032875 |
| Type OTHER OWNER | |
| Acquisition Date 01/26/2009 | |
| Document Date 01/26/2009 | |
| Inactive Date 08/02/2011 | |

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-221-01-0000



Parcel 0497221010000

Parcel Status ACTIVE

Parcel Type REAL PROPERTY

Property ID

Tax Status ASSESSED BY COUNTY

Use Code FLD CROPS

Land Access PUBLIC PAVED

Size 25.001 ACRES AND OVER

Land Type AGRICULTURAL

District BARSTOW

Resp Group REAL PROPERTY

Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

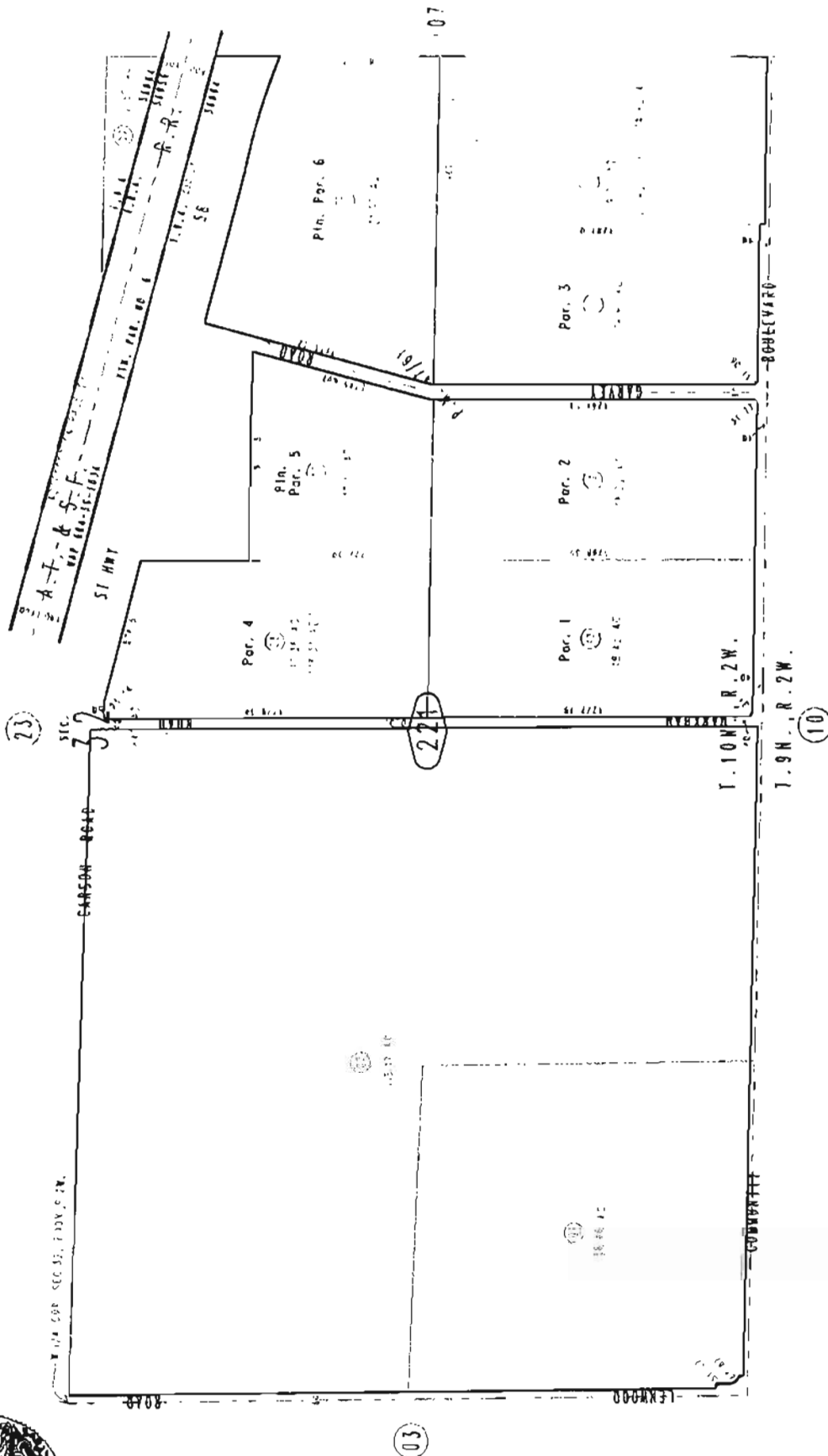
| | | |
|---|----------------------------|---------|
| TRA 56084 | Land Value | 116,798 |
| Supplement NO | Improvement Value | 0 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497221010000 | Pers Prop Penalty | 0 |
| Billed Owner HARMSSEN FAMILY TRUST 3/21/00 | Total Penalties | 0 |
| Joint Owner | Total Value | 116,798 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 116,798 |

THE MAP IS FOR THE PURPOSES OF THE EASEMENT, EASEMENT, EASEMENT

S.1/2 Sec.32, T.10N.,R.2W., S.B.B.&M.

Barstow Unified
Tax Rate Area
56056,56084

0497-22



February 2004

Parcel Map No. 49,720

Assessor's Map
Book 0497 Page 22
San Bernardino County

Property Information Management System

**San Bernardino County
Office of the Assessor**



PROPERTY INFORMATION REPORT FOR PARCEL 0497-221-02-0000

**Property Information**

Parcel 0497221020000

Property Address (Main Situs) Protected per CA. Govt. Code
Sect. 6254.21
Protected per CA. Govt. Code
Sect. 6254.21

Parcel Status ACTIVE**Parcel Type** REAL PROPERTY**Property ID****Tax Status** ASSESSED BY COUNTY**Use Code** FLD CROPS**Land Access** PUBLIC PAVED**Size** 25.001 ACRES AND OVER**Land Type** AGRICULTURAL**District** BARSTOW**Resp Group** REAL PROPERTY

Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Owner and Mailing Address GREEN VALLEY FOODS
PRODUCTS INC
Protected per CA. Govt. Code
Sect. 6254.21
Protected per CA. Govt. Code
Sect. 6254.21

Effective Date 08/10/2011**Current Owners****Name** GREEN VALLEY FOODS PRODUCTS INC**Document Numbers**

R/I CORPORATION

20110314980

% Int 100.0000000

Type BILLED OWNER**Acquisition Date** 08/03/2011**Document Date** 08/03/2011**Inactive Date** NONE**Legal Parcel Map**

| Parcel Map | Parcel Nbr | Unit | Book | Page |
|------------|---------------|------|------|------|
| | 0497221020000 | | | |

Legal Description

N 1/2 SW 1/4 AND SE 1/4 SW 1/4 SEC 32 TP 10N R 2W EX S 20 FT SE 1/4 SW 1/4 CO RD AND EX W
30 FT N 1/2 SW 1/4 FOR CO RD 118.71 AC

No Legal Reason for Change Found



No Active Homeowner's Exemptions Found

Property Information Management System

**San Bernardino County
Office of the Assessor**



OWNERSHIP HISTORY REPORT FOR PARCEL 0497-221-02-0000



Parcel 0497221020000
Parcel Status ACTIVE
Parcel Type REAL PROPERTY
Property ID
Tax Status ASSESSED BY COUNTY
Use Code FLD CROPS
Land Access PUBLIC PAVED
Size 25.001 ACRES AND OVER
Land Type AGRICULTURAL
District BARSTOW
Resp Group REAL PROPERTY
Resp Unit RES ZONE(MAX 4 UTS)
 &USE EX HPC/MHM(1-4
 UTS,CHURCH)

Ownership History

Owner Name: GREEN VALLEY FOODS PRODUCTS INC

| | Document Numbers |
|------------------------------------|-------------------------|
| R/I CORPORATION | |
| % Int 100.0000000 | 20110314980 |
| Type BILLED OWNER | |
| Acquisition Date 08/03/2011 | |
| Document Date 08/03/2011 | |
| Inactive Date NONE | |

Owner Name: HARMSSEN FAMILY TRUST 3/21/00

| | Document Numbers |
|------------------------------------|-------------------------|
| R/I TRUST UNKNOWN | |
| % Int 30.9362000 | 20090032875 |
| Type OTHER OWNER | |
| Acquisition Date 01/26/2009 | |
| Document Date 01/26/2009 | |
| Inactive Date 08/02/2011 | |

Property Information Management System

**San Bernardino County
Office of the Assessor**



PRIOR ROLL VALUES HISTORY REPORT FOR PARCEL 0497-221-02-0000



Parcel 0497221020000

Parcel Status ACTIVE

Parcel Type REAL PROPERTY

Property ID

Tax Status ASSESSED BY COUNTY

Use Code FLD CROPS

Land Access PUBLIC PAVED

Size 25.001 ACRES AND OVER

Land Type AGRICULTURAL

District BARSTOW

Resp Group REAL PROPERTY

Resp Unit RES ZONE(MAX 4 UTS)
&USE EX HPC/MHM(1-4
UTS,CHURCH)

Prior Roll History

Year: 2011

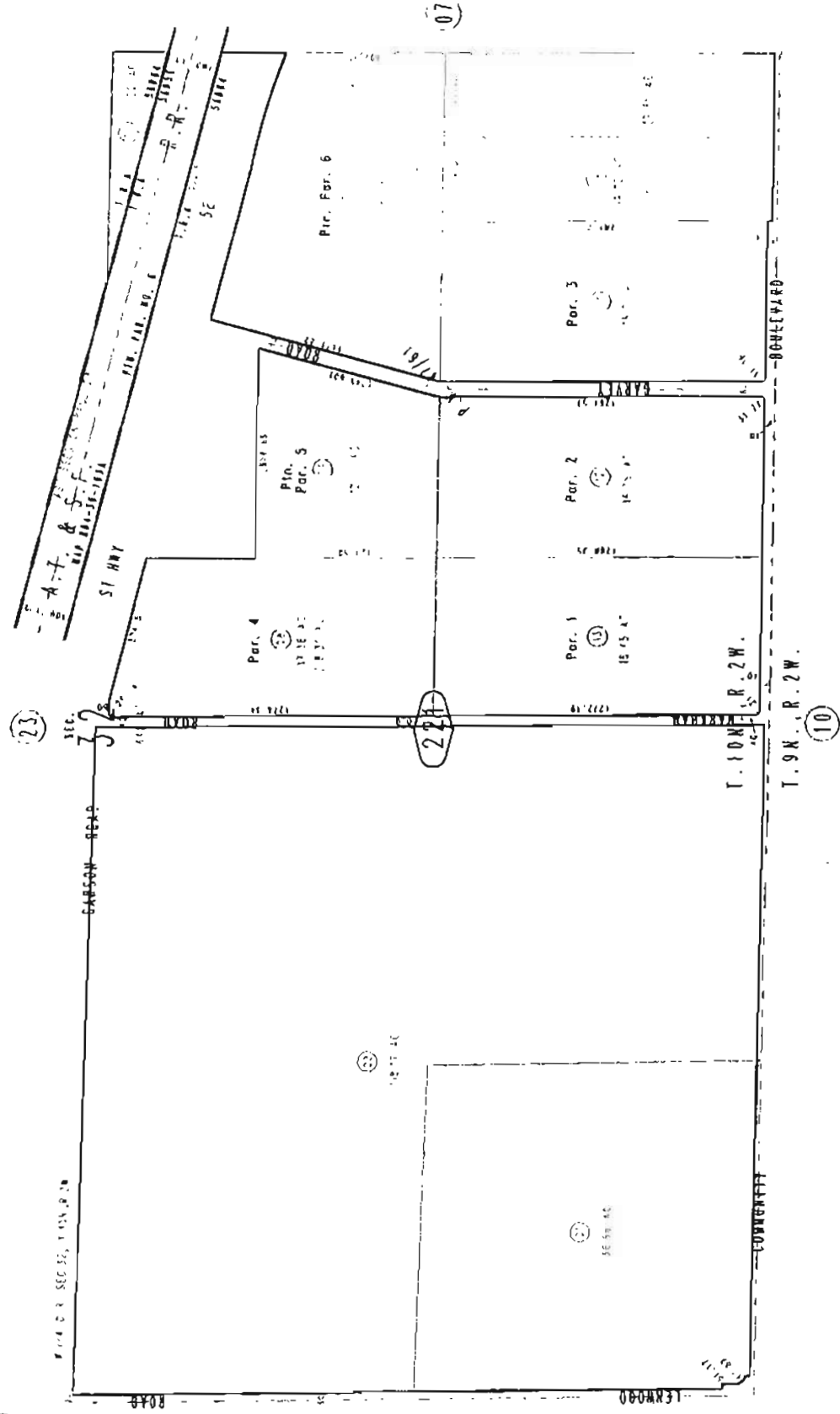
| | | |
|---|---------------------|-----------|
| TRA 56084 | Land Value | 1,965,053 |
| Supplement NO | Improvement Value | 47,242 |
| Correction Date | Improvement Penalty | 0 |
| Correction Code | Pers Prop Value | 0 |
| Original Parcel 0497221020000 | Pers Prop Penalty | 0 |
| Billed Owner HARMSSEN FAMILY TRUST 3/21/00 | Total Penalties | 0 |
| Joint Owner | Total Value | 2,012,295 |
| | HOX Exemptions | 0 |
| | Special Exemptions | 0 |
| | Net Value | 2,012,295 |

THE MAP IS FOR THE PURPOSE OF THE VALUATION OF THE PROPERTY

S.1/2 Sec.32, T.10N.,R.2W., S.B.B.&M.

Barstow Unified
Tax Rate Area
56056.56084

0497 - 22



Parcel Map No. 4977, D.M. 4/7/61

Assessor's Map
Book 0497 Page 22
San Bernardino County

February 2004

EXHIBIT NO. 26

| ADMINISTRATIVE CIVIL LIABILITY (ACL) - COST RECOVERY WORK SHEET | | | |
|--|----------------------------------|-------------------------|------------------------------|
| Regional Board: | Lahontan | | |
| Responsible Party: | Green Valley Foods Products Inc. | | |
| ACL Number: | R6V-2011-0082 | | |
| Check Amount Collected: | | | |
| Staff Name(s) | Pay Rate Per Hour* | Hours Worked | Actual Staff Cost |
| Lisa Scorallo | \$150.00 | 100 | \$15,000 |
| Brianna Bergen | \$150.00 | 20 | \$3,000 |
| Scott Ferguson | \$150.00 | 45 | \$6,750 |
| Lauri Kemper | \$150.00 | 5 | \$750 |
| Ann Carroll | \$150.00 | 5 | \$750 |
| Staff Name | \$0.00 | | \$0 |
| Staff Name | \$0.00 | | \$0 |
| | | 175 | \$26,250 |
| | | Total Hours | Total Staff Cost |

NOTES:

This ACL 'Cost Recovery Work Sheet' must be completed and submitted with the memo requesting reimbursement of staff costs. Failure to submit a completed work sheet will delay the Region's request. A separate work sheet must be completed for each check the Region receives from a responsible discharger in order for the Division of Financial Assistance to

** See Kathy Minsky (R6) to determine appropriate hourly rates for each staf*

EXHIBIT NO. 27

California Integrated Water Quality System - Green Valley Foods Violation Report

| Responsible Party | Place (Facility) | Violation Type | Date Occured | Violation Description |
|--------------------|--------------------|-------------------------------------|--------------|--|
| Green Valley Foods | Green Valley Foods | Other Codes | 3/29/2008 | Discharger has failed to submit GW Investigation Report due on 3/28/08 per Water Code section 13267. The report is currently 26 days late (4/24/08). |
| Green Valley Foods | Green Valley Foods | Reporting -> Deficient Reporting | 6/18/2008 | Discharger is not in compliance with CWC section 13267 Order to Submit Technical Reports, issued 10/10/07. The report submitted failed to delineate the vertical or lateral extent of the groundwater contamination. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 12/31/2010 | Discharger is in violation of BO R6V-2010-0019, section V.B.1 for failure to Submit Design Plan by 12/30/2010. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 12/31/2010 | Discharger is in violation of BO R6V-2010-0019, section V.B.2 failure to submit Surface Impoundment Construction WP by 12/30/2010. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 1/31/2011 | Failed to submit Odor Control Plan that was due 1/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.B.3. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 1/31/2011 | Failed to submit Monitoring and Reporting Plan and Sampling and Analysis Plan which were due 1/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.B.4. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 1/31/2011 | Failed to submit Detection Monitoring Plan which was due 1/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.B.5. |

California Integrated Water Quality System - Green Valley Foods Violation Report

| Responsible Party | Place (Facility) | Violation Type | Date Occurred | Violation Description |
|--------------------|--------------------|------------------|---------------|---|
| Green Valley Foods | Green Valley Foods | Order Conditions | 1/31/2011 | Failed to submit Closure Plan with cost estimate which was due by 1/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.B.6. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 1/31/2011 | Failed to submit Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument, which was due 1/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.C. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 1/31/2011 | Failed to submit financial assurance mechanisms for closure and corrective action, which was due 1/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.D. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 4/6/2011 | Discharged wastewater outside of the authorized surface impoundment after 3/30/2011. Violates Board Order No. R6V-2011-0019, WDR II.A.1. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 5/1/2011 | Failed to submit Monitoring System Installation Report, which was due 4/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.E.2. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 5/1/2011 | Failed to submit Final Construction Quality Assurance Report, which was due 4/30/2011. Violates Board Order No. R6V-2010-0019, WDR V.F. |
| Green Valley Foods | Green Valley Foods | Order Conditions | 7/22/2011 | Discharged wastewater outside of the authorized surface impoundment after 3/30/2011. Violates Board Order No. R6V-2011-0019, WDR II.A.1. |

California Integrated Water Quality System - Green Valley Foods Violation Report

| Responsible Party | Place (Facility) | Violation Type | Date Occured | Violation Description |
|--------------------|--------------------|------------------|--------------|--|
| Green Valley Foods | Green Valley Foods | Order Conditions | 8/26/2011 | Discharged wastewater outside of the authorized surface impoundment after 3/30/2011. Violates Board Order No. R6V-2011-0019, WDR II.A.1. |

SECTION V

LIST OF DOCUMENTS INCLUDED BY REFERENCE

LIST OF DOCUMENTS INCLUDED BY REFERENCE

1. Water Quality Control Plan for the Lahontan Region (Basin Plan)
2. California Water Code
3. California Code of Regulations
4. Water Board Files for Green Valley Foods
5. State Water Resources Control Board, Water Quality Enforcement Policy, Effective May 20, 2010