

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

**BOARD ORDER NO. R6V-2006-0035
WDID NO. 6B190604011**

WASTE DISCHARGE REQUIREMENTS AND WATER RECYCLING REQUIREMENTS

**FOR
LOS ANGELES COUNTY SANITATION DISTRICT NO. 14
EASTERN AGRICULTURAL SITE NO. 1 AND
MEMBRANE BIOREACTOR TERTIARY TREATMENT PLANT**

Los Angeles County

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

1. Discharger

On May 23, 2006, the Los Angeles County Sanitation District No. 14 sent information to the Lahontan Water Board, completing an application under Water Code section 13522.5. The application also included information for a Report of Waste Discharge under Water Code section 13260. The documents that constitute the complete application are listed in Attachment D (References). For the purposes of this Order, the Los Angeles County Sanitation District No. 14 is the Discharger.

2. Facilities

The Discharger collects and treats an average of 13 million gallons per day (mgd) of municipal wastewater. Treated effluent is either disposed or recycled. The Discharger's service area includes a majority of the City of Lancaster, part of the City of Palmdale, and adjacent areas within unincorporated areas of Los Angeles County. Through a network of trunk sewers, the Discharger collects untreated domestic wastewater from local sewers. Currently, all wastewater receives treatment at the Discharger's existing primary and secondary treatment facility, which is located in Lancaster. This facility produces un-disinfected and disinfected secondary recycled water. A portion of the secondary effluent receives further treatment at the adjacent Antelope Valley Tertiary Treatment Plant (AVTTP Plant).

3. Order History

a. Revised Waste Discharge Requirements

On September 11, 2002, the Lahontan Water Board adopted Board Order No. R6V-2002-053 establishing revised Waste Discharge Requirements and Water Recycling Requirements for the Discharger. On July 13, 2005, the Lahontan Water Board adopted Board Order No. R6V-2002-053A1 amending Board Order No. R6V-2002-053. Board Order No. R6V-2002-053

and its amendment include: (i) requirements regulating the Discharger's network of trunk sewers, and (ii) effluent limits for recycled water and treated effluent discharged to Piute Ponds and Impoundments No. A, B and C, and other disposal/reuse sites regulated under separate orders described in Finding No. 3.c., below.

b. Enforcement

On October 13, 2004, the Lahontan Water Board issued Cease and Desist Order No. R6V-2004-0038 to the Discharger for threatening to violate Waste Discharge Requirements prescribed in Board Order No. R6V-2002-053. The Cease and Desist Order includes a schedule for achieving compliance with waste discharge requirements.

c. Other Orders

The Lahontan Water Board on April 11, 1985 adopted Board Order No. 6-85-35 issuing requirements to the County of Los Angeles for use of disinfected tertiary recycled water at Apollo Park and General William J. Fox Airfield. Requirements for use of un-disinfected secondary recycled water to irrigate fodder crops were issued to Nebeker Ranch by the Lahontan Water Board in Board Order No. 6-86-58, which was adopted on May 15, 1986. Master Water Recycling Requirements for use of disinfected tertiary recycled water in the Division Street Recycled Water Project are prescribed by the Lahontan Water Board in Board Order No. R6V-2006-0009, which was adopted on March 8, 2006.

4. Reason for Action

The Lahontan Water Board is establishing Waste Discharge Requirements and Water Recycling Requirements because the Discharger has submitted an application proposing to use disinfected tertiary recycled water to irrigate fodder crops at a proposed site.

The Discharger's application proposes to construct a pilot tertiary treatment plant (Membrane Bioreactor Plant (MBR Plant)). Effluent from the proposed MBR Plant will be combined with AVTTP plant effluent that is not used at Apollo Park. The combined effluents (disinfected tertiary recycled water) will be conveyed by pipeline a distance of seven miles to a proposed 1,920-acre site (Eastern Agricultural Site No. 1). The recycled water will be used for construction purposes during installation of irrigation infrastructure and for growing fodder crops at Agricultural Site No. 1. The annual-average treatment capacities of the existing AVTTP plant and proposed MBR plant are 0.5 mgd and 1.0 mgd, respectively. The sources of effluent are tertiary recycled water from the existing AVTTP and proposed MBR tertiary

treatment plants.

5. Facility Location

The treatment facilities are located approximately five miles north of central Lancaster, in the Lancaster Hydrologic Area of the Antelope Hydrologic Unit as shown in Attachment A, which is made a part of this Order. The address for the treatment facility office is 1865 W. Avenue D, Lancaster, California 93534. Eastern Agricultural Site No. 1 is located approximately seven miles east of the treatment facilities as shown in Attachment B, which is made a part of this Order.

6. Description of Facilities

a. Description of Collection System

The Discharger owns a 63-mile network of trunk sewers and is responsible for operation and maintenance of this network. Local sewers convey wastewater to the trunk-sewer network. The Cities of Lancaster and Palmdale own the local sewers within their borders. The County owns the majority of the local sewers located in unincorporated areas. The County Consolidated Sewer Maintenance District, under an agreement with the Cities of Lancaster and Palmdale, operates and maintains most local sewers within the Discharger's service area.

b. Description of Existing Primary and Secondary Treatment Facility

All wastewater receives primary treatment by sedimentation tanks followed by secondary treatment in oxidation ponds No. 1 through 10. The primary treatment facility has a treatment capacity of 17 mgd and the secondary treatment facility has a treatment capacity of 16 mgd.

Oxidation ponds No. 1 through 6 include surface aerators. Anaerobic digesters treat sludge from the primary sedimentation tanks. Digested sludge is dried and stockpiled onsite until transport to a composting facility. Dried sludge that may be generated from pond cleaning will be hauled offsite for disposal/reuse at an authorized reuse or disposal site.

c. Description of Existing Tertiary Treatment Plant (AVTTP)

The source of influent flow for the AVTTP plant is secondary effluent from the Discharger's last oxidation pond. This plant has capacity to treat a maximum of 0.6 million gallons during a 24-hour period. For longer time-periods the treatment capacity is limited to 0.5 mgd. This plant includes chemical addition for coagulation/flocculation and phosphorus removal, followed by sedimentation, filtration, and disinfection with hypochlorite. The plant was not

designed for nitrogen removal. Concentrations of key constituents in the effluent are described in Finding No. 14.

d. Description of Membrane Bioreactor Tertiary Treatment Plant

The source of influent wastewater flow for the proposed MBR plant is effluent from the Discharger's primary treatment facility. The plant will include: (i) a suspended-growth biological process, (ii) membrane bioreactors (MBRs) and (iii) two ultraviolet disinfection systems. The treatment capacity of the proposed MBR plant in terms of effluent production is: (i) annual average net flow of 1.0 mgd, and (ii) maximum daily average net flow of 1.75 mgd. The two ultraviolet disinfection systems will be operated in parallel and each will have disinfection treatment capacity of 1.0 mgd (in terms of average daily flow). The MBR plant will provide removal of biochemical oxygen demand (BOD) and nitrogen using a single-sludge, suspended-growth biological treatment process with MBR tanks instead of conventional clarifiers. Suspended-growth biological treatment will occur in activated sludge tanks, with initial treatment in an anoxic zone followed by further treatment in an aerobic zone. Flow from the activated sludge tanks will go to the MBR tanks for further treatment, including filtration by membranes and removal of sludge. Removed sludge will either be returned to the activated sludge tanks or wasted to Oxidation Pond No. 1.

The Discharger will use citric acid and sodium hypochlorite solutions to periodically clean the surfaces of membranes in the MBR tanks. Use of these solutions will be minimal and not cause pH or concentrations of disinfection byproducts to exceed values in Table No. 2.

e. Description of Conveyance System

The Discharger has completed construction of a pipeline and a temporary pump station. The pipeline and pump station are part of a system for conveying the disinfected tertiary recycled water a distance of seven mile to the proposed Eastern Agricultural Site No. 1. The Discharger proposes to construct a permanent pump station and a steel storage tank that will also become part of the conveyance system. The pump station will be located near the proposed storage reservoirs. The storage tank will be located near Eastern Agricultural Site No. 1 and have a storage capacity of two million gallons.

f. Description of Eastern Agricultural Site No. 1

Proposed Eastern Agricultural Site No. 1 consists of 1,920 acres and includes all of Sections 23 and 24, Township No. 8 North, Range No. 11 West (Sections 23 and 24, T8N, R11W) and Section 19, T8N, R10W, San Bernardino Base and Meridian (SBB&M). Use of the recycled water for construction at the site will include use for soil compaction, backfilling, concrete mixing, hydraulic testing of pipelines and irrigation systems. The recycled water will also be used for dust control during construction and following construction when plants are not being grown. Construction will include grading and preparation (tilling, etc.) of soil for planting crops. The Discharger has completed the following tasks in a 480-acre portion of Section 19 (See Attachment C, Map of Eastern Agricultural Site No. 1): destruction of abandoned water supply wells in accordance with well standards, installation and sampling of groundwater monitoring wells and construction of three center pivot irrigation systems. (*LACSD14, 2006, Apr*) A provision of this Order requires completion of additional tasks in the 480-acre area and the remaining 1,440 acres of the 1,920-acre Agricultural Site No. 1. The tasks include installation of vadose zone monitoring devices and groundwater monitoring wells, and destruction of abandoned water supply wells in accordance with State and local regulations.

A wetland with an area of 0.08 acres has been delineated within the 480-acre area. The Discharger proposes to fill and grade the 0.08-acre area resulting in loss of the wetland. The Discharger proposes to mitigate the loss of this wetland through the Santa Monica Mountains Conservancy (SMMC). A total of 0.12 acres will be acquired through SMMC in the Antelope Valley or an alternative approved location. This mitigation satisfies Discharge Specification No. I.D.10., which requires the Discharger to mitigate the loss of the 0.08-acre wetland by creation of a wetland of equal or higher value at an area ratio for wetland loss to wetland created of 1:1.5. Provision No. II.C.4 of this Order includes a schedule requiring the Discharger to submit to the Lahontan Water Board a documentation demonstrating the funds have been paid to the SMMC for implementation of the mitigation project.

The California State Legislature established the SMMC in 1980. In April 2000, the SMMC entered into the "Agreement for Establishment and Administration of the Los Angeles County Aquatic Resource In-Lieu Fee Mitigation Program" with the U.S. Army Corps of Engineers (USACE) and the Mountains Recreation and Conservation Authority. The program established through this agreement provides mitigation for aquatic resources through the in-lieu fee process approved by the USACE. Once a participating entity enters into a Memorandum of Understanding with SMMC and makes payment of the set fees, SMMC uses the fees to create new wetlands.

LOS ANGELES COUNTY
SANITATION DISTRICT NO. 14
LANCASTER
Los Angeles County

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7.

Regulation of Recycled Water

a. Regulation

This Order includes water-recycling requirements. It requires the Discharger to comply with Uniform Statewide Reclamation Criteria (California Code of Regulations, title 22, sections 60301 through 60355) established pursuant to Water Code section 13521.

As required under California Code of Regulations, title 22, section 60323 (22CCR§60323), the Discharger has submitted to the Lahontan Water Board and State Department of Health Services (SDHS) engineering reports for production of disinfected tertiary recycled water, which are described in parts b, c and d of this Finding. The engineering report described in part c is complete. Provision No. II.B. of this Order requires the Discharger submit to the Lahontan Water Board copies of the finalized versions of engineering reports described in part b. and d. of this Finding. The final version must address recommendations of the State Department of Health Services.

b. Engineering Report (Auxiliary Sodium Hypochlorite System)

The Discharger plans to initially disinfect combined effluents from the AVTTP and MBR plants using an auxiliary sodium hypochlorite disinfection system. Contact time for disinfection will occur in the effluent outfall pipeline to Eastern Agricultural Site No. 1. Use of the auxiliary system will continue while the Discharger tests the ultraviolet disinfection systems located at the MBR plant. The testing is expected to take up to two months. The Discharger has submitted the following engineering report for the auxiliary disinfection system: Los Angeles County Sanitation District No. 14, 2006, *Amended Report of Waste Discharge And Engineering Report For Membrane Bioreactor (MBR) with Chlorination Pilot Plant*, Mar. 24. (LACSD14, 2006, Mar 24)

c. Engineering Report (AVTTP plant with hypochlorite disinfection)

The final engineering report for this plant, which addresses the recommendations of the SDHS, consists of:

- (i) An initial report prepared by the Discharger and titled *Lancaster Water Reclamation Plant Effluent Reuse Expansion - Phase I, Engineering Report*, January 15, 2005,
- (ii) A June 2, 2005 letter from SDHS providing recommendations on the report, and
- (iii) An August 8, 2005 letter from the Discharger that addresses recommendations in SDHS's June 2 letter.

d. Engineering Report (MBR tertiary treatment plant with ultraviolet disinfection)

The Discharger has submitted the following engineering report for the MBR tertiary treatment plant with ultraviolet disinfection: *Amended Report of Waste Discharge and Engineering Report for Membrane Bioreactor with Ultraviolet Disinfection Pilot Plant*, April 10, 2006.

8. Land Ownership

The treatment facilities and Eastern Agricultural Site No. 1 are located on land owned by the Discharger.

9. Authorized Disposal/Water Recycling Sites

This Order authorizes:

- a. Use of disinfected tertiary recycled water at Eastern Agricultural Site No. 1, and
- b. Use of recycled water for non-potable uses within the existing treatment plant site and the existing and proposed storage reservoir sites, including use for landscape irrigation, facility washdown and soil compaction and dust control during construction of new facilities

Other disposal/water recycling sites authorized to receive tertiary treated wastewater are described in separate Board Orders adopted by the Lahontan Water Board. Currently, these sites consist of Apollo Park and General William J. Fox Airfield, and the City of Lancaster, Division Street Recycled Water Project.

10. Topography

The direction of the ground-surface gradient at the Eastern Agricultural Site No. 1 is toward Rosamond Dry Lakebed in a northwesterly direction. At the Eastern Agricultural Site No. 1, the slope of the gradient is 0.003 feet/foot.

11. Geology and Hydrogeology

a. Geology

Between 1960 and 1967, the U.S. Department of Agriculture (Soil Conservation Service) investigated shallow soils (located between the ground surface and a depth of five feet) in the Antelope Valley. The investigation indicates that shallow soils at Agricultural Site No. 1 contain some soluble salts. Shallow soils at Agricultural Site No. 1 are predominately clayey sand and silty sand (*USDA, 1970, Jan*).

In geologic terms, the shallow soils located at Agricultural Site No. 1 are Quaternary alluvium. The Quaternary alluvium extends down to a lacustrine layer (blue-clay layer). The alluvium consists of interbedded, discontinuous layers with hydraulic conductivity values that vary. Layers with lower values tend to slow the downward movement of water in the vadose zone. Thin beds of clay and evaporative salt deposits, which have formed from small intermittent lakes or playas, are present in the Quaternary alluvium. The lateral extent of the Quaternary alluvium and blue-clay layer is significant. They extend throughout a large portion of Antelope Valley. The blue-clay layer was formed by the accumulation of fine-grained sediments in a large ancestral lake. Remnants of the lake are shown as Rosamond Dry Lake and Rogers Dry Lake (*USGS, 2003*).

b. Hydrogeology (General)

Using information from historic site investigation reports, the US Geologic Survey prepared a 2003 report that includes maps (plan view and cross-sectional) showing the general locations of the following hydrogeologic features in the Antelope Valley: alluvium, blue-clay layer, bedrock and the Upper, Middle and Lower Aquifers (*USGS, 2003*). The Upper Aquifer is located above the blue-clay layer and the Lower Aquifer is located below the layer. The upper portion of the Lower Aquifer is sometimes referred to as the Middle Aquifer. The blue-clay layer is considered to be an effective aquitard and the Middle and Lower Aquifers are considered to be confined aquifers (*USGS, 2003*), (*LACSD14, 2005, Jan. 28*).

c. Hydrogeology (Eastern Agricultural Site No. 1)

In 2004 and 2005, the Discharger conducted hydrogeologic investigations at Eastern Agricultural Site No. 1. The investigation included evaluation of well records for 155 wells located at the site, completion of down-hole geophysical and photographic logs for selected existing wells (*LACSD14, 2005, Aug. 10*), and logging of 6 boreholes consisting of 4 exploratory borings and 2 boreholes for monitoring wells. The four exploratory boreholes extended into the blue-clay layer by depths ranging from 35 to 80 feet, respectively (*LACSD14, 2005, Aug. 16*). The Discharger completed site investigation reports that include cross-sectional diagrams showing alluvium, blue-clay layer and the location of groundwater (*LACSD14, 2005, Aug. 10*), (*LACSD14, 2005, Aug. 16*), (*LACSD14, 2005, June 21*). These diagrams were constructed using information from the above-described USGS reports and the Discharger's investigation results. The reports indicate the thickness of the Quaternary alluvium above the top surface of the blue-clay layer ranges from approximately 200 to 250 feet bgs at Eastern Agricultural Site No. 1. The thickness of the blue-clay layer is approximately 350 feet based

on logs for water wells extending into the Middle Aquifer. The depth to the Upper Aquifer is approximately 110 feet bgs. Groundwater flow is toward the south and southeast. (*LACSD14, 2005, Aug. 16*) (*LACSD14, 2005, Aug. 10*) (*LACSD14, 2005, June 21*)

12. Groundwater (Naturally Occurring Background Quality)

Concentrations of constituents, which are believed to be representative of naturally occurring background quality in groundwater are shown in Table No. 1. Drinking water Maximum Contaminant Levels (MCLs) are also shown in Table No. 1. The arsenic and chromium concentrations in groundwater are believed to be from naturally occurring sources.

Table No. 1
Naturally Occurring Background Concentrations in Groundwater

Constituents	MCLs	Upper Aquifer ¹ (Agriculture Site No. 1)
Nitrate (mg/L as N)	10	<0.1 to 4
Total Dissolved Solids (mg/L)	500 ² and 1000 ³	200 to 500
Arsenic (µg/L)	10	4 to 10
Total Chromium (µg/L)	50	5 to 15
Hexavalent Chromium (µg/L)	Not Established	5 to 15

Footnotes:

1. TDS concentrations are believed to be representative of naturally occurring background concentrations before historic anthropogenic development (irrigated agriculture and individual residences). TDS concentrations are from Figure 10 of (*USGS, 1987*), which is an isoconcentration map for Antelope Valley constructed using TDS data for 1964 to 1984. Nitrate is from Table No. 3 of (*USGS, 1987*). Estimates for arsenic and chromium concentrations are based on data contained in (*LACSD14, 2005, Nov. 3*)
2. Secondary MCL (Recommended)
3. Secondary MCL (Upper)

13. Groundwater (Existing Quality) - Eastern Agricultural Site No. 1

The range of TDS concentrations (200 to 500 mg/L) and nitrate concentrations (<0.1 to 4 mg/L) in Table No. 1 are believed to be representative of naturally occurring background concentrations for TDS and nitrate at this site (*USGS, 1987*). The following is a summary of the results of analysis for TDS in five monitoring wells recently established at the proposed site (*LACSD14, 2005, Jun 21*) (*LACSD14, 2005, Nov 21*) (*LACSD14, 2006, Aug 15*):

Monitoring Well No.	Date monitoring well was established	TDS Range (mg/L)	Nitrate Concentration Range (mg/L)	No of Samples
MW-30	09/05	440 to 630	1.9 to 2.3	3
MW-31	09/05	110 to 440	<0.1 to 0.23	3
SW-30	03/05	350 to 370	0.38 to 0.43	5
SW-31	03/05	850 to 990	1.0 to 1.5	5
SW-32	09/05	1500 to 1600	2.8 to 2.8	3

Evaluation suggests that historic land-use practices at the site may have caused the higher TDS and nitrate concentrations found in the above wells. Higher TDS and nitrate concentrations appear to correlate with the locations for former dwellings and cropland (previously owned by persons other than the Discharger). Former dwellings would have been served by septic tank systems. Both septic tank systems and irrigated cropland are potential sources of TDS and nitrate groundwater degradation. Figures No. 3-3 (aerial photograph dated 2000) and Figure No. 4.1-10b in the Final Environmental Impact Report for the Discharger’s 2020 Facilities Plan show significant agricultural operations formerly existed at Agricultural Site No. 1. This Order includes a numerical receiving water limit for nitrate in groundwater, which is based on existing water quality. Because there is significant spatial variation in TDS concentrations in groundwater at this site, a separate numerical receiving water limit for TDS needs to be established at each monitoring well. There are currently insufficient data points per monitoring well to establish a numerical receiving water limit for TDS at each well. The attached Monitoring and Reporting Program requires that the Discharger collect the required additional data needed to establish these limits.

14. Effluent Quality

Table No. 2 summarizes data for the existing AVTTP plant and proposed MBR plant. The data for the proposed MBR plant is based on design data for that plant. Recycled water generated by both plants will be blended and conveyed to Eastern Agricultural Site No. 1. The values for the MBR/AVTTP blend are given in the fourth column of Table No. 2. The values are based on a combination of 1.0 mgd of MBR plant effluent and 0.3 mgd of AVTTP plant effluent.

During use of the Auxiliary Sodium Hypochlorite System described in Finding No. 7.b., concentrations of disinfection by-products in effluent conveyed to Eastern Agricultural Site No. 1 are expected to be the same as those in the second column of Table No. 2. Before there can be discharge from the ultraviolet disinfect system, the Discharger must follow a specific process described in Provision No. II.B.2 of this Order to demonstrate to the State Department of Health Services and Lahontan Water Board staff that ultraviolet disinfection facilities comply with Discharge Specification No. I.C.5.a. of this Order. This process is expected to take from two to three months. Ultraviolet light will then become the method of disinfection at the

MBR plant. Once the ultraviolet disinfection is implemented, concentrations of disinfection by-products in the combined plant effluents will be as shown in the fourth column of Table No. 2. The disinfection by-products bromate and chlorite are not expected to be present in the effluents of the existing AVTTP plant and proposed MBR plant. Bromate is a byproduct of ozonation and chlorite is a by-product of chlorine dioxide. Neither ozonation nor chlorine dioxide are used by the Discharger (*Metcalf and Eddy, 2003*), (*LACSD14, 2006, Apr 6*), (*LACSD14, 2006, Mar 24*), (*LACSD14, 2005, July 22*).

Table No. 2
Concentrations¹ in Disinfected Tertiary Recycled Water

Constituents	AVTTP plant effluent with hypochlorite disinfection	MBR plant effluent with ultraviolet disinfection	AVTTP and MBR plant effluent blend
Turbidity (NTUs)	5	0.2	---
Biochemical Oxygen Demand (mg/L)	6	5	---
Total Dissolved Solids (TDS)	703	550	585
Total Nitrogen (mg/L as N)	3.7	7	6
Arsenic (µg/L)	4	4	4
Total Chromium (µg/L)	2	2	2
Hexavalent Chromium (µg/L)	0.1	0.1	0.1
Disinfection By-Products:			
Trihalomethanes (µg/L)	100	20	40
Total haloacetic acids (µg/L)	80	20	34
Footnote: 1. All concentrations in this table are maximum values, with exception of the TDS values, which are averages. Data is from the amended report of waste discharge (<i>LACSD14, 2006, Apr 10</i>) and the Discharger's annual report (<i>LACSD14, 2006, Mar 29</i>).			

15. Receiving Waters

The receiving waters are the groundwaters of the Antelope Valley Groundwater Basin (DWR Unit No. 6-44).

16. Lahontan Basin Plan

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

17. Beneficial Uses

The beneficial uses of the groundwaters of the Antelope Valley groundwater basin (DWR No. 6-44) as set forth and defined in the Basin Plan are:

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

18. Cease and Desist Order

On October 13, 2004, the Lahontan Water Board issued Cease and Desist Order No. R6V-2004-0038 to the Discharger for threatening to violate General Requirement and Prohibition No. I.E.6 and failure to comply with Provision No. II.B.4 of Board Order No. R6V-2002-053, which state:

“I. DISCHARGE SPECIFICATIONS

E. General Requirements and Prohibitions

6. Neither the treatment nor the discharge shall cause a nuisance as defined in section 13050(m) of the California Water Code.”

“II. PROVISIONS

B. Schedules

4. Nuisance Condition Caused by Effluent-Induced Overflows

By **August 25, 2005**, the Discharger shall complete a project to eliminate the threatened nuisance condition created by overflows from Piute Ponds to Rosamond Dry Lake, as described in Finding No. 7, and achieve compliance with General Requirements and Prohibition No. I.E.6.”

Cease and Desist Order No. R6V-2004-0038 and Board Order No. R6V-2002-053 will remain in effect.

19. Water Quality Effects Analysis (Eastern Agricultural Site No. 1)

Disinfected tertiary recycled water from the AVTTP plant and proposed MBR plant will be used to irrigate fodder crops at Agricultural Site No. 1. The Discharger proposes to grow crops by applying water in an amount that will meet the needs of the crop but will

not result in leaching of salts from the root zone. Degradation of underlying groundwater is not expected under this proposal. The soils consist of clayey sand and silty sand and the depth to groundwater is approximately 110 feet below the ground surface. The Discharger is expected to meet receiving water limits for nitrate and TDS, which are contained in this Order. The receiving water limits are based on the existing quality for groundwater, which is discussed in Finding No. 13. The attached monitoring and reporting program requires monitoring of the vadose zone and groundwater underlying Eastern Agricultural Site No. 1. Vadose zone monitoring will provide an early indicator of un-permitted and excessive application of recycled water (i.e., recycled water migrating past the plant root zone) and allows the opportunity to implement corrective action (reduce the irrigation rate).

The Discharger has indicated it plans to submit a separate application to the Water Board to obtain requirements for:

- i. A new activated-sludge tertiary treatment plant (to be built in the future and not regulated under this Order),
- ii. Irrigating crops using effluent from the new treatment plant, and
- iii. Increasing recycled water application to leach salts from the crop root zone in addition to growing crops. (The Discharger stated that the application will include a Water Quality Effects Analysis for this proposal.)

Before the Discharger can apply effluent in excess of the amounts described in this Order, it must obtain requirements from the Water Board separate from this Order.

20. California Environmental Quality Act (CEQA)

In accordance with the California Environmental Quality Act (CEQA), the Discharger, acting as the lead agency, certified an Environmental Impact Report (EIR) on June 16, 2004 for the 2020 Plan project. The EIR found that the project would not pose a significant impact to water quality provided that the mitigation measures summarized in Table No. 3, below, are implemented. Monitoring and reporting requirements to ensure the mitigation measures are implemented and the measures are effective are included in this Order and the attached Monitoring and Reporting Program (MRP) at locations shown in the last column of Table No. 3. Additional monitoring requirements are included in the attached MRP.

Table No. 3
Environmental Impact Report

<u>Impact</u>	<u>Mitigation Measure</u>
a. Downward migration of treated wastewater applied at agriculture site would degrade the quality of groundwater.	Degradation of underlying groundwater is not expected, because of hydrogeologic conditions and the method that will be used for crop irrigation, which is described in Finding No. 19.
b. Agriculture-site run on and/or runoff would degrade the quality of surface water.	Construct drainage controls to prevent run on and runoff
c. Flow of treated wastewater down abandoned wells would degrade the quality of groundwater.	Identify and properly destroy abandoned groundwater wells.

21. Authority for Requesting Reports

The fact that the Discharger is seeking coverage under waste discharge requirements issued by the Lahontan Water Board for one or more proposed discharges supports the requirement that the Discharger submit technical and monitoring reports in compliance with this Order and the attached Monitoring and Reporting Program.

22. Notification of Interested Parties

The Lahontan Water Board has notified the Discharger and interested persons of its intent to establish Waste Discharge Requirements for the discharge/reuse.

23. Consideration of Public Comments

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

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

I. DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. The effluent production at the MBR plant shall not exceed the following flow limits (Flow in excess of these limits shall not be considered a violation unless the violation causes a violation of an effluent limits.):
 - a. Annual average flow of 1.0 mgd, and
 - b. Maximum daily average flow of 1.75 mgd

2 pH

All wastewater made available to the authorized disposal/water recycling sites shall have a pH of not less than 6.0 nor more than 9.0. A pH over 9.0 is allowed if the Discharger has demonstrated it results from biological processes within the treatment plant.

3. Dissolved Oxygen

All wastewater discharged to the authorized disposal/water recycling sites shall have a dissolved oxygen concentration of not less than 1.0 mg/L.

B. Receiving Water Limitations -Groundwater

The discharge shall not cause a violation of the following WQOs for the groundwaters of the Lancaster Hydrologic Area.

1. Bacteria - Groundwaters shall not contain concentrations of coliform organisms attributable to human wastes.
2. Chemical Constituents - Groundwaters shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (Secondary MCL) based upon drinking water standards specified in the following provisions of title 22 of the California Code of Regulations: Table 64431-A of section 64431 (Inorganic Chemicals), Table 6444-A of section 64444 (Organic Chemicals), Table 64433.2-B of section 64433.2 (Fluoride), Table 64449-A of section 64449 (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels-Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.
3. Radioactivity - Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food chain to an extent that it presents a hazard to human, plant, animal, or aquatic life. Waters shall not contain concentrations of radionuclides in excess of limits specified in the CCR, title 22, chapter 15, article 5, section 64443.
4. Taste and Odors - Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance (CWC section 13050(m)) or that adversely affect waters for beneficial uses.

5. Nitrate and TDS (Eastern Agriculture Site No. 1) – Use of recycled water at Eastern Agriculture Site No. 1 shall not cause: (i) nitrate concentrations in groundwater in excess of 3.4 mg/L as N, and (ii) TDS concentrations in groundwater at a given monitoring point to exceed existing concentrations at that point (concentration limit) as determined by an approved intra well statistical method (See Finding No. 13).

C. Water Recycling Requirements

1. The Discharger shall comply the Uniform Statewide Reclamation Criteria, which are contained in California Code of Regulations (CCR), title 22, sections 60301 through 60355.
2. All treated effluent made available for water recycling shall be in compliance with requirements contained in title 22, CCR.
3. Recycled water used as a source of supply for the Apollo Park, Division Street Recycled Water project and Eastern Agricultural Site No. 1 shall be disinfected tertiary recycled water as defined in title 22, CCR.
4. Disinfected tertiary recycled water shall be an oxidized wastewater and a wastewater that has been filtered by the method described in either a. or b., below.
 - a. The effluent has been coagulated and passed through natural undisturbed soils or the bed of a filter and the turbidity concentration of the effluent does not exceed any of the following:
 - (i) A 24-hour average value of two (2) nephelometric turbidity units (2 NTUs),
 - (ii) Five (5) NTUs more than 5% of the time during a 24-hour period, and
 - (iii) 10 NTUs at any time.
 - b. The effluent has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following:
 - (i) 0.2 NTU more than 5 percent of the time within a 24-hour period, and
 - (ii) 0.5 NTU at any time.

5. Disinfected tertiary recycled water shall be a filtered and subsequently disinfected wastewater that has been:
 - a. Disinfected by either:
 - (i) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time¹ of at least 90 minutes, based on peak dry weather design flow; or
 - (ii) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as poliovirus may be used for purposes of the demonstration; and
 - b. The median concentration of total coliform bacteria measured in the filtered and disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

D. General Requirements and Prohibitions

1. There shall be no discharge, bypass, or diversion of raw or partially treated sewage, sewage sludge, grease, or oils from the collection, transport, treatment, or disposal facilities to adjacent land areas or surface waters.
2. Surface flow, or visible discharge of sewage or sewage effluent, from the authorized disposal/water recycling sites to adjacent land areas or surface waters is prohibited.

1. The "modal contact time" means 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. (22CCR§60301.600)

3. All facilities used for collection, transport, treatment, or disposal of waste regulated by these Waste Discharge Requirements shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.
4. The discharge shall not cause a pollution, as defined in CWC section 13050, subdivision (l), or a threatened pollution.
5. Neither the treatment nor the discharge shall cause a nuisance, as defined in CWC section 13050, subdivision (m).
6. The discharge of wastewater except to the authorized disposal/water recycling sites is prohibited.
7. The disposal of waste residue, including sludge, shall be in a manner in compliance with all local, state, and federal requirements.
8. Recycled water used for dust control or soil compaction shall be applied at a rate and amount that does not cause ponding or runoff.
9. Animal Feed Operations or Confined Animal Feed Operations as defined in 40 CFR part 122.23 are prohibited within Eastern Agricultural Site No. 1.
10. Loss of the 0.08-acre wetland, which will occur as result of fill and grading at Eastern Agricultural Site No. 1, shall be mitigated by creation of a wetland of equal or higher value at an area ratio for wetland loss to wetland created of 1:1.5. A total of 0.12 acres shall be acquired through the Santa Monica Mountains Conservancy in the Antelope Valley or an alternative location acceptable to the Lahontan Water Board Executive Officer.
11. The treatment facility and Eastern Agricultural Site No. 1 shall be designed and operated as described in the Findings of this Order and the Discharger's application referenced in Finding No. 1.
12. The treatment Facility shall be maintained at maximum operating efficiency in compliance with Waste Discharge Requirements.
13. The discharge of waste, as defined in the CWC, which causes violation of any narrative WQO contained in the Basin Plan, including the Non-Degradation Objective, is prohibited.

14. The discharge of waste, which causes violation of any numeric WQO contained in the Basin Plan, is prohibited.
15. The amount of water applied to irrigate crops shall be less than the amount that would result in percolation of recycled water below the crop root zone.

II. PROVISIONS

A. Cease and Desist Orders

Cease and Desist Order No. R6V-2004-0038 shall remain in effect.

B. Engineering Reports

1. Recycled water generated by the Auxiliary Sodium Hypochlorite Disinfection System (described in Finding No. 7.b) shall not be supplied to the Eastern Agricultural Site No. 1 for use until the Lahontan Water Board Executive Officer has:
 - a. Received the recommendations of the State Department of Health Services on the Engineering Report for the MBR plant and the Auxiliary Disinfection System, and
 - a. Submitted to the Discharger in writing its acceptance of the Engineering Report.
2. Recycled water generated by the Ultraviolet Disinfection System (described in Finding No. 7.d) shall not be supplied to the Eastern Agricultural Site No. 1 for use until the Lahontan Water Board Executive Officer has:
 - a. Received the recommendations of the State Department of Health Services on the Engineering Report for the MBR plant and the Ultraviolet Disinfection System, and
 - b. Submitted to the Discharger in writing its acceptance of the Engineering Report. (The final version of the Engineering Report for the MBR plant with ultraviolet disinfection must demonstrate there will be compliance with Discharge Specification No. I.C.5.a. of this Order.)

C. Eastern Agricultural Site No. 1

1. Monitoring

At a minimum, the Discharger shall establish twelve (12) soil-sampling

stations at Eastern Agricultural Site No. 1. These soil-sampling stations are for: (a) documenting initial laboratory soil moisture concentrations before irrigation of fodder crops with recycled water and (b) determining compliance with this Order, which requires that the amount of recycled water applied to irrigate crops be less than the amount that would result in percolation of recycled water below the crop root zone. Laboratory soil moisture results are a means of determining compliance with this requirement until the Discharger installs the vadose zone monitoring stations required below. The monitoring stations shall be designed, located and monitored as described in the attached Monitoring and Reporting Program.

At a minimum, the Discharger shall install by **May 18, 2007** twelve (12) vadose zone monitoring stations at the Eastern Agricultural Site No. 1, within fields (e.g., center-pivot irrigation area) where crops will be grown and irrigated with recycled water. A minimum of one monitoring station shall be installed in each of the three existing center-pivot fields described in Finding No. 6.f. During periods when the Discharger is applying recycled water to irrigate crops, the stations shall be monitored to provide adequate advance warning of excessive application of water so the amount of water applied can be reduced in time to prevent violation of the Discharge Specification No. I.D.15., which restricts the amount of water applied to irrigate crops to an amount that would not result in percolation of recycled water below the crop root zone. The monitoring stations shall be designed, located and monitored as described in the attached Monitoring and Reporting Program.

At a minimum, the Discharger shall install by **May 18, 2007** three additional groundwater-monitoring wells at Eastern Agricultural Site No. 1 as described in the Discharger's August 17, 2005 groundwater monitoring plan. The monitoring wells are for monitoring trends and compliance with receiving water limits contained in the attached Order."

2. Abandoned Wells

Before using recycled water in areas of Eastern Agricultural Site No. 1 other than the 480-acre area described in Finding No. 6.f., the Discharger shall complete an investigation to determine the locations of all abandoned wells, properly destroy the abandoned wells in accordance with State and local regulations and submit a report to the Lahontan Water Board on the investigation and destruction of abandoned wells.

3. Site Run On and/or Runoff

The Discharger shall submit to the Lahontan Water Board a Drainage Control Report demonstrating that drainage controls to prevent site run on and/or runoff have been completed as proposed in design plans, before beginning crop irrigation in the 480-acre area of Eastern Agricultural Site No. 1 described in Finding No. 6.f. The Discharger shall also submit an additional Drainage Control Report, before beginning crop irrigation in areas of Eastern Agricultural Site No. 1 other than the 480-acre area. Each Drainage Control Report shall include as-built drawings including certification (by either a California licensed Civil Engineer, or a Certified Engineering Geologist) that the drainage controls were constructed in accordance with the Final Design Plans.

4. Wetland Mitigation

By **January 12, 2007**, the Discharger shall submit to the Lahontan Water Board a report demonstrating compliance with Discharge Specification No. I.D.10, which requires the Discharger mitigate the loss of the 0.08-acre wetland as proposed by the Discharger as described in Finding No. 6.f. The report shall include documents that demonstrate the mitigation project described in Finding No. 6.f. has been completed and 0.12 acres of new wetlands have been created.

If the Discharger decides to implement a mitigation project different from the proposed project, the Discharger shall submit a report of waste discharge to the Water Board for the proposed project. Under this option, the Discharger shall submit to the Lahontan Water Board a report demonstrating compliance with Discharge Specification No. I.D.10 by **January 12, 2009**.

D. Operator Certificates

The Facility shall be supervised by persons possessing a wastewater treatment plant operator certificate of appropriate grade pursuant to CCR, title 23, section 3670 et seq.

E. Standard Provisions

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

F. Monitoring and Reporting

1. Pursuant to the CWC, section 13267, the Discharger shall comply with the Monitoring and Reporting Program No. R6V-2006-0035 as specified by the Executive Officer. Reports requested under the Monitoring and Reporting Program are being required to monitor the effects on water quality from known or suspected discharges of waste to waters of the State as a result of releases of treated wastewater or recycled water regulated by this Order.
2. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made a part of the Monitoring and Reporting Program.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on September 14, 2006.

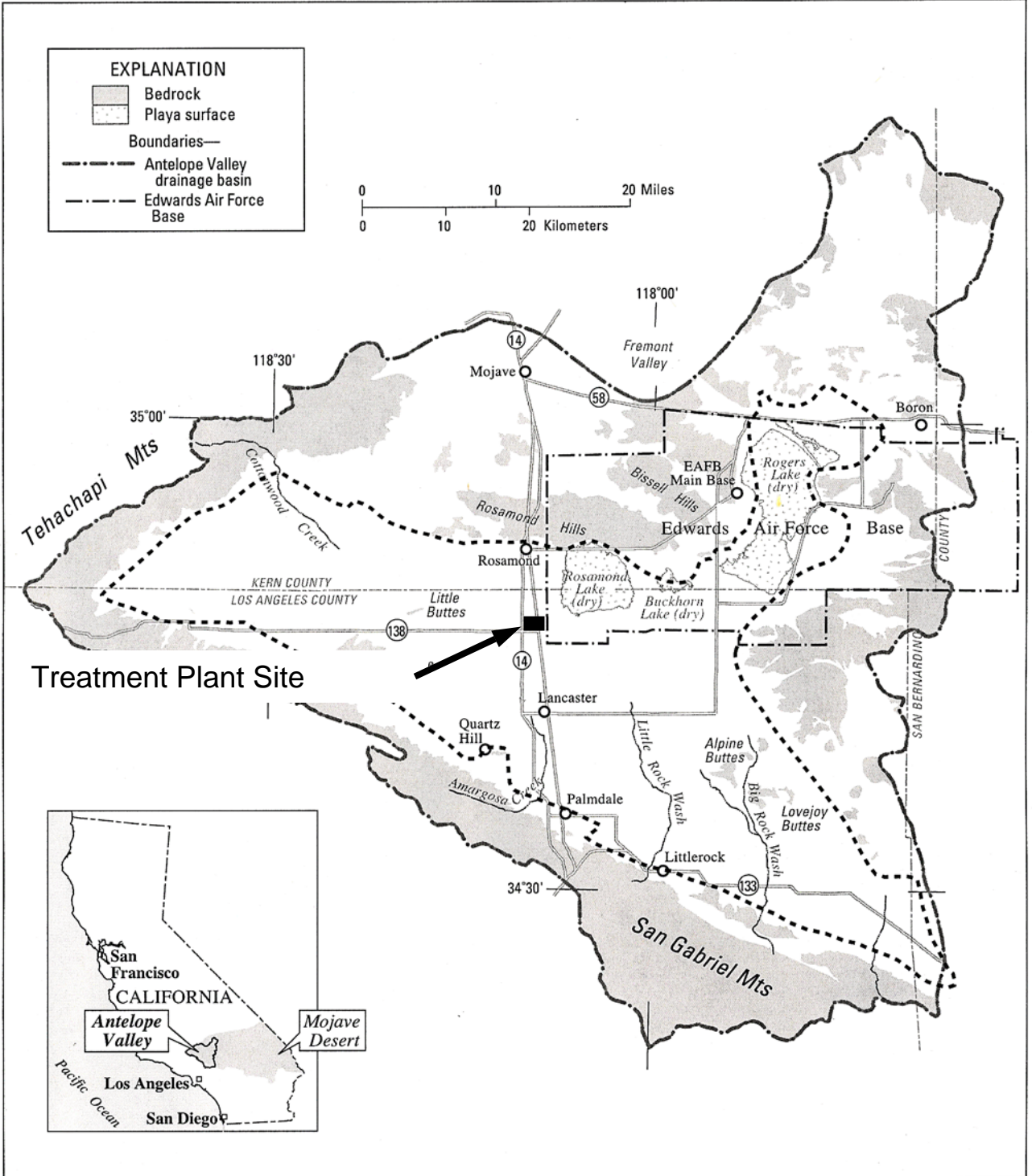
"Original Signed By"

HAROLD J. SINGER
EXECUTIVE OFFICER

- Attachments:
- A. General Location Map
 - B. General Facilities Locations
 - C. Map of Eastern Agricultural Site No. 1
 - D. References
 - E. Standard Provisions for Waste Discharge Requirements

ATTACHMENT A

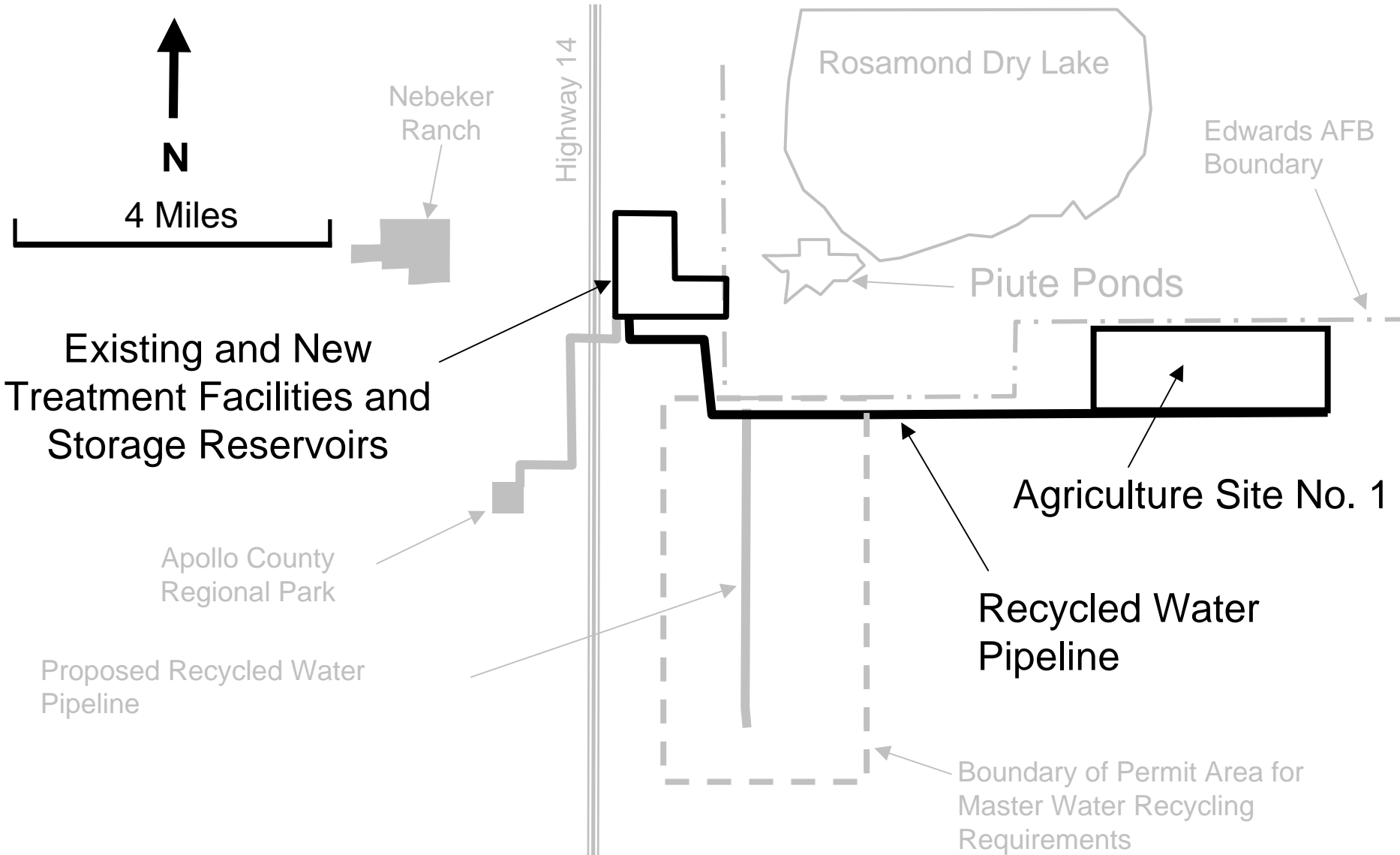
General Location Map



Modified from Figure 1, *Simulation of Groundwater Flow and Land Subsidence, Antelope Valley Ground-Water Basin*, USGS, 2003

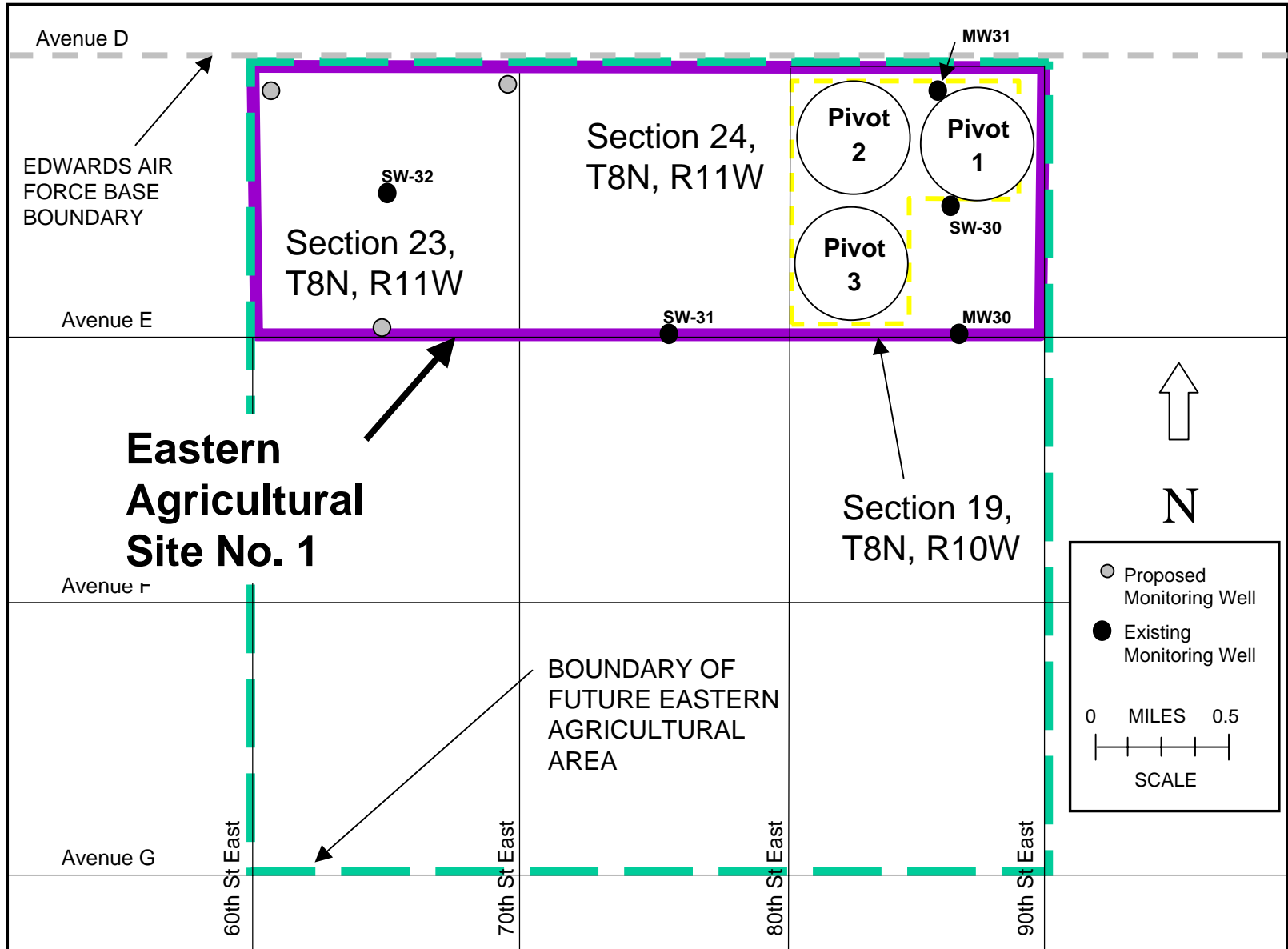
Attachment B

General Facilities Locations



Attachment C

Eastern Agricultural Site No. 1



Attachment D References

Los Angeles County Sanitation District No. 14 Agriculture Site No. 1 and Membrane Bioreactor Tertiary Treatment Plant

Note: The references that constitute the submittals for completing the Discharger's application are in **bold** text.

1. Asano, T., et al. 1984. Irrigation With Reclaimed Municipal Wastewater - A Guidance Manual Report No. 84-1 wr. Calif. State Water Resources Control Board, Sacramento, CA. (*Asano, 1984*)
2. California Department of Health Services, 2005, Letter containing recommendations and comments on the January 15, 2005 engineering report prepared by Los Angeles County Sanitation District No. 14, June 2. (*CDHS, 2005, Jun. 2*)
3. California Department of Health Services, 2004, Hexavalent chromium monitoring results on the CDHS website, <http://www.dhs.ca.gov/ps/ddwem/chemicals/Chromium6/Cr+6index.htm>, Dec 15. (*CDHS, 2004, Dec 15*)
4. California Department of Water Resources, 1975, Bulletin 118 California's Groundwater, September (*DWR, 1975*).
5. California Fertilizer Association (CFA), 1985, Western Fertilizer Handbook, Seventh Edition (*CFA, 1985*)
6. Fetter, C.W., Applied Hydrogeology, Third Edition, 1994 (*Fetter, 1984*)
7. Hermanson, et al, 2000, Nitrogen Use by Crops and the Fate of Nitrogen in the Soil and Vadoze Zone, A Literature Search. Washington State Department of Ecology (*Hermanson, 2000*)
8. Kennedy/Jenks Consultants (KJC), 1995, Antelope Valley Water Resource Study, March (*KJC, 1995*)
9. Los Angeles County Sanitation District No. 14, 2006, E-mail from District staff to Lahontan Water Board staff transmitting table summarizing data for groundwater monitoring wells located at Eastern Agriculture Site No. 1, August 15. (*LACSD14, 2006, Aug 15*).
10. **Los Angeles County Sanitation District No. 14, 2006, Amended Report of Waste Discharge and Engineering Report for Membrane Bioreactor with Ultraviolet Disinfection Pilot Plant, April 10, 2006. (LACSD14, 2006, Apr 10)**
11. Los Angeles County Sanitation District No. 14, 2006, 2005 Annual Self-Monitoring Report, Mar. 29. (*LACSD14, 2006, Mar 29*).

12. **Los Angeles County Sanitation District No. 14, 2006, Amended Report of Waste Discharge And Engineering Report For Membrane Bioreactor (MBR) with Chlorination Pilot Plant, Mar. 24. (LACSD14, 2005, Mar 24)**
13. **Los Angeles County Sanitation District No. 14, 2006, E-mail from District to Regional Board's Office including recent influent flow data, March 1. (LACSD14, 2006, Feb.)**
14. **Los Angeles County Sanitation District No. 14, 2005, Lancaster Wastewater Reclamation Plant Effluent Reuse Expansion – Phase IV Engineering Report, December 27. (LACSD14, 2005, Dec. 27)**
15. Los Angeles County Sanitation District No. 14, 2005, *Submission of Groundwater Monitoring Reports for Lancaster Reclamation Plant Eastern Agricultural Area*, November 3. (LACSD14, 2005, Nov. 3)
16. Los Angeles County Sanitation District No. 14, 2005, *Farm Management Plan – Phase 1a*, October 24. (LACSD14, 2005, Oct. 24)
17. **Los Angeles County Sanitation District No. 14, 2005, Report of Waste Discharge And Engineering Report For Effluent Reuse Expansion – Phase III, Oct. 24. (LACSD14, 2005, Oct.)**
18. Los Angeles County Sanitation District No. 14, 2005, *Groundwater Monitoring Plan, Eastern Agricultural Area, Agricultural Reuse Site No. 1*, Prepared By Geometrix Consultants, August 16, 2005. (LACSD14, 2005, Aug. 16)
19. Los Angeles County Sanitation District No. 14, 2005, *Well Detection Survey Report for Agricultural Site No. 1*, Prepared By GeoSyntec Consultants, August 10, 2005. (LACSD14, 2005, Aug. 10)
20. Los Angeles County Sanitation District No. 14, 2005, Letter from the District to the State Department of Health Services, August 8. (LACSD14, 2005, Aug. 8)
21. **Los Angeles County Sanitation District No. 14, 2005, District's cover letter to Regional Board office describing the proposed 1.0 mgd pilot tertiary treatment plant and transmitting a Form 200 and engineering report titled Lancaster Water Reclamation Plant, Membrane Bio-Reactor and Ultraviolet Disinfection Pilot Plant and Agriculture Reuse Project, July 22. (LACSD14, 2005, July 22)**
22. Los Angeles County Sanitation District No. 14, 2005, *Delineation Of Jurisdiction Waters For The Lancaster Water Reclamation Plant 2020 Facilities Plan: Storage Reservoir, Pipeline, & Eastern Agricultural Project Sites, Los Angeles County, California*, July 10. (LACSD14, 2005, July 10)
23. Los Angeles County Sanitation District No. 14, 2005, *Initial Groundwater Sampling and Analyses Report for Agricultural Site No. 1*, Prepared By GeoSyntec Consultants, June 21. (LACSD14, 2005, June 21)

24. Los Angeles County Sanitation District No. 14, 2005, *2004 Annual Self-Monitoring Report*, Mar. 28. (LACSD14, 2005, Mar).
25. **Los Angeles County Sanitation District No. 14, 2005, *Report of Waste Discharge*, Feb. 1. (LACSD14, 2005, Feb.)**
26. **Los Angeles County Sanitation District No. 14, 2005, *Lancaster Water Reclamation Plant Effluent Reuse Expansion - Phase I, Engineering Report*, January 15.**
27. Los Angeles County Sanitation District No. 14, 2004, *Lancaster Water Reclamation Plant 2020 Facilities Plan Final Environmental Impact Report*, May. (LACSD14, 2004, May)
28. Los Angeles County Sanitation District No. 14, 2004, *Lancaster Water Reclamation Plant 2020 Facilities Plan (Final)*, May (LACSD14, 2004, May).
29. Los Angeles County Sanitation District No. 14, 2003, *Identification Of Abandoned Wells – Lancaster Reclamation Plant*, Oct. (LACSD14, 2003, Oct.)
30. McKee and Wolf, *Water Quality Criteria, Second Edition*, 1963 (McKee, 1963)
31. *Metcalf and Eddy*, 2003, *Wastewater Engineering Treatment and Reuse*, Fourth Edition, (M&E, 2003)
32. U.S. Department of Agriculture (Soil Conservation Service) and University of California (Agriculture Experiment Station), 1970, *Soil Survey Antelope Valley Area, California*, January. (USDA, 1970, Jan)
33. U.S. Environmental Protection Agency, 1989, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance*, April. (USEPA, 1989)
34. U.S. Geological Service, 2006, *Database on U.S. Geological Service website*, Jan. (USGS, 2006, Jan)
35. U.S. Geological Service, 2003, *Simulation of Ground-Water Flow and Land Subsidence, Antelope Valley Groundwater Basin*, Jan. (USGS, 2003)
36. U.S. Geological Service, 1987, *Geohydrology of the Antelope Valley Area California and Design for a Groundwater Quality Monitoring Network* (USGS, 1987)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

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

2. Reporting Requirements

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

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

3. Right to Revise WDRs

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

4. Duty to Comply

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

5. Duty to Mitigate

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

6. Proper Operation and Maintenance

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

7. Waste Discharge Requirement Actions

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

8. Property Rights

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

9. Enforcement

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

10. Availability

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

11. Severability

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

12. Public Access

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

13. Transfers

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

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

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

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

MONITORING AND REPORTING PROGRAM

NO. R6V-2006-0035

WDID NO. 6B190604001

FOR

**LOS ANGELES COUNTY SANITATION DISTRICT NO. 14
EASTERN AGRICULTURAL SITE NO. 1 AND
MEMBRANE BIOREACTOR TERTIARY TREATMENT PLANT**

Los Angeles County _____

I. MONITORING

A. Flow Monitoring

The following data shall 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 the tertiary treatment facility for each day and month.
2. The calculated average flow rates, in million gallons per day (MGD) of wastewater to the tertiary treatment facility calculated for each month.
3. The daily and monthly volumes, and calculated average flow rate, in MGD, of flow to Agricultural Site No. 1, Apollo Park, and Division Street Recycled Water Project, and the source (treatment facility name) of the flow to each of these sites.

B. Facility Effluent Monitoring

Samples of the effluent shall be collected downstream of all treatment units at the point of release to the earthen channel, which conveys effluent to Piute Ponds. (The length of the earthen channel is approximately 0.5 miles). The samples shall be analyzed to determine the concentration and magnitude of the following analytes and parameters:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Total Coliform Bacteria ⁹	MPN/100 ml	Grab ⁵	Daily
Chlorine Residual (after any dechlorination)	mg/L	Continuous	Continuous
BOD ¹	mg/L	24-hour composite	Weekly
CBOD ²	mg/L	24-hour composite	Weekly
Total Suspended Solids	mg/L	24-hour composite	Weekly
COD ³	mg/L	24-hour composite	Weekly

Dissolved Oxygen	mg/L	Grab ⁵	Weekly
pH	0-14	Grab ⁵	Weekly
Temperature	°C	Grab ⁵	Weekly
Total Dissolved Solids	mg/L	24-hour composite	Monthly
Nitrate Nitrogen	mg/L as N	24-hour composite	Monthly
Kjeldahl Nitrogen	mg/L as N	24-hour composite	Monthly
Ammonia Nitrogen	mg/L as N	24-hour composite	Monthly
Total Organic Carbon (Unfiltered Sample)	mg/L	24-hour composite	Quarterly
Copper	mg/L	24-hour composite	Quarterly
Zinc	mg/L	24-hour composite	Quarterly
Selenium	mg/L	24-hour composite	Quarterly
Chlorides	mg/L	24-hour composite	Quarterly
Sodium	mg/L	24-hour composite	Quarterly
Sulfate	mg/L	24-hour composite	Quarterly
Total Petroleum Hydrocarbons ^{6,8}	µg/L	Grab ⁵	Quarterly
Total trihalomethanes	µg/L	Grab ⁵	Quarterly
NDMA ⁸	µg/L	Grab	Quarterly
Oil and Grease	mg/L	Grab ⁵	Quarterly
Total Hardness as CaCO ₃	mg/L	24-hour composite	Quarterly
MBAS ⁴	mg/L	24-hour composite	Quarterly
Total Cyanides	µg/L	24-hour composite	Annually
Total Phenols	µg/L	24-hour composite	Annually
Purgeable Organics ^{7,8} Base/Neutral Extractable Organics ^{7,8}	µg/L	Grab ⁵	Annually
Acid Extractable Organics ^{7,8}	µg/L	24-hour composite	Annually
Heavy Metals ^{7,8}	mg/L	24-hour composite	Annually
Total Chromium ¹⁰	mg/L	24-hour composite	Annually
Hexavalent Chromium ¹⁰	mg/L	Grab ⁵	Annually
Methyl tertiary-Butyl Ether	µg/L	Grab ⁵	Annually

Samples of oxidation pond effluent shall be collected prior to the treatment unit for pH adjustment. The samples shall be analyzed to determine the concentration and magnitude of the following analytes and parameters:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
pH	0-14	Grab ⁵	Weekly

C. Facility Effluent Monitoring – Disinfected Tertiary Recycled Water

Samples of the treated effluent from the MBR tertiary treatment plants shall be collected and analyzed to determine the magnitude of the following parameters:

<u>Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Minimum Frequency</u>
Flow	MGD	Flow Meter And Recorder	Continuous
Turbidity ¹¹	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 ¹²	minutes	Calculated	Daily
CT value ¹³	mg-minutes/L	Calculated	Daily
PH	pH units	Grab Sample	Daily
Total coliform bacteria	MPN/100ml	Grab Sample	Daily
Total Organic Carbon (TOC)	mg/L	24-hr composite sample	Quarterly
BOD ₅ 20°C ¹	mg/L	24-hr composite sample	Monthly
CBOD ²	mg/L	24-hr composite sample	Monthly
COD ³	mg/L	24-hr composite sample	Monthly
Total dissolved solids	mg/L	24-hr composite sample	Monthly
Nitrate nitrogen	mg/L as N	24-hr composite sample	Monthly
Nitrite nitrogen	mg/L as N	24-hr composite sample	Monthly
Ammonia nitrogen	mg/L as N	24-hr composite sample	Monthly
Kjeldahl nitrogen	mg/L as N	24-hr composite sample	Monthly
Total petroleum hydrocarbons ^{6,8}	mg/L	Grab	Quarterly
Oil and grease	mg/L	Grab	Quarterly
Methylene blue active substances	mg/L	Grab	Quarterly
Total trihalomethanes (TTHM)	mg/L	Grab	Quarterly (When the effluent is chlorinated)
Haloacetic acids (five)	mg/L	Grab	Quarterly (When the

<u>Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Minimum Frequency</u>
(HAA5)			effluent is chlorinated)
NDMA ⁸	mg/L	Grab	Quarterly (When the effluent is chlorinated)
Total cyanides	mg/L	24-hr composite sample	Annually
Total phenols	mg/L	24-hr composite sample	Annually
Total chromium ¹⁰	mg/L	24-hr composite sample	Annually
Hexavalent chromium ¹⁰	mg/L	Grab	Annually
Heavy metals ^{7,8}	mg/L	24-hr composite sample	Annually
Purgeable organics ^{7,8}	mg/L	Grab	Annually
Base/neutral extractable organics ^{7,8}	mg/L	24-hr composite sample	Annually
Acid extractable organics ^{7,8}	mg/L	24-hr composite sample	Annually

D. Vadose Zone Monitoring - Eastern Agricultural Site No. 1

1. Soil Sampling

The Discharger shall complete a minimum of two sampling rounds for the twelve (12) soil-sampling stations required by the attached Order. The first sampling round shall be for documenting existing vadose zone moisture concentrations in the field before recycled water is used to irrigate crops in that field. The second round shall be conducted to document laboratory soil moisture content at (or adjacent to) each point where the Discharger plans to install a proposed soil moisture sensor as required below. There shall be a minimum of one soil sample collected for each soil moisture sensor just prior to installation of the sensor. During each sampling round, soil samples shall be collected at depths of 2, 3, 5, 10 and 14 feet below ground surface at each of the 12 stations. The samples shall be analyzed in laboratory for soil moisture content, organic matter, pH, electrical conductivity by saturation paste extract, nitrate-nitrogen, ammonia nitrogen, Kjeldahl nitrogen, chloride, and texture (sand, silt and clay).

2. Vadose Zone Monitoring Stations

The Vadose Zone Monitoring Stations required in the attached Order shall be installed a distance of no less than 200 feet from the outer boundary of the field (e.g., center-pivot irrigation area). Stations shall be positioned within the Site to monitor vadose-zone moisture for all representative soil types and crop types located in the fields. No more than three stations shall be installed per each 160-acre area. Each station shall include:

- a. Soil moisture sensors placed at depths of 2, 3, 5, 10 and 14 feet below ground surface to monitor the vertical movement of vadose zone moisture.
- b. Lysimeters placed at depths of 5 and 15 feet below ground surface for collecting samples of vadose zone moisture.

3. Monitoring of Moisture Sensors

- a. Soil moisture sensor readings shall be recorded at each station. Immediately following installation of each soil moisture sensor (Following the first round of moisture readings, the Discharger shall determine the correlation between soil moisture sensor readings and laboratory soil moisture content. The Discharger shall prepare and submit a table or graph showing the mathematical relationship between sensor readings and laboratory results.
- b. During periods when the Discharger is applying recycled water to irrigate crops (The frequency of monitoring events shall be sufficient to provide adequate advance warning of excessive application of water so the amount of water applied can be reduced in time to prevent violation of the discharge specifications in the attached Order, including the discharge specification that restricts the amount of water applied to irrigate crops to an amount that would not result in percolation of recycled water below the crop root zone.)

4. Monitoring of Lysimeters

Once lysimeters are installed, the Discharger shall collect grab samples from lysimeters in accordance with the sampling frequencies described below. The samples shall be analyzed for the following parameters:

<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
Total trihalomethanes	µg/L	Annually
Haloacetic acids	µg/L	Annually
NDMA ⁸	µg/L	Annually

5. Crop Water Balance

At least once per month, the Discharger shall:

- 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.

E. Groundwater Monitoring - Eastern Agricultural Site No. 1

At a minimum, the Discharger shall install three additional groundwater-monitoring wells at Eastern Agricultural Site No. 1 as described in the Discharger's August 17, 2005 groundwater monitoring plan. The monitoring wells are for monitoring trends and compliance with receiving water limits contained in the attached Order.

Grab⁵ samples of ground water shall be collected from existing and proposed monitoring wells in accordance with the sampling frequencies described in the attached Table No. 1. The samples shall be analyzed to determine the concentration of analytes described in Tables No. 1, which include: nitrogen compounds, minerals, total organic carbon, methylene blue active substances, total trihalomethanes, NDMA,⁸ total petroleum hydrocarbons,^{6,8} total chromium,¹⁰ hexavalent chromium,¹⁰ total cyanides, total phenol, purgeable organics,^{7,8} base/neutral extractable organics,^{7,8} acid extractable organics,^{7,8} heavy metals,^{7,8} methyl tertiary-butyl ether.

Field parameters shall 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 shall be reported in a separate table.

Annually, the District shall calculate and record the ground water gradient, the direction of the gradient, and velocity of ground water flow at the authorized disposal/water recycling site.

F. Data Presentation for Compliance Determinations

Annual monitoring reports shall contain:

1. A plot of the ground water elevations above mean sea level and elevation isopleths on an 11" x 17" copy of a site plan, which shows the locations of the authorized disposal/water recycling sites and monitoring points.

2. Graphs showing long-term trends of the following in groundwater monitoring wells: depth to groundwater and groundwater elevation.
3. Graphs (concentration versus time) showing term trends in concentrations of the following constituents in lysimeters and groundwater monitoring wells: TDS, Nitrate, Chloride.
4. Graphs (concentration versus time) showing long-term trends in concentrations of the following constituents in the effluent to Agricultural Site No. 1: BOD, CBOD, COD, TSS, Nitrate, Kjeldahl Nitrogen, and Ammonia.

G. Annual Cropping Plan

1. An Annual Cropping Plan shall be submitted on November 15 of each year containing, but not limited to, the following items
 - a. Information on the cropping results for the third and fourth quarters of the previous calendar year (and the first and second quarters of the current calendar year). The information shall include:
 - i. Crop acreage, crop names and types, approximate planting and harvest dates and irrigation methods;
 - ii. Sufficient information demonstrating the Discharger is using deficit irrigation (Application of recycled water limited to an amount that does not cause significant migration of recycled water and salts below the root zone.) The information shall include amounts for irrigation, rainfall, evapotranspiration loss and all other information needed to demonstrate whether the Discharger used deficit irrigation; and
 - iii. Description of the fate of nitrogen that was applied and available in the root zone and not accounted for in the crops harvested.
 - b. A description of the proposed cropping plan for the upcoming calendar year including the following information:
 - i. Crop acreage, crop names and types, approximate planting and harvest dates and irrigation methods;
 - ii. Sufficient information demonstrating the Discharger will use deficit irrigation, including the information described in No. I.G.1.a.ii, above; and

- iii. Description of the fate of nitrogen that will be applied and that is already available in the root zone.

H. Farm Chemical Use Monitoring

The Discharger shall 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 shall be submitted to the Regional Board on a quarterly basis.

I. Operation and Maintenance

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

This summary shall discuss:

1. Any major modifications or additions to the wastewater conveyance system, treatment Facilities, or disposal/water recycling facilities.
2. Any major maintenance conducted on the wastewater conveyance system, treatment Facilities, or disposal/water recycling facilities.
3. Any major problems occurring in the wastewater conveyance system, treatment Facilities, or disposal/water recycling facilities.
4. The calibration of any wastewater flow measuring devices.

J. Monitoring of Mitigation Measures

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

1. Impact: Downward migration of treated wastewater applied at Eastern Agricultural Site No. 1 would degrade the quality of groundwater.
 - a. This Monitoring and Reporting Program (Monitoring Requirement No. I.A.3) requires that the Discharger record and report the source (treatment facility name) of the flow to Agricultural Site No. 1. The attached Order permits use of tertiary effluent at Agricultural Site No. 1.

- b. Status of compliance with Provision No. II.C.1 of the attached Order. Provision No. II.C.1 requires that the Discharger install an adequate monitoring networks for the vadose zone and groundwater.
 - c. This Monitoring and Reporting Program (Monitoring Requirements No. I.D and I.E.) requires that the Discharger record and report results of monitoring of the vadose zone and groundwater monitoring networks. This data will be used to: (i) demonstrate deficit irrigation is being practiced and recycled water is not percolating past the plant root zone, and (ii) determine 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 No. 1 run on and/or runoff would result in degradation of the quality of surface water.
 - a. Status of compliance with Provision No. II.C.3 of the attached Order. Provision No. II.C.3 requires that the Discharger construct drainage controls to prevent run on and runoff at Agricultural Site No. 1 for protection of surface-water quality.
 3. Impact: Flow of treated wastewater down abandoned wells located at Eastern Agricultural Site No. 1 would degrade the quality of groundwater.
 - a. Status of compliance with Provision No. II.C.2 of the attached Order. Provision No. II.C.2 requires the Discharger identify and properly destroy abandoned groundwater wells.

II. REPORTING

A. General Provisions and Reports

1. The Discharger shall 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. Pursuant to General Provision 1.d of the GPMR, the Discharger shall submit a Sampling and Analysis Plan (SAP) to the Water Board within two months of Water Board staff's acceptance of the groundwater and vadose zone monitoring workplans requested in the Provisions of the attached Order. The SAP shall cover sampling and analysis wastewater, the vadose zone and groundwater. In the SAP, the

Discharger may recommend analytical methods other than the methods specified in this Monitoring and Reporting Program.

B. Submittal Periods

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

1. Beginning on **October 1, 2006**, monthly monitoring reports shall be submitted to the Regional Board by the 1st working day of the second month following each monthly monitoring period. Data that is required on a frequency longer than one month will be incorporated into the monthly report for the month the analyses are required. For example, analyses that are to be performed on a semi-annual frequency will be included in the monthly report for June and December. The following reports shall be provided on a monthly frequency:
 - a. Flow Monitoring
 - b. Facility Effluent Monitoring Report
 - c. Operation and Maintenance Report
2. Beginning **November 1, 2006**, quarterly monitoring reports shall be submitted to the Regional Board by the 1st working day of the second month following each quarterly monitoring period. The quarterly monitoring period shall end on March 31st, June 30th, September 30th, and December 31st of each calendar year. 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 shall be provided on a quarterly frequency:
 - a. Ground Water Monitoring Report
 - b. Vadose Zone Monitoring Report
 - c. Chemical Use Monitoring Report
3. An annual monitoring report for the period from January to December shall be submitted by April 1st of each year. The report must contain:
 - a. A summary and evaluation of the monthly and quarterly information in Reporting Requirement II.B.1 and II.B.2, which also includes compliance status;
 - b. The names and grades of all the certified operators; and

c. Chemical Use Monitoring reporting information discussed in section I.H.

Ordered by: "Original Signed By" _____
HAROLD J. SINGER
EXECUTIVE OFFICER

Dated: September 14, 2006

Attachments: A. Table No. 1
 B. General Provisions for Monitoring and Reporting

-
- 1 Biochemical Oxygen Demand (5 day, 20°C of a filtered sample).
 - 2 Carbonaceous Biochemical Oxygen Demand (5 day, 20°C of a filtered sample).
 - 3 Chemical Oxygen Demand of a filtered sample.
 - 4 Methylene Blue Active Substances.
 - 5 Grab samples as defined for respective parameters in current Sampling and Analysis Plan.
 - 6 Use USEPA Test Method SW 8015 with method calibration based on an appropriate fuel standard.
 - 7 Analysis shall be conducted for those substances known to the Discharger to be discharged to the sewer system.
 - 8 Sample results greater than or equal to the reported Minimum Level (ML) shall 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), 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. Analysis for the purgeable organics, O-xylene and m+p-xylene, is acceptable for meeting the requirement to analyze for xylene. Monitoring for dioxins and polychlorinated biphenyls (PCBs) is not required. N-Nitrosodimethylamine (NDMA) shall be analyzed using a laboratory method with a Minimum Level of 0.002 µg/L.
 - 9 Total coliform bacteria samples may be collected at the most appropriate point in the treatment process.
 - 10 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.
 - 11 For each 24-hour period, record and report the following:
 - a. 0.5 mgd tertiary treatment plant: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.
 - b. 1.0 pilot tertiary treatment plant: amount of time (minutes) the turbidity exceeded 0.2 NTUs (if any) and the maximum turbidity.
 - 12 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 recycled water. 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 shall be derived from a predetermined plot correlating modal contact times to varying flow conditions. (22CCR§60301.600)
 - 13 When chlorine is used as the disinfectant in production of disinfected tertiary recycled water, 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.

Table No. 1

**Eastern Agricultural Site - Sampling Frequency for Existing
Monitoring Wells (MW30, MW31, SW30, SW31 and SW32) and
Three Proposed Wells**

Parameter	Sampling Frequency
Kjeldahl Nitrogen	Q
Nitrate	Q
Nitrite	Q
Ammonia	Q
Chloride	Q
Sodium	Q
Sulfate	Q
Total Hardness	Q
Alkalinity	Q
Total Organic Carbon	Q
Total Dissolved Solids	Q
MBAS	Y
Total Trihalomethanes	Y
NDMA	Y
Total Petroleum Hydrocarbons	Y
Total chromium	Y
Hexavalent chromium	Y
Total Cyanides	Y
Total Phenols	Y
Purgeable Organics	Y
Base/Neutral Extractible Organics	Y
Acid Extractible Organics	Y
Heavy Metals	Y
Methyl Tertiary Butyl Ether	Y

Y = Annually, S = Semiannually and Q = Quarterly

ATTACHMENT B

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