Attachment E – Monitoring and Reporting Program
(Revised on July 24, 2008 and April 23, 2009)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR Section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

B. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

C. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 1. Monitoring Station Locations

Location Type	Location Name	Effluent / Receiving Water Monitoring Location Name	Location Description
Internal Process	--	M-INF	Influent Pump Station
Internal Process	--	M-INTA	Influent to Tertiary Filters
Internal Process	--	M-INTB	Tertiary Filter Effluent prior to disinfection unit
Discharge Point	015	M-001	Laguna Treatment Plant – Final Effluent
Upstream Monitoring Point	Station 530	R-006	Laguna de Santa Rosa approximately 100' upstream of the Llano Bridge Road, upstream Receiving Water Monitoring Location for Discharge Points 014 and 015
Downstream Monitoring Point	015	M-001	Laguna de Santa Rosa at end of pipe where Discharge Point 015 reaches receiving waters
Discharge Point	006A	M-002	Meadow Lane Pond D – Incline pump discharge to the Laguna de Santa Rosa
Upstream Monitoring Point	Station 526	R-007	Laguna de Santa Rosa just upstream of D-Pond incline pump discharge
Downstream Monitoring Point	006A	M-002	Laguna de Santa Rosa at end of pipe where Discharge Point 006A reaches receiving waters
Discharge Point	006B	M-003	Meadow Lane Pond D 36-inch pipe discharge to confluence of Laguna de Santa Rosa and Colgan Creek
Upstream Colgan Creek Monitoring Point	Station 528	R-001	Colgan Creek upstream of confluence with Laguna

Location Type	Location Name	Effluent / Receiving Water Monitoring Location Name	Location Description
Upstream Laguna Monitoring Point	Station 529	R-002	Laguna de Santa Rosa upstream of D-pond 36" pipe discharge
Downstream Monitoring Point	006B	M-003	Laguna de Santa Rosa at end of pipe where Discharge Point 006B reaches receiving waters
Discharge Point	012A	M-004	Delta Pond – 24-inch pipe discharge to Santa Rosa Creek
Upstream Monitoring Point	Station 515	R-004	Santa Rosa Creek upstream receiving water location
Downstream Monitoring Point	012A	M-004	Santa Rosa Creek at end of pipe where Discharge Point 012A reaches receiving waters
Discharge Point	012B	M-005	Delta Pond – 48-inch pipe discharge to confluence of Santa Rosa Creek and Laguna de Santa Rosa
Upstream Santa Rosa Creek Monitoring Point	Station 520	R-105	Santa Rosa Creek upstream receiving water sample for Delta Pond Discharge Point 012B, just upstream of discharge point
Downstream Monitoring Point	ZID	R-018	Santa Rosa Creek near confluence with Laguna de Santa Rosa. Exact location determined by the Model and variable depending on flows
Downstream Monitoring Point	Station 531	R-019	Approximately 75 feet upstream of confluence of Santa Rosa Creek and Laguna de Santa Rosa
Discharge Point	003	M-007	Brown Pond – Pipe discharge to rip-rap apron
Upstream Monitoring Point	Station 505	R-003	Laguna de Santa Rosa near Todd Road bridge; upstream receiving water monitoring location for Discharge Point 003; downstream receiving water monitoring location for Discharge Point 006B
Downstream Monitoring Point	003	M-007	Laguna de Santa Rosa at end of pipe where Discharge Point 003 reaches receiving waters
Discharge Point	014	M-012	Meadow Lane Pond A – Pipe discharge to an adjacent constructed trapezoidal ditch

Location Type	Location Name	Effluent / Receiving Water Monitoring Location Name	Location Description
Upstream Monitoring Point	Station 530	R-006	Laguna de Santa Rosa approximately 100' upstream of the Llano Bridge Road, upstream Receiving Water Monitoring Location for Discharge Point s 014 and 015
Downstream Monitoring Point	014	M-012	Laguna de Santa Rosa at end of pipe where Discharge Point 014 reaches receiving waters

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-INF

1. The Discharger shall monitor influent to the facility at **Monitoring Location M-INF** as follows:

Table 2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (5-day @ 20°C)	mg/L	24-hour Composite	Twice Weekly	Standard Methods
Total Suspended Solids	mg/L	24-hour Composite	Twice Weekly	Standard Methods
Flow (Mean and Peak)	mgd	Continuous	Twice Weekly	meter
Priority Pollutants	µg/L	24-hour Composite[1]	Quarterly	*See Footnote 2*

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001

1. The Discharger shall monitor treated effluent at the end of the treatment process at **M-001** as follows:

Table 3. Effluent Monitoring for Treatment Plant Final Effluent

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (5-day @ 20°C)	mg/L	24-hour Composite	Twice Weekly	Standard Methods
Total Suspended Solids	mg/L	24-hour Composite	Daily	Standard Methods
Hydrogen Ion	pH	Grab	Daily	Standard Methods
Total Coliform Organisms	MPN/ 100 mL	Grab	Daily	Standard Methods
Mercury	µg/L	Grab	Weekly	USEPA Method 1631E
CTR Priority Pollutants[2]	µg/L	24-hour Composite	Quarterly	*See Footnote 2*

[1] 24-hour composite samples shall be collected for all constituents, expect for those constituents that are volatile and or require grab sampling for other reasons (e.g., ultraclean sample collection methods required). The priority pollutant monitoring report shall document the sampling method used for each constituent and justify the use of grab sampling for specific constituents (e.g., volatile, ultraclean method required, etc.)

Mean Daily Flow	mgd	Continuous	Daily	meter

B. Monitoring Locations M-001 to M-012

1. The Discharger shall monitor all treated effluent, when discharging to surface waters, as follows:

Table 4. Effluent Monitoring for Surface Water Discharge

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
BOD (5-day @ 20°C)	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids	mg/L	Grab	Weekly	Standard Methods
Hydrogen Ion	pH	Continuous	Weekly	Standard Methods
Dissolved Oxygen	mg/L	Continuous	Weekly	Standard Methods
Turbidity	NTU	Continuous	Weekly	Standard Methods
Temperature	°C	Continuous	Weekly	Standard Methods
Specific Conductivity	µmhos/cm	Continuous	Weekly	Standard Methods
Ammonia Nitrogen	mg/L	Grab	Weekly	Standard Methods
Unionized Ammonia	mg/L	Grab	Weekly	Calculation
Nitrate Nitrogen	mg/L	Grab	Weekly	Standard Methods
Organic Nitrogen	mg/L	Grab	Weekly	Standard Methods
Total Phosphorus	mg/L	Grab	Weekly	Standard Methods
Copper	µg/L	Grab	Weekly	USEPA Method 200.8
Lead	µg/L	Grab	Weekly	USEPA Method 200.8
Nickel	µg/L	Grab	Weekly	USEPA Method 200.8
Cyanide	µg/L	Grab	Weekly	USEPA Method 335.4
Mercury	µg/L	Grab	Weekly	USEPA Method 1316B
Hardness (as $CaCO_3$)	mg/L	Grab	Weekly	Standard Methods
Total Dissolved Solids	mg/L	Grab	Weekly	Standard Methods
Total Chlorine Residual	mg/L	Grab	Weekly	Standard Methods
Acute Toxicity Bioassay	% Survival	Grab	Monthly	*See Section V.A*
bis (2-ethylhexyl) phthalate	µg/L	Grab	Weekly	USEPA Method 625
Beta-BCH	µg/L	Grab	Monthly	USEPA Method 608
gamma-BCH (lindane)	µg/L	Grab	Monthly	USEPA Method 608

[2] For priority pollutants, the methods must meet the lowest minimum level (ML) specified in Attachment 4 of the State Implementation Policy (SIP). In accordance with Section 2.4 of the SIP, the Discharger shall report the ML and the MDL for each sample result. Where no methods are specified for a given pollutant, the Discharger shall use methods approved by the Regional Water Board. The Laboratory's current MDL shall be determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Beta-endosulfan	µg/L	Grab	Monthly	USEPA Method 608
Acenaphthene	µg/L	Grab	Monthly	USEPA Method 610
Pyrene	µg/L	Grab	Monthly	USEPA Method 610
1,1,2-2 tetrachloroethane	µg/L	Grab	Monthly	USEPA Method 624
1,4 Dichlorobenzene	µg/L	Grab	Monthly	USEPA Method 624
2,4-dinitrotoluene	µg/L	Grab	Monthly	USEPA Method 625
2-Chlorophenol	µg/L	Grab	Monthly	USEPA Method 625
Pentachlorophenol	µg/L	Grab	Monthly	USEPA Method 625
4-Nitrophenol	µg/L	Grab	Monthly	USEPA Method 625
3-methyl-4-chlorophenol	µg/L	Grab	Monthly	USEPA Method 625
Phenol	µg/L	Grab	Monthly	USEPA Method 625
n-nitrosodi-n-propylamine	µg/L	Grab	Monthly	USEPA Method 625
Di-n-Butyl Phthalate	µg/L	Grab	Monthly	USEPA Method 625
1,2,4-Trichlorobenzene	µg/L	Grab	Monthly	USEPA Method 625
Chronic Toxicity Bioassay	TUc	Grab	Quarterly	*See Section V.B*
CTR Priority Pollutants	---	Grab	Quarterly	40 CFR 136
Flow	mgd	Continuous	Daily	meter

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct acute toxicity testing to determine compliance with the Basin Plan narrative toxicity objective. The Discharger shall meet the following acute toxicity testing requirements:

1. **Test Frequency**. The Discharger shall conduct monthly acute toxicity testing.

2. **Sample Type**. For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be a 24-hour composite and shall be representative of the volume and quality of the pond discharge. Effluent samples shall be collected at Monitoring Locations M-002 to M-013.

3. **Test Species**. Test species for acute testing shall be with an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Orncorhychus mykiss*, for at least the first two suites of tests conducted within 12 months after the effective date of the Permit. After this screening period, monitoring shall be conducted monthly using the most sensitive species. At least once every five years, the Discharger shall re-screen with the two species listed above and continue routine monitoring with the most sensitive species.

4. **Test Methods**. The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA 600/4-90-027F, 4th edition or subsequent editions), or other methods approved by the Executive Officer.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Stations M-002 to M-013, when discharging to surface waters.

6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival) and the testing meets all test acceptability criteria, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the initial sample result. If any of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with Section VI(C)(2)(c) of the Order. If the two additional samples are in compliance with the acute toxicity requirement and the testing meets all test acceptability criteria, then a TRE will not be required. If the discharge has ceased before the additional samples could be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

9. **Reporting**. Test results for acute toxicity tests shall be reported according to the acute toxicity manual Chapter 12 (Report Preparation) or in an equivalent format that clearly demonstrates that the Discharger is in compliance with effluent limitations and other permit requirements.

B. Chronic Toxicity Testing

The Discharger shall conduct chronic toxicity testing to demonstrate compliance with the monitoring requirements for chronic toxicity. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Discharger shall conduct quarterly chronic toxicity testing.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be 24-hour composite and shall be representative of the volume and quality of the discharge. The effluent sample shall be collected at Monitoring Locations M-002 to M-013.

3. **Test Species.** Test species for chronic testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth test**)**, an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green alga, *Selanastrum capricornutum* (growth test) for at least the first two suites of tests conducted within 12 months after the effective date of the Permit. After this screening period, monitoring shall be conducted quarterly using the most sensitive species. At least once every five years the Discharger shall re-screen with the three species listed above and continue routine monitoring with the most sensitive species.

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-600-4-91-002, 3rd or subsequent editions).

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent effluent. Control and dilution water should be receiving water at an appropriate location upstream of the discharge point. Laboratory water may be substituted for receiving water, as described in the manual, upon approval by the Regional Water Board Executive Officer. If the dilution water used is different from the culture water, a second control using culture water shall be used.

6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger.

9. **Accelerated Monitoring Requirements**. If the result of any chronic toxicity test exceeds an effluent limitation and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples, one test conducted approximately every week, over a four–week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity effluent limitation. If the discharge will cease before the additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the chronic toxicity effluent limitation. The following protocol shall be used for accelerated monitoring and TRE implementation:

   a. If the results of four consecutive accelerated monitoring tests do not exceed the effluent limitation, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board Executive Officer may require that the Discharger initiate a TRE.

   b. If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the effluent limitation. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

   c. If the result of any accelerated toxicity test exceeds the effluent limitation, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the effluent limitation during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

1. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
2. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
3. A schedule for these actions.

C. Acute and Chronic Toxicity Reporting

1. Results shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or 100/ECp (in percent effluent).

2. **Routine Reporting**. Test results for chronic tests shall be reported according to the acute and chronic manuals and the Monitoring and Reporting Program and shall be attached to the self-monitoring report. Test results shall include, at a minimum, for each test:

   a. sample date(s)
   b. test initiation date
   c. test species
   d. end point values for each dilution (e.g., number of young, growth rate, percent survival)
   e. NOEC value(s) in percent effluent
   f. IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent
   g. TUc values (100/NOEC, 100/IC25, 100/ EC25)
   h. Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable)
   i. NOEC and LOEC values for reference toxicant test(s)
   j. IC50 or EC50 value(s) for reference toxicant test(s)
   k. Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia)

3. **Compliance Summary**: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of toxicity data from at least three of the most recent samples. The final report shall clearly demonstrate that the Discharger is in compliance with effluent limitations and other permit requirements.

VI. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)

VII. RECLAMATION MONITORING REQUIREMENTS (NOT APPLICABLE)

VIII. RECEIVING WATER MONITORING REQUIREMENTS – Surface Water

A. Monitoring Locations (Upstream)

1. The Discharger shall monitor upstream receiving waters at R-001 to R-011, and R-105 when discharging to surface waters, as follows:

Table 5. Upstream Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hydrogen Ion	pH	Continuous	Daily	Standard Methods
Dissolved Oxygen	mg/L	Continuous	Daily	Standard Methods
Turbidity	NTU	Continuous	Daily	Standard Methods
Temperature	°C	Continuous	Daily	Standard Methods
Specific Conductivity	µmhos/cm	Continuous	Daily	Standard Methods
Total Dissolved Solids	mg/L	Grab	Weekly	Standard Methods
Ammonia Nitrogen	mg/L	Grab	Weekly	Standard Methods
Unionized Ammonia	mg/L	Grab	Weekly	Calculation
Nitrate Nitrogen	mg/L	Grab	Weekly	Standard Methods
Organic Nitrogen	mg/L	Grab	Weekly	Standard Methods
Total Phosphorus	mg/L	Grab	Weekly	Standard Methods
Hardness (as $CaCO_3$)	mg/L	Grab	Weekly	Standard Methods
CTR Priority Pollutants	µg/L	Grab	Quarterly	40 CFR 136

B. Monitoring Locations (Downstream)

1. The Discharger shall monitor downstream receiving waters as described in Table 6 below, at downstream monitoring locations identified in Table 1. When discharging to surface waters, except for R-018 and R-019, the downstream monitoring locations shall be at the point where the discharge enters the receiving waters.

Table 6. Downstream Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hydrogen Ion	pH	Continuous	Daily	Standard Methods
Dissolved Oxygen	mg/L	Continuous	Daily	Standard Methods
Turbidity	NTU	Continuous	Daily	Standard Methods
Temperature	°C	Continuous	Daily	Standard Methods
Specific Conductivity	µmhos/cm	Continuous	Daily	Standard Methods
Total Dissolved Solids	mg/L	Grab	Weekly	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia Nitrogen	mg/L	Grab	Weekly	Standard Methods
Unionized Ammonia	mg/L	Grab	Weekly	Calculation
Nitrate Nitrogen	mg/L	Grab	Weekly	Standard Methods
Organic Nitrogen	mg/L	Grab	Weekly	Standard Methods
Total Phosphorus	mg/L	Grab	Weekly	Standard Methods
Hardness (as $CaCO_3$)	mg/L	Grab	Weekly	Standard Methods

2. When discharging from Point 012B, the Discharger shall monitor flow, hydrogen ion (pH), dissolved oxygen, turbidity and temperature in the effluent and upstream receiving waters continuously and use this information to modulate each day (or more frequently as necessary if receiving water conditions are variable) the amount of discharge such that receiving water quality limits in Sections V.A.1, 2, 3 and 10 of the Order are not exceeded at R-018 – the edge of the Zone of Initial Dilution, as determined according to the model incorporated into and described in *Laguna Subregional Water Reclamation System Receiving Water Quality Limit Compliance Assurance and Monitoring Plan* (hereinafter Model), which is included in Attachment E-5. Downstream receiving water conditions at R-018 will be determined via the Model outputs. The Discharger shall use the Model once per day of discharge to determine daily average receiving water turbidity impact and hourly average receiving water pH, dissolved oxygen, and temperature impacts at R-018. Compliance with receiving water limitations for hydrogen ion (pH), dissolved oxygen, turbidity and temperature shall be determined using the respective daily and hourly averages produced by the Model in accordance with Section VII.B of the Order.

   The Discharger shall monitor downstream receiving waters at R-018 as described in Table 7 below:

Table 7. Downstream Receiving Water Monitoring At R-018

Parameter	Units	Sample Type	Minimum Sampling / Calculation Frequency	Required Analytical Test Method

Parameter	Units	Sample Type	Minimum Sampling / Calculation Frequency	Required Analytical Test Method
Hydrogen Ion	pH	Model Calculation	Hourly	Model Calculation
Dissolved Oxygen	mg/L	Model Calculation	Hourly	Model Calculation
Turbidity	NTU	Model Calculation	Daily	Model Calculation
Temperature	°C	Model Calculation	Hourly	Model Calculation
Specific Conductivity	µmhos/cm	Model Calculation	Hourly	Model Calculation
Total Dissolved Solids	mg/L	Grab	Weekly	Standard Methods

3. On January 22, 2009, the Discharger submitted a memorandum proposing an approach to verify the accuracy of the Model outputs relative to actual receiving water pH, dissolved oxygen, turbidity, and temperature at the edge of the Zone of Initial Dilution. This memorandum is included in Attachment E-6 as a part of this Order.

   As a part of Model verification, the Discharger shall monitor downstream receiving waters at R-018 once per permit cycle during discharge to surface waters. The Model verification shall occur during the first discharge event after the adoption of this Order or as soon as is physically feasible. Model verification shall be performed as described in and in accordance with Attachment E-6 – Model Verification Approach for Receiving Water Quality Limit Compliance Assurance and Monitoring Plan, for the following parameters:

Table 8. Model Verification Monitoring at R-018

Parameter	Units	Sample Type	Minimum Sampling Frequency	Requited Analytical Test Method
Hydrogen Ion	pH	Continuous	Once per permit cycle	Standard Methods
Dissolved Oxygen	mg/L	Continuous	Once per permit cycle	Standard Methods
Turbidity	NTU	Continuous	Once per permit cycle	Standard Methods
Temperature	°C	Continuous	Once per permit cycle	Standard Methods
Specific Conductance	µmhos/cm	Continuous	Once per permit cycle	Standard Methods

4. Downstream receiving water nutrient sampling for Discharge point 012B shall occur at monitoring location R-019 as described in the following table:

Table 9. Downstream Receiving Water Monitoring At R-019

Parameter	Units	Sample Type	Minimum Sampling / Calculation Frequency	Required Analytical Test Method
Ammonia Nitrogen	mg/L	Grab	Weekly	Standard Methods
Unionized Ammonia	mg/L	Grab	Weekly	Calculation
Nitrate Nitrogen	mg/L	Grab	Weekly	Standard Methods
Organic Nitrogen	mg/L	Grab	Weekly	Standard Methods
Total Phosphorus	mg/L	Grab	Weekly	Standard Methods
Hardness (as $CaCO_3$)	mg/L	Grab	Weekly	Standard Methods

IX. OTHER MONITORING REQUIREMENTS

A. Monitoring Location M-INTA

1. The Discharger shall monitor flow to the tertiary filters to calculate the surface loading rate as follows:

Table 10. Effluent Filter Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Surface Loading Rate	gpm/ft^2	Calculation	Daily	---

B. Monitoring Location M-INTB

1. The Discharger shall monitor effluent from the tertiary filters at **M-INTB** as follows:

Table 11. Effluent Filter Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Continuous	Continuous	Standard Methods

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document, or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports

(SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. Additionally, the Discharger shall report in the SMR the results of any acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C of this Order.

   a. For receiving water monitoring associated with Discharge Point 012B and R-018, the Discharger shall report the daily average of turbidity and the hourly averages of the following parameters as determined by the Model:
      i. Receiving water flow
      ii. Dissolved oxygen
      iii. Turbidity, daily average
      iv. Temperature
      v. pH
      vi. Other information as required

   b. From the continuous monitoring device deployed in Santa Rosa Creek at R-105, the Discharger shall report the daily average of turbidity and the hourly averages of the following parameters as determined by the Model:
      i. Receiving water flow
      ii. Dissolved oxygen
      iii. Turbidity , daily average
      iv. Temperature
      v. pH
      vi. Other information as required

   c. From the continuous monitoring device deployed in Delta Pond, the Discharger shall report the daily average of turbidity and the hourly averages of the following parameters as determined by the Model:
      i. Effluent flow, actual and maximum allowable
      ii. Effluent dissolved oxygen
      iii. Effluent turbidity, daily average
      iv. Effluent temperature
      v. Effluent pH
      vi. Other information as required

d. Discharge flow as a percent of flow in the Russian River, as measured at the Hacienda Bridge (USGS Gauge No. 11467000)
e. Discharge flow as a percent of flow in Santa Rosa Creek at USGS Gauge No. 11466320)
f. Discharge flow as a percent of flow in Laguna de Santa Rosa at USGS Gauge No. 11465750

3. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 1st day of the second month following the end of each calendar month; Quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter; Annual reports shall be due on March 1 following each calendar year.

   Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 12. Monitoring and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	November 8, 2006	All	First day of second calendar month following month of sampling
Daily	November 8, 2006	Midnight through 11:59 PM	First day of second calendar month following month of sampling
Weekly	November 13, 2006	Sunday through Saturday	First day of second calendar month following month of sampling
Monthly	November 1, 2006	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	October 1, 2006	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Semi-Annually	July 1, 2006	January 1 through June 30 July 1 through December 31	March 1, with the Annual Report
Annually	January 1, 2007	January 1 through December 31	March 1

4. **Reporting Protocols**. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The *estimated chemical concentration of the sample shall also be reported.

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (USEPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

1. Water Reclamation System

a. **Reclamation Operations Reporting.** The Discharger shall submit reports pertaining to the operation, performance, monitoring, and other activities related to water reclamation.

   i. **Quarterly Report**. The quarterly report shall summarize reclaimed water use for the period, including the total amount of reclaimed water supplied and the number and location of reuse sites.

   ii. **Annual Report**. The annual report shall contain, but not be limited to, a review of the operations curve, irrigation volumes, rainfall, and acreage under irrigation. In addition, the annual report shall contain a description of the incidental discharges to surface water, scheduled and nonscheduled maintenance of the reclamation

system appurtenances and irrigation areas, and enforcement and monitoring activities that occurred during the previous year.

b. **Groundwater Monitoring Program.** The Discharger shall submit groundwater monitoring information specified in its groundwater monitoring program developed in accordance with Provision VI.C.2.d of this Order.

2. **Biosolids Reporting.** The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's solids handling, disposal and reuse activities over the previous twelve months. At a minimum, the report shall contain:
   a. Annual sludge production, in dry tons and percent solids
   b. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.) and a solids flow diagram.
   c. Methods of final disposal of sludge:
      i. For any portion of sludge discharged to a sanitary landfill, the Discharger shall provided the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's waste discharge requirements order number for the regulated landfill, and the landfill classification.
      ii. For any portion of sludge discharged through land application, the Discharger shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's waste discharge requirements order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with waste discharge requirements.
      iii. For any portion of sludge further treated through composting, the Discharger shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

3. **Sanitary Sewer System Reporting.** The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's activities within the sanitary sewer system over the previous twelve months. The report shall contain

   a. A description of any change in the local legal authorities enacted to implement the SSMP;

b. A summary of the compliance and enforcement activities during the past year. The summary shall include the location of the SSO, the names and addresses of the responsible parties as well as the names and addresses of the property owner(s) affected by the sanitary sewer overflow, and any fines, other penalties, or corrective actions taken as a result of the SSO. The summary shall also include a description of public participation activities to involve and inform the public;

c. Documentation that all feasible steps to stop and mitigate impacts of sanitary sewer overflows have been taken;

d. Documentation that the annual report has been made available to the public.

4. **Annual Pretreatment Reporting.** The Discharger shall submit annually a report to USEPA Region 9 and the State Water Board describing the Discharger's pretreatment activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of this Permit, the Discharger shall also include the reasons for noncompliance and state how and when the discharge shall comply with such conditions and requirements. This annual report is due on March 1 of each year and shall contain, but not be limited to, the following information:

   a. WWTF Influent, Effluent, and Sludge Sampling Results:

      i. Sampling results shall include a summary of analytical results from representative, flow proportioned, 24 hour composite sampling of the WWTF's influent and effluent for those pollutants USEPA has identified under Section 307(a) of the Act which are known or suspected to be discharged by industrial users. The Discharger is not required to sample for asbestos until USEPA promulgates an applicable analytical technique under 40 CFR Part 136.

      ii. Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. This sampling method is applicable to sludge that is dewatered on-site and immediately hauled off-site for disposal. However, if the sludge is dried in drying beds prior to its final disposal, the sludge composite sample shall be from twelve discrete samples collected from twelve representative locations of the drying beds. Wastewater and sludge sampling and analysis shall be performed in accordance with the frequency stated in the waste discharge monitoring requirements.

iii. The Discharger shall provide any influent, effluent, or sludge monitoring data for nonpriority pollutants that the Discharger believes may be causing or contributing to interference, pass through, or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

b. **Upset, Interference, or Pass through**. The report shall include a discussion of upset, interference, or pass through incidents, if any, at the WWTF that the Discharger knows or suspects were caused by industrial users of the WWTF system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the industrial user(s) responsible. The discussion shall also include a review of the applicable local or federal discharge limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through, interference, or noncompliance with sludge disposal requirements.

c. **Baseline Monitoring Reports.** The report shall list the cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

d. **List of Industrial Users.** The report shall include an updated list of the Discharger's industrial users, including their names and addresses, or a list of deletions and additions keyed to a previously submitted list shall be included. The Discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to Federal Categorical Standards by specifying which category(s) of standards are applicable. The list shall indicate which categorical industrial, or specific pollutants from each industry, are subject to local limitations that are more stringent than the Federal Categorical Standards. The Discharger also shall list the non-categorical industrial users that are subject only to local discharge limitations. The Discharger shall characterize the compliance status of each industrial user by employing all applicable descriptions:

i. In compliance with Baseline Monitoring Report requirements (where applicable);
ii. Consistently achieving compliance;
iii. Inconsistently achieving compliance;
iv. Significantly violated applicable pretreatment required as defined by 40 CFR 403.8(f)(2)(vii);
v. On a compliance schedule to achieve compliance (include the date final compliance is required);
vi. Not achieving compliance and not on a compliance schedule;
vii. The Discharger does not know the industrial user's compliance status.

e. **Industrial User Inspections and Sampling by WWTF**. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding industrial users shall be included. The summary shall consist of:

   i. The names and addresses of the industrial users subject to surveillance by the Discharger and an explanation of whether they were inspected, sampled, or both, and the frequency of these activities at each user; and

   ii. The conclusion or results from the inspection or sampling of each industrial user.

f. **Compliance and Enforcement Activities.** A summary of the compliance and enforcement activities during the past year shall include the names and addresses of the industrial users affected by the following actions:

   i. Warning letters or notices of violation regarding the industrial user's apparent noncompliance with Federal Categorical Standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the Federal Categorical Standards or local discharge limitations;

   ii. Administrative Orders regarding the industrial user's noncompliance with Federal Categorical Standards or local discharge limitations. For each industrial user, identify whether the violation concerned the Federal Categorical Standards or local discharge limitations;

   iii. Civil actions regarding the industrial user's noncompliance with Federal Categorical Standards or local discharge limitations. For each industrial user, identify whether the violation concerned the Federal Categorical Standards or local discharge limitations;

   iv. Criminal actions regarding the industrial users' noncompliance with Federal Categorical Standards or local discharge limitations. For each industrial user, identify whether the violation concerned the Federal Categorical Standards or local discharge limitations;

   v. Assessment of monetary penalties. For each industrial user, identify the amount of penalties;

   vi. Restriction of flow to the WWTF; or

   vii. Disconnection from discharge to the WWTF.

g. **Changes in the Approved Pretreatment Program.** Include a description of any significant changes in operating the pretreatment program that differ from the information in the Discharger's approved WWTF Pretreatment Program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staff levels.

h. **A summary of the Annual Pretreatment Budget**. Attach a summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

i. **Public Participation Activities**. Attach a copy of the public notice as required in 40 CFR 403.8(f)(2)(vii). If no notice was published, explain why.

j. **Additional Information.** Include a description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

5. **Quarterly Pretreatment Report.** The Discharger shall submit quarterly compliance status reports to USEPA Region 9 and the State and Regional Water Boards. The reports shall cover the periods January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. Each report shall be submitted by the end of the month following the quarter, except that the report for October 1 - December 31 may be included in the annual report. This quarterly reporting requirement shall commence for the first full quarter following issuance of this Permit. The reports shall identify:

   a. All significant industrial users (SIU), as defined by 40 CFR 403.3(t), that violated any standards or reporting requirements during that quarter;

   b. What the violations were (distinguish between categorical and local limits);

   c. What enforcement actions were taken; and

   d. The status of active enforcement actions from previous periods, including closeouts (facilities under previous enforcement actions which attained compliance during the quarter).

   Signed copies of the reports shall be submitted to the Regional Water Board, the USEPA Regional Administrator, and the State Water Board at the following addresses:

   California Regional Water Quality Control Board
   5550 Skylane Boulevard, Suite A
   Santa Rosa, CA 95403

   Regional Administrator, Attn: WTR-5
   U.S. Environmental Protection Agency
   75 Hawthorne Street
   San Francisco, CA 94105

   Pretreatment Program Manager, Regulatory Section
   Division of Water Quality
   State Water Resources Control Board
   P.O. Box 944213
   Sacramento, CA 94244-21