

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

**REVISED MONITORING AND REPORTING PROGRAM
NO. R6V-2002-053**

Date Revised March 14, 2007
WDID NO. 6B190107017

FOR

**LOS ANGELES COUNTY SANITATION DISTRICT NO. 14
LANCASTER WATER RECLAMATION PLANT**

Los Angeles County

I. MONITORING

A. Flow Monitoring

The following data must be recorded in a permanent logbook and the information submitted according to the frequency listed:

1. The total volumes, in million gallons (MG), of wastewater flow to each treatment plant for each day and month.
2. The calculated average flow rates, in million gallons per day (MGD) of wastewater to each treatment plant calculated for each month.
3. The maximum instantaneous flow rate (MGD) of wastewater to each treatment plant that occurs each day.
4. The annual volume (MG) of septage received must be calculated and reported in the annual report.
5. The daily and monthly volumes, and calculated average flow rate, in MGD, of flow to each of the following sites/facilities and the source (treatment facility name) of the flow to each site/facility: Storage Reservoirs (existing), Storage Reservoirs (proposed), Lancaster Water Reclamation Plant site (Flow recycled for landscape irrigation, facility washdown, and construction of new facilities.), Eastern Agricultural Site, Piute Ponds/Impoundments A, B and C, Nebeker Ranch, Apollo Park, and Division Street Recycled Water Project.

B. Influent Monitoring

Influent samples taken prior to the primary clarifiers must be analyzed to determine the magnitude of the following parameter and the additional parameters listed in Table No. 1:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Total Suspended Solids	mg/L	24-hour composite	Monthly

C. Reservoir Monitoring

The freeboard (the vertical distance between the top of the water level and the lowest point of a dike or overflow structure) must be monitored and recorded weekly, and reported in the monitoring report.

D. Effluent Monitoring (Secondary-Wastewater Discharged to Nebeker Ranch)

Grab samples of the secondary-treated wastewater discharged to Nebeker Ranch must be collected and analyzed to determine the magnitude of the parameters listed in Table No. 1:

E. Effluent Monitoring (Secondary-Treated Wastewater Discharged to Piute Ponds)

Samples must be collected downstream of all treatment units at the point of release to the earthen channel, which conveys treated wastewater to Piute Ponds. (The length of the earthen channel is approximately 0.5 miles). The samples must be analyzed to determine the magnitude of the following parameters and the additional parameters listed in Table No. 1:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Total chlorine residual (after any dechlorination)	mg/L	Chlorine Residual Meter And Recorder	Continuous
Total coliform bacteria	MPN/100ml	Grab	Daily
Total Suspended Solids	mg/L	24-hour composite	Monthly
Dissolved Oxygen	mg/L	Grab	Weekly
Temperature	°C	Grab	Weekly

F. Effluent Monitoring (Disinfected Tertiary-Treated Wastewater)

Samples of disinfected tertiary-treated wastewater must be collected from each tertiary treatment plant and analyzed to determine the magnitude of the following parameters and the additional parameters listed in Table No. 1:

<u>Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Minimum Frequency</u>
Flow	MGD	Flow Meter And Recorder	Continuous
Turbidity ¹	NTU	Turbidity Meter And Recorder	Continuous
Total chlorine residual	mg/L	Chlorine Residual Meter And Recorder	Continuous (When the effluent is chlorinated)
Modal contact time ²	Minutes	Calculated	Daily (When the effluent is chlorinated)
CT value ³	mg-minutes/L	Calculated	Daily (When the effluent is chlorinated)
Total coliform bacteria	MPN/100ml	Grab Sample	Daily
Dissolved Oxygen	mg/L	Grab	Weekly
Temperature	°C	Grab	Weekly

¹ For each 24-hour period, record and report the following:

- a. AVTTP treatment plant: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.
- b. AS/NDN treatment plant: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.
- c. MBR treatment plant: amount of time (minutes) the turbidity exceeded 0.2 NTUs (if any) and the maximum turbidity.

² The modal contact time at the highest and lowest flows must be recorded and reported for each 24-hour period where there is production of disinfected tertiary treated wastewater. The "modal contact time" is the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber. For the purpose of this determination, modal contact time must be derived from a predetermined plot correlating modal contact times to varying flow conditions. (22CCR§60301.600)

³ When chlorine is used as the disinfectant in production of disinfected tertiary treated wastewater, the lowest CT value must be calculated for each 24-hour period. $CT \text{ (mg-minutes per liter)} = \text{chlorine residual (mg/L)} \times \text{modal contact time (minutes)}$. To calculate the lowest value, first record the following data for the 24-hour period:

- a. Modal contact time under highest flow and corresponding total chlorine residual at that time.
- b. Lowest total chlorine residual and corresponding modal contact time.
- c. Highest total chlorine residual and corresponding modal contact time.
- d. Modal contact time under lowest flow and corresponding total chlorine residual at that time.

Next, calculate CT values for each of the four conditions, above. The lowest of the four calculated CT values is the lowest CT for the period.

G. Surface Water Monitoring

There are two existing monitoring stations within surface waters located in the Piute Pond area. The two stations consist of Station RS-2 located 150 feet downgradient of Challenger Way. (The point of discharge from the effluent outfall channel to the Piute Pond area is the spillway located on Challenger Way.), and Station RS-4 located at the spillway to Rosamond Dry Lake. Grab samples must be collected at the above stations and analyzed to determine the magnitude of the parameters listed in Table No. 2. Observations of Piute Ponds for the presence of color, odor, foam, floating material and oil and grease must be recorded quarterly at the surface water sampling station when the surface water samples are collected.

H. Vadose Zone Monitoring – Eastern Agricultural Site

1. Vadose Zone Monitoring

The Discharger must perform vadose zone monitoring to provide adequate advance warning of deep percolation of treated wastewater occurring at a rate or depth incongruent with the Discharger's predictions.

The Discharger may propose an alternate method of compliance to the method described in Sections H.2 through H.5 of this Monitoring and Reporting Program.

2. Fields No. 1 through 6, and Fields No. 9 and 10 (Phase I)

Install a minimum of one vadose zone monitoring station in each of the following fields by **March 14, 2008**: Field No. 1, 3, 5 and 6. If the Discharger decides to propose an alternate method of monitoring the vadose zone, the Discharger must submit by **June 14, 2007** a proposed vadose zone monitoring plan to the Executive Officer for consideration and acceptance. The alternate vadose zone monitoring plan must be implemented by **March 14, 2008**.

3. Fields No. 7 and 8, and Fields No. 11 through 20 (Phase II)

One year before starting irrigation of crops, the Discharger must complete installation of a minimum of one vadose zone monitoring station in each of the following fields or implement an approved alternate means of vadose zone monitoring: Fields No. 13, 16, 19 and 20. If the Discharger decides to propose an alternate method of monitoring the vadose zone, the Discharger must submit a proposed vadose zone monitoring plan to the Executive Officer for consideration and acceptance within 18 months of irrigation.

4. Installation of Vadose Zone Monitoring Stations

Vadose zone monitoring stations must be located within the fields a distance of no less than 200 feet from the outer boundary of the field (e.g., center-pivot irrigation area). Stations must be positioned within the Site to monitor parameters (moisture content and constituent concentrations) for all representative soil types and crop types located in the fields. Each station must include:

- a. Soil moisture sensors placed at depths of 10, 16.5, 20, 33, 50, 66 and 80 feet below ground surface to monitor soil moisture movement through the vadose zone.¹
- b. One lysimeter placed at 15 feet below ground surface for collecting samples of vadose zone moisture.
- c. Before the Discharger installs the above monitoring devices (moisture sensors and lysimeters), a soil sample must be collected at (or adjacent to) each point where the instruments are to be installed. The samples must be analyzed for soil texture, soil moisture content, organic matter, pH, TDS, nitrate-nitrogen, ammonia nitrogen, Kjeldahl nitrogen, and chloride.
- d. The Discharger must prepare and submit correlations between sensor readings and moisture content. The correlation will be obtained with appropriate methodology as proposed by a qualified expert pursuant to industry standards.

The Discharger must record the dates for collection of the soil samples and installation of the vadose monitoring stations, and report the results of laboratory results for soil analyses and moisture sensor calibration.

5. Monitoring of Moisture Sensors and Lysimeters

Soil moisture sensors must be monitored at a frequency of no less than daily. The Discharger must collect grab samples from lysimeters in accordance with the sampling frequencies described below. The samples must be analyzed for the following parameters:

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
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¹ Soil moisture sensor depths roughly correlate to the observation points in the Discharger's unsaturated zone model analyses contained in correspondence to RB by Downey Brand Attorneys on December 28, 2006.

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Total Kjeldahl Nitrogen	mg/L as N	Quarterly
Nitrate Nitrogen	mg/L as N	Quarterly
Ammonia Nitrogen	mg/L as N	Quarterly
Nitrite Nitrogen	mg/L as N	Quarterly
Total Dissolved Solids	mg/L	Quarterly

6. Crop Water Balance

At least once per month, the Discharger must:

- a. Record the crop water needs (inches) for each field (e.g., center-pivot irrigation area), which were previously calculated for the past 30 days,
- b. Measure and record the volume of water applied in each field for the previous 30 days,
- c. Calculate the water balance for the previous 30 days to confirm the volume of applied water was less than that volume that would result in percolation below the root zone,
- d. Evaluate crop water needs for the next 30 days based on reference evapotranspiration and crop coefficients that consider crop growth stage and crop type,
- e. Determine and record the crop water needs (inches) for each field over the next 30 days based on the irrigation plan in the Farm Management Plan, and
- f. Calculate and record the volume of irrigation water needed over the next 30 days.

I. Groundwater Monitoring (Proposed Storage Reservoirs)

Discharge Specification No. I.A.1.f. of Board Order R6V-2006-0051 and Monitoring and Reporting Program No. R6V-2006-0051 requires the Discharger to install three groundwater-monitoring wells, in addition to Well No. MW 209, to monitor groundwater beneath the proposed storage reservoirs. Provision No. II.A. of Board Order R6V-2006-0051 requires the Discharger to submit a workplan for installing the additional groundwater monitoring wells.

Before discharging treated-tertiary wastewater to the storage reservoirs, the Discharger must complete installation of the additional required compliance monitoring wells and complete the following minimum numbers of sampling rounds for parameters listed in Table No. 3:

- a. Eight rounds for total dissolved solids (TDS) in each compliance monitoring well, and
- b. Two rounds for the other parameters in each compliance monitoring well.

The frequency of monitoring must be no less than quarterly. The Discharger must then determine background water quality for these parameters and determine the "Threshold" level for TDS as described in the Order. In each monitoring report the Discharger must compare the data for the TDS concentrations in each well with respect to the "Threshold" level. If the "Threshold" level is exceeded in any well, the Discharger must submit technical reports as required in the Order. (Note: If a constituent concentration is non-detectable on the first sample, such as THMs, HAA5, or NDMA, the Discharger may elect to use this value to represent background conditions and discontinue further analysis for that parameter.)

After beginning the discharge of treated-tertiary wastewater to the storage reservoirs, the Discharger must collect samples from the wells and analyze the samples to determine the magnitude of the parameters listed in Table No. 3 in accordance with the frequency in that table.

J. Groundwater Monitoring (Eastern Agricultural Site)

1. Summary of Existing and Proposed Groundwater Monitoring Wells

The frequency of monitoring and parameters monitored for each of the following monitoring wells must be in accordance with Monitoring Sections J.2. and J.3, below.

a. Fields No. 1 through 8

There are four existing groundwater monitoring wells for monitoring groundwater underlying Fields No. 1 through 8. The wells are identified as wells No. MW30, MW31, SW30 and SW31.

b. Fields No. 9 through 12

There is one existing groundwater monitoring well (Well No. SW32) for monitoring groundwater underlying Fields No. 9 through 12. A provision in the attached Order requires that the Discharger install a minimum of three additional groundwater monitoring wells for Fields No. 9 through 12.

c. Fields No. 13 through 20

There are two existing groundwater monitoring wells for monitoring groundwater underlying Fields No. 13 through 20. The wells are identified as wells No. MW30 and SW31. A provision in the attached Order requires that the Discharger

install a minimum of three additional groundwater monitoring wells for these fields.

2. Monitoring (Before Application of Treated-Wastewater to Grow Crops)

Before applying tertiary-treated wastewater to grow crops in Fields 9 through 20, the Discharger must complete installation of any additional proposed monitoring wells that are required and complete the following minimum numbers of sampling rounds in each of the wells (both existing and proposed) for parameters listed in Table No. 4: Eight rounds for TDS and nitrate, and two rounds for the other parameters listed in Table No. 4. The frequency of monitoring must be no less than quarterly.

3. Monitoring (After Beginning Application of Treated-Wastewater to Grow Crops)

After beginning application of treated-wastewater to grow crops, the Discharger must collect samples from the wells and analyze the samples to determine the magnitude of the parameters listed in Table No. 4. The minimum frequency of sampling must be in accordance with Table No. 4.

4. Private Water Supply Wells

The Discharger must conduct period investigation (e.g., visual search of land areas during onsite inspection, etc.) to identify water supply wells that:

- a. Are located within 0.5 miles of areas being irrigated, and
- b. Are active wells, suspected of being active or suspected of being in a condition where the well could be easily activated.

Each quarterly report must include a map showing the locations of these wells.

K. Groundwater Monitoring (Existing Surface Impoundments, Piute Ponds and Nebeker Ranch)

Grab samples of ground water must be collected from existing monitoring wells and analyzed in accordance with Tables No. 3, 5 and 6.

L. Groundwater Monitoring (Field Parameters)

Field parameters must be determined in all monitoring wells and, when possible, in supply wells each time they are sampled to determine the following.

<u>Parameters</u>	<u>Units</u>
Static water depth	Feet below ground surface
Electrical conductivity	uS/cm
pH	pH units
Temperature	Degrees C
Dissolved Oxygen	mg/L
Turbidity	NTU
Color	Visual

The field parameters from each well must be reported in a separate table.

M. Data Presentation for Compliance Determinations

Annual monitoring reports must contain:

1. An 11" x 17" copy of a site plan showing private water supply wells described Monitoring Section J, authorized disposal/recycling sites, groundwater monitoring wells, surface water monitoring points, and groundwater and land surface elevations. The site plan must include ground water elevation isopleths at all authorized disposal/recycling sites except the Piute Ponds area.
2. Graphs showing long-term trends of groundwater elevations as measured in groundwater monitoring wells.
3. Graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in lysimeters and groundwater monitoring wells: TDS and Nitrate,
4. Graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in the primary treatment plant influent: biochemical oxygen demand (BOD), carbonaceous BOD (CBOD), chemical oxygen demand (COD), total suspended solids (TSS), Nitrate, Kjeldahl Nitrogen, Ammonia, TDS
5. Graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in the effluent to Piute Ponds, Surface Water monitoring stations RS-2 and RS-4: BOD, CBOD, COD, TSS, Nitrate, Kjeldahl Nitrogen, Ammonia, TDS, Chlorides, Temperature, pH, DO and chlorine residual.
6. Graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in the effluent to Nebeker Ranch and Agricultural Site: BOD, CBOD, COD, TSS, Nitrate, Kjeldahl Nitrogen, and Ammonia.

7. Graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in the effluent to Apollo Park: BOD, CBOD, COD, N03, Kjeldahl Nitrogen, Ammonia, Turbidity, and Chlorine residual.

N. Surface Water Monitoring (Chronic Toxicity)

The Discharger must perform toxicity testing, as described, below, on samples of undiluted treatment Facility effluent and surface water monitoring station RS-2. Test must be conducted on either samples collected after dechlorination or chlorinated samples, dechlorinated after collection. The following tests must be performed annually.

1. All tests must be conducted on grab samples of treatment Facility effluent and receiving waters. Analysis of Variance (ANOVA) must be used to determine whether differences between control and sample results are significant. Multiple-dilution, dose-response testing must be used to characterize any toxic response and track quantitative changes or trends in toxicity. IC25 defined calculations must be used pursuant to US EPA methods or other approved statistical methods to assess whether effluent exceeds a biologically significant toxicity threshold on a consistent basis.

The Discharger must conduct a seven-day chronic test with fathead minnows (*Pimephales Promelas*) using test method No. 1001 on samples of undiluted effluent.

2. If any one ambient water test indicates that the toxicity threshold is exceeded, then another confirmatory chronic toxicity test using the specified methodology and test species must be conducted on a new sample within 30 days of obtaining test results. In no case must the second confirmatory test results be submitted to the Water Board later than 60 days after completion of the confirmatory test.
3. All test species, procedures, and quality assurance criteria used must be in accordance with the most recently approved US EPA methods. The Discharger may use control water formulated in accordance with the U.S. EPA method protocol (Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, Third Edition, EPA/600/4-91/002). The standard synthetic control water approximates the characteristics of the District's effluent discharge and surface receiving waters. The standard synthetic control water for chronic toxicity testing is allowed by the U.S. EPA toxicity testing protocol. Alternate control water for the toxicity tests must be submitted to Water Board staff for review and approval prior to use.

O. Surface Water Monitoring (Acute Toxicity)

1. Acute Toxicity Testing Methods

The Discharger must conduct quarterly acute toxicity testing using a control and undiluted effluent in accordance with US EPA approved methods and their subsequent revisions and appropriate organisms as determined by the Water Board, SWRCB, and the US EPA. Tests must be conducted on either samples collected after dechlorination or chlorinated samples, dechlorinated after collection.

2. Acute Toxicity Testing Schedule

- a. The Discharger must perform acute toxicity tests using fathead minnows and methods specified in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms" (March 1985, EPA/600/4-85/013).
- b. Regular test schedule: The Discharger must conduct acute toxicity on a quarterly basis following the approval of the representative test species by the Executive Officer of the Water Board, see 2(a), above.

P. Surface Water Monitoring (Toxicity Identification Evaluation/Toxicity Reduction Evaluation)

1. The Discharger must conduct monitoring of effluent toxicity in accordance with Monitoring and Reporting Program Requirements No. I.N. and I.O., above. If in any chronic receiving/ambient test, toxicity is revealed as a result of the discharge, the test must be repeated within 30 days.
2. If two repeated chronic toxicity tests, other than from chlorine and/or ammonia, reveal toxicity as a result of the discharge, the Discharger must complete a Toxicity Identification Evaluation (TIE) and a Toxicity Reduction Evaluation (TRE), beginning with Phase 1 of the TIE, on the Facility effluent to identify compounds causing chronic toxicity for an indicator organism approved by the Executive Officer. This monitoring and reporting program requires the Discharger prepare and submit a copy of its initial TRE workplan to the Executive Officer for consideration of approval.
3. A technical report must be submitted at the end of the toxicity study that identifies the toxic component(s), and details the toxicity evaluations performed and the manner in which the component(s) was (were) identified.

4. Should toxic components be something other than chlorine and ammonia, and be determined difficult to identify, the Discharger may be granted a limited time extension by the Executive Officer for completion of the TIE and TRE.
5. The TIE must be performed in accordance with USEPA manuals EPA/600/3-88/035, 035 and 036, dated September 1988 and February 1989, and any subsequent revisions. The TRE must be performed in accordance with the framework provided in the USEPA guidance document EPA/600/2-88/062, dated April 1989, and any subsequent revisions.
6. The Discharger must take all reasonable steps to control toxicity other than chlorine and/or ammonia once the source of the toxicity is identified.
7. Failure of the Discharger to conduct required toxicity tests or a TRE as required must result in the establishment of effluent limitations for chronic toxicity in an amendment to WDRs or an appropriate enforcement action.

Q. Pretreatment Monitoring

The Discharger must prepare an annual pretreatment report describing the Discharger's pretreatment activities over the previous calendar year. In the event that the Discharger is not in compliance with any requirement, then the Discharger must also include the reason for noncompliance and state how and when the Discharger will comply with requirement. The report must include, but is not be limited to, the following information:

1. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the publicly owned treatment work's (POTW) influent and effluent for those pollutants US EPA has identified under Section 307(a) of the Act, which are known or suspected to be discharged by industrial clean water users. The Discharger is not required to sample and analyze for asbestos. Biosolids must be analyzed pursuant to the current federal requirements (40 CFR part 503). Biosolids results must be expressed in mg/kg dry sludge, 100% dry weight basis.

Wastewater sampling and analysis must be performed at the intervals specified in the Discharger's Permit. The Discharger must also provide any influent, effluent, or biosolids monitoring data for nonpriority pollutants that the Discharger believes may be causing or contributing to interference, pass through, or adversely impacting biosolids quality. Sampling and analysis must be performed in accordance with the techniques prescribed in 40 CFR part 136 and amendments thereto.

2. A discussion of Upset, Interference, or Pass Through incidents, if any, at the POTW that the Discharger knows or suspects were caused by industrial users of the POTW system. The discussion must include the reason(s) why the incident(s) occurred, the corrective action(s) taken, and, if known, the name and address of the industrial user(s) responsible. The discussion must 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.
3. An updated list of the Discharger's significant industrial users (SIU), including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger must provide a brief explanation for each deletion. The SIU list must identify the SIUs subject to Federal Categorical Standards by specifying which set(s) of standards are applicable to each SIU. The list must also indicate which SIUs are subject to local limitations.
4. The Discharger must characterize the compliance status of each significant industrial user by providing information, which includes:
 - a. SIU name;
 - b. Industrial category;
 - c. Number of samples taken by the POTW during the year;
 - d. Number of samples taken by the SIU during the year;
 - e. A description that states the procedures used to ensure that all needed certificates were provided for Facilities which have a toxic organic management plan;
 - f. Standards violated during the year (Federal and local, reported separately);
 - g. Whether the facility was in Significant Non-Compliance (SNC), as defined by 40 CFR part 403.8 (f)(2)(viii), at any time in the year; and
 - h. A summary of enforcement or other actions taken during the year to return the SIU to compliance, including the type of action, and amount of fines assessed/collected (if any). Briefly describe any proposed actions, for bringing the SIU into compliance.
5. A short description of any significant changes in operating the pretreatment program which differ from the previous year 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 staffing levels.

6. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
7. A summary of public participation activities that involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 CFR part 403.8 (f)(2)(vii).
8. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.
9. A description of any changes in biosolids disposal methods and a discussion of any concerns not described elsewhere in the report, and a brief description of any program the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs.

R. Biosolids Monitoring

The following must be recorded monthly:

1. Total quantity of biosolids generated during the monitoring period.
2. Date and quantity of biosolids removed off site, location of use, recipient (including name and address) and biosolids reuse or disposal method. The type of crop grown, if biosolids are directly land applied at an offsite location,
3. Cumulative total quantity of biosolids currently on site including the quantity of biosolids added during this monitoring period.

The Discharger must include in each monitoring report the amount and type of all grit and screenings, and undigested sludge waste hauled off site for disposal or recycle. The person or company doing the hauling and the legal point of disposal or recycle must also be recorded.

S. Agricultural Site Monitoring (Annual Cropping Plan)

1. Information on cropping results for the previous calendar year must be submitted by April 30 of each year. The information must include but not be limited to:
 - a. Crop acreage, crop names and types, approximate planting and harvest dates and irrigation methods;
 - b. Sufficient information demonstrating the Discharger's application of treated wastewater to grow crops is in compliance with requirements in the attached Order. The information must include amounts for irrigation, rainfall,

- evapotranspiration loss and all other information needed to demonstrate whether the Discharger is in compliance with Discharge Specifications No. I.D. 15 and 16 of the attached Order; and
- c. Description of the fate of nitrogen that was applied and available in the root zone and not accounted for in the crops harvested.
2. Proposed annual cropping plan must be submitted by October 30th of each year. The plan must include the following information for the upcoming calendar year:
 - a. Crop acreage, crop names and types, approximate planting and harvest dates and irrigation methods;
 - b. Sufficient information demonstrating the Discharger will comply with Discharge Specifications No. I.D. 13 and 14 of the attached Order, include the information described in No. I.S.1.b., above; and
 - c. Description of the fate of nitrogen that will be applied and that is already available in the root zone.

T. Agricultural Site Monitoring (Farm Chemical Use Monitoring)

The Discharger must record the names and chemical compositions, quantities and dates of application of all chemical fertilizers, herbicides and pesticides applied to any crop grown on the water recycling site in a permanent log book. Chemical use information must be submitted to the Regional Board on a quarterly basis.

U. Operation and Maintenance Monitoring

A brief summary of any operational problems and maintenance activities must be submitted to the Water Board with each monthly monitoring report.

This summary must discuss:

1. Any major modifications or additions to the wastewater conveyance system, treatment facilities, storage reservoirs or disposal/water recycling facilities.
2. Any major maintenance conducted on the wastewater conveyance system, treatment facilities, storage reservoirs or disposal/water recycling facilities.

3. Any major problems occurring in the wastewater conveyance system, treatment facilities, storage reservoirs or disposal/water recycling facilities.
4. The calibration of any wastewater flow measuring devices.
5. The dates of discharge ditch cleaning, best management practices (BMPs) used for the protection of water quality in Piute Ponds, and effectiveness of the BMPs.

V. Surface Water Monitoring (Duck Hunting Season)

Until the new tertiary AS/NDN facilities are constructed and operational, the beginning and ending dates of the annual duck hunting season (as determined by the California Department of Fish and Game), and 30-days prior to the beginning of the season, as applied to Piute Ponds during which disinfection for the restricted recreational impoundment is required must be recorded and reported on the pertinent monthly Self Monitoring Reports and in the Annual Report.

W. Mitigation Measure Monitoring

Each annual monitoring report must include a report on the status of implementing each of mitigation measures listed in Finding No. 20 of the attached Order. The report must include information on the effectiveness of implementation measures. The report must also include but not be limited to the following information:

1. Impact: Downward migration of treated wastewater applied at Eastern Agricultural Site would degrade the quality of groundwater.
 - a. This Monitoring and Reporting Program (Monitoring Requirement No. I.A.5) requires that the Discharger record and report the source (treatment facility name) of the flow to the Eastern Agricultural Site. The attached Order permits use of tertiary effluent at Eastern Agricultural Site.
 - b. Status of compliance with Provisions No. II.F. and II.G. of the attached Order. Provisions No. II.F. and II.G. require that the Discharger install an adequate monitoring networks for the vadose zone and groundwater.
 - c. This Monitoring and Reporting Program (Monitoring Requirements No. I.F and I.G.) requires that the Discharger record and report results of monitoring of the vadose zone and groundwater monitoring networks. This data will be used: (i) to

demonstrate treated wastewater is not percolating to groundwater, and (ii) for determining if there is a threat of degradation of underlying groundwater and/or a threatened violation of receiving water limits in groundwater for TDS and nitrate.

2. Impact: Eastern Agricultural Site run on and/or runoff would result in degradation of the quality of surface water.
 - a. Status of compliance with Provision No. II.I.3 of the attached Order. Provision No. II.I.3 requires that the Discharger construct drainage controls to prevent run on and runoff at the Eastern Agricultural Site for protection of surface-water quality.
3. Impact: Flow of treated wastewater down abandoned wells located at the Eastern Agricultural Site would degrade the quality of groundwater.
 - a. Status of compliance with Provision No. II.H.2 of the attached Order. Provision No. II.H.2 requires the Discharger identify and properly destroy abandoned groundwater wells. Once completed, this status need no longer be reported.

X. Laboratory Analyses

1. General

Sample results greater than or equal to the reported Minimum Level (ML) must be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample). Sample results less than the reported ML, but greater than or equal to the laboratory's Method Detection Limit (MDL), must be reported as "Detected , but Not Quantified," or DNQ. The estimated chemical concentration of the sample must also be reported. For the purposes of data collection, the laboratory must 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.

2. Disinfection By-Products (DBPs)

DBPs must be analyzed using a laboratory method with the following Minimum Reporting Levels:

<u>DBPs</u>	<u>Minimum Reporting Level (micrograms/Liter)</u>
Total trihalomethanes (TTHM)	80
Bromodichloromethane	0.5
Bromoform	0.5
Chloroform	0.5
Dibromochloromethane	0.5
Haloacetic acids (five) (HAA5)	60
Monochloroacetic Acid	2
Dichloroacetic Acid	1
Trichloroacetic Acid	1
Monobromoacetic Acid	1
Dibromoacetic Acid	1
N-Nitrosodimethylamine (NDMA)	0.002

For NDMA analyses, the Discharger is considered to be in compliance with requirements pertaining to the method of laboratory analysis (contained in Provision 1.a, 1.b and 1.c of the attached General Provisions for Monitoring and Reporting), if the Discharger uses a modified USEPA method (e.g., USEPA method 1625) in order to achieve a reporting limit of two (2) nanogram per liter (ng/L).

3. Volatile Organics

Analysis for the volatile organics, o-xylene and m+p-xylene, is acceptable for meeting the requirement to analyze for xylene.

4. Dioxins and polychlorinated biphenyls (PCBs)

Monitoring for dioxins and polychlorinated biphenyls (PCBs) is not required.

5. Chromium

Use appropriate USEPA approved methods that will quantify concentrations down to 0.0025 mg/l for hexavalent chromium and 0.05 mg/l for total chromium.

II. REPORTING

A. General Provisions and Reports

1. The Discharger must comply with the "General Provisions for Monitoring and Reporting," (GPMR - Attachment "A") dated September 1, 1994, which is attached to and made part of this Monitoring and Reporting Program.
2. The Discharger must submit by **July 30, 2007**, a copy of its initial Toxicity Reduction Evaluation (TRE) Workplan to the Executive officer for consideration of approval. The Discharger must use the USEPA manual, Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833B-99/002 as guidance. This workplan must describe in detail the steps the discharger intends to follow in the event toxicity (not as a result of ammonia or chlorine) is observed in both the original and confirmatory chronic toxicity test conducted on receiving/ambient water samples collected from Piute Ponds at sampling station RS-2.
3. Monitoring Section No. M.3. of this Monitoring and Reporting Program requires the Discharger prepare graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in lysimeters and groundwater monitoring wells for the proposed storage reservoirs: TDS, Nitrate, Chloride. If the long-term trends are not as predicted by the Discharger's water quality effects analysis described in the attached Order, the Discharger must provide additional technical information in the monitoring report. The additional information must be sufficient to demonstrate whether the observed long-term trend could potentially have an adverse effect on the quality of underlying groundwater. Such information may include results of additional site investigation, more in-depth evaluation of the information, completion of calibration and sensitivity analysis for the mathematical model, etc.

B. Submittal Periods

The Discharger must submit monitoring reports according to the following schedule:

1. Beginning on **March 30, 2007**, monthly monitoring reports must be submitted to the Regional Board by the 30th of the month following each monthly monitoring period. Data required to be collected over a longer period of time is to be incorporated into the monthly report for the month it is collected. The following reports must be provided on a monthly frequency:

- a. Flow Monitoring;
 - b. Influent Monitoring;
 - c. Reservoir Monitoring;
 - d. Effluent Monitoring; and
 - e. Operation and Maintenance Monitoring.
2. Beginning **April 30, 2007**, quarterly monitoring reports must be submitted to the Regional Board by the 30th of the month following each quarterly monitoring period. Data that are required on a frequency longer than one quarter will be incorporated into the quarterly report that coincides with the period for which the analyses are required. The following reports must be provided on a quarterly frequency:
- a. Influent Monitoring (Data collected quarterly, semiannually and annually);
 - b. Effluent Monitoring (Data collected quarterly, semiannually and annually);
 - c. Ground Water Monitoring;
 - d. Vadose Zone Monitoring;
 - e. Surface Water Monitoring (Except chronic toxicity monitoring);
 - f. Effluent Monitoring (Acute toxicity monitoring); and
 - g. Eastern Agricultural Site Monitoring.
3. Beginning on **March 30, 2007**, annual monitoring reports must be submitted to the Regional Board by March 30th of the year following each annual (calendar year) monitoring period. The following reports must be provided on a annual frequency:
- a. Surface Water Monitoring (chronic toxicity monitoring);
 - b. Effluent Monitoring (Chronic toxicity monitoring);
 - c. Biosolids Monitoring;
 - d. Pretreatment Monitoring;
 - e. Mitigation Measure Monitoring; and
 - f. Eastern Agricultural Site Monitoring (Annual report summarizing observed performance of the agricultural site compared to predicted percolation rates and depths in the vadose zone as described in the Report of Waste Discharge).

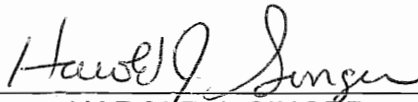
Each annual monitoring report must also contain: an evaluation and summary of the monthly and quarterly information in Reporting Requirements II.B.1 and II.B.2, and evaluation and summary of the compliance status, and the names and grades of all the certified operators.

C. Rescission of Monitoring and Reporting Programs

The following are hereby rescinded:

- a. Monitoring And Reporting Program No. R6V-2002-053 dated September 11, 2002 (Lancaster Water Reclamation Plan);
- b. Monitoring And Reporting Program No. R6V-2006-0051 (Four New Storage Reservoirs); and
- c. Monitoring And Reporting Program No. R6V-2006-0035 (Eastern Agricultural Site No. 1 and Membrane Bioreactor Tertiary Treatment Plant).

Ordered by:



HAROLD J. SINGER
EXECUTIVE OFFICER

Dated: March 14, 2007

Attachments: A. Tables No. 1 through 6
B. General Provisions for Monitoring and Reporting

**Table No. 1
Influent and Effluent**

Parameter	Sampling Frequency (Influent)	Sampling Frequency (Effluent)	Type of Sample (For Two Preceding Columns)	Sampling Frequency (Effluent to Nebeker Ranch)
pH	W	W	Grab	None
Biochemical Oxygen Demand (BOD)	M	M	24-hour composite	M
Carbonaceous BOD	M	M	24-hour composite	M
Chemical Oxygen Demand	M	M	24-hour composite	M
Total Organic Carbon	Q	Q	24-hour composite	None
Methylene Blue Active Substances	Q	Q	24-hour composite	None
Kjeldahl Nitrogen	Q	M	24-hour composite	M
Nitrate Nitrogen	Q	M	24-hour composite	M
Nitrite Nitrogen	Q	M	24-hour composite	M
Ammonia Nitrogen	Q	M	24-hour composite	M
Chloride	Q	Q	24-hour composite	None
Sodium	A	Q	24-hour composite	None
Sulfate	A	Q	24-hour composite	None
Calcium	A	Q	24-hour composite	None
Magnesium	A	Q	24-hour composite	None
Total Dissolved Solids	A	Q	24-hour composite	None
Haloacetic acids (HAA5)	A	Q	Grab	None
Total Trihalomethanes (THMs)	A	Q	Grab	None
N-Nitrosodimethylamine (NDMA)	A	Q	24-hour composite	None
Total Petroleum Hydrocarbons	Y	Y	Grab	None
Total chromium	Y	Y	24-hour composite	None
Hexavalent chromium	Y	Y	Grab	None
Total Cyanides	Y	Y	24-hour composite	None
Total Phenols	Y	Y	24-hour composite	None
Volatile Organics	Y	Y	Grab	None
Semivolatile Organics	Y	Y	24-hour composite	None
Heavy Metals	Y	Y	24-hour composite	None
Methyl Tertiary Butyl Ether	Y	Y	Grab	None

W=Weekly, M=Monthly, Y = Annually, S =

**Table No. 2
Piute Ponds**

Parameter	Sampling Frequency
	Stations RS-2 and RS-4
Total chlorine residual	Quarterly
Dissolved oxygen	Quarterly
Temperature	Quarterly
pH	Quarterly
Kjeldahl Nitrogen	Quarterly
Nitrate Nitrogen	Quarterly
Nitrite Nitrogen	Quarterly
Ammonia Nitrogen	Quarterly
Chloride	Quarterly
Total Dissolved Solids	Quarterly
Total hardness	Quarterly
Haloacetic acids (HAA5)	Quarterly
Total Trihalomethanes (THMs)	Quarterly
N-Nitrosodimethylamine (NDMA)	Quarterly
Total chromium	Quarterly
Hexavalent chromium	Quarterly
Heavy Metals	Quarterly

**Table No. 3
Lancaster Water Reclamation Plant Site**

Parameter	Sampling Frequency			
	Middle Aquifer	Upper Aquifer	Perched Groundwater Wells	Upper Aquifer
	Water Supply Well	Existing Surface Impoundments (MW15, MW16, MW17, MW115, MW117, MW119, MW207 and MW208)	Existing Surface Impoundments (MW107, MW114, MW116 and MW118)	Proposed Storage Reservoirs (MW209, MW210 and Additional Required Monitoring Wells)
pH	S	S	S	Q
Total Organic Carbon	S	S	S	Q
Methylene Blue Active Substances	S	S	S	Q
Kjeldahl Nitrogen	S	S	S	Q
Nitrate Nitrogen	S	S	S	Q
Nitrite Nitrogen	S	S	S	Q
Ammonia Nitrogen	S	S	S	Q
Chloride	S	S	S	Q
Sodium	S	S	S	Q
Sulfate	S	S	S	Q
Calcium	S	S	S	Q
Magnesium	S	S	S	Q
Total Dissolved Solids	S	S	S	Q
Haloacetic acids (HAA5)	Y	Y	Y	Y
Total Trihalomethanes (THMs)	Y	Y	Y	Y
N-Nitrosodimethylamine (NDMA)	Y	Y	Y	Y
Total Petroleum Hydrocarbons	Y	Y	Y	Y
Total chromium	Y	Y	Y	Y
Hexavalent chromium	Y	Y	Y	Y
Total Cyanides	Y	Y	Y	Y
Total Phenols	Y	Y	Y	Y
Volatile Organics	Y	Y	Y	Y
Semivolatile Organics	Y	Y	Y	Y
Heavy Metals	Y	Y	Y	Y
Methyl Tertiary Butyl Ether	Y	Y	Y	Y

Y = Annually, S = Semiannually and Q = Quarterly

Table No. 4
Eastern Agricultural Site

Parameter	Sampling Frequency
	Upper Aquifer
	Existing Monitoring Wells No. MW30, MW31, SW30, SW31 and SW32, and Additional Required Monitoring Wells
pH	Q
Total Organic Carbon	Q
Methylene Blue Active Substances	Q
Kjeldahl Nitrogen	Q
Nitrate Nitrogen	Q
Nitrite Nitrogen	Q
Ammonia Nitrogen	Q
Chloride	Q
Sodium	Q
Sulfate	Q
Calcium	Q
Magnesium	Q
Total Dissolved Solids	Q
Haloacetic acids (HAA5)	Y
Total Trihalomethanes (THMs)	Y
N-Nitrosodimethylamine (NDMA)	Y
Total Petroleum Hydrocarbons	Y
Total chromium	Y
Hexavalent chromium	Y
Total Cyanides	Y
Total Phenols	Y
Volatile Organics	Y
Semivolatile Organics	Y
Heavy Metals	Y
Methyl Tertiary Butyl Ether	Y

Y = Annually, S = Semiannually and Q = Quarterly

**Table No. 5
Piute Pond Area Wells**

Parameter	Piute Pond Wells		Piute Pond Peripheral Wells		
	Upper Aquifer	Shallow Groundwater	Upper Aquifer		Shallow Groundwater
	MW18	MW108, MW120, MW122, MW124, MW125, MW203 and	MW206	MW211	MW202, MW205 and MW212
pH	S	2	S	2	2
Total Organic Carbon	S	2	S	2	2
Methylene Blue Active Substances	S	2	S	2	2
Kjeldahl Nitrogen	S	2	S	2	2
Nitrate Nitrogen	S	2	S	2	2
Nitrite Nitrogen	S	2	S	2	2
Ammonia Nitrogen	S	2	S	2	2
Chloride	S	2	S	2	2
Sodium	S	2	S	2	2
Sulfate	S	2	S	2	2
Calcium	S	2	S	2	2
Magnesium	S	2	S	2	2
Total Dissolved Solids	S	2	S	2	2
Haloacetic acids (HAA5)	Y	2	Y	2	2
Total Trihalomethanes (THMs)	Y	2	Y	2	2
N-Nitrosodimethylamine (NDMA)	Y	2	Y	2	2
Total Petroleum Hydrocarbons	Y	2	Y	2	2
Total chromium	Y	2	Y	2	2
Hexavalent chromium	Y	2	Y	2	2
Total Cyanides	Y	2	Y	2	2
Total Phenols	Y	2	Y	2	2
Volatile Organics	Y	2	Y	2	2
Semivolatile Organics	Y	2	Y	2	2
Heavy Metals	Y	2	Y	2	2
Methyl Tertiary Butyl Ether	Y	2	Y	2	2

Y = Annually, S = Semiannually and Q = Quarterly

^ Monitoring shall continue at the specified frequency until a minimum of four samples have been analyzed for this constituent. Thereafter, the wells shall be sampled for field parameters at a frequency of once every two year.

**Table No. 6
Nebeker Ranch Wells**

Parameter	Sampling Frequency
	MW10, MW11, MW12, MW13 and MW14
pH	S
Total Organic Carbon	S
Methylene Blue Active Substances	S
Kjeldahl Nitrogen	S
Nitrate Nitrogen	S
Nitrite Nitrogen	S
Ammonia Nitrogen	S
Chloride	S
Sodium	S
Sulfate	S
Calcium	S
Magnesium	S
Total Dissolved Solids	S
Haloacetic acids (HAA5)	Y
Total Trihalomethanes (THMs)	Y
N-Nitrosodimethylamine (NDMA)	Y
Total Petroleum Hydrocarbons	Y
Total chromium	Y
Hexavalent chromium	Y
Total Cyanides	Y
Total Phenols	Y
Volatile Organics	Y
Semivolatile Organics	Y
Heavy Metals	Y
Methyl Tertiary Butyl Ether	Y

Y = Annually, S = Semiannually and Q = Quarterly

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 WDRS

file: general pro mrp