

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

**MEETING OF DECEMBER 9 AND 10, 2009  
Hesperia**

**ITEM: 8**

**SUBJECT: MASTER WATER RECYCLING REQUIREMENTS AND WASTE DISCHARGE REQUIREMENTS, COUNTY SANITATION DISTRICT NO. 14 OF LOS ANGELES COUNTY (LANCASTER), DISINFECTED TERTIARY RECYCLED WATER, LOS ANGELES COUNTY**

<b>CHRONOLOGY:</b>	<b><u>Date</u></b>	<b><u>Event</u></b>
	March 8, 2006	Board Order No. R6V-2002-0009 adopted for the County Sanitation District No. 14 of Los Angeles County (District) establishing master recycling requirements for the Division Street Corridor Recycled Water Project.
	March 14, 2007	Board Order No. R6V-2002-0053A2 adopted for the District's Stage V disinfected tertiary treatment plant, expanding its treatment capacity up to 21 million gallons per day.
	January 7, 2009	The District submitted a complete Report of Waste Discharge requesting expanded Master Water Recycling Requirements for producing and distributing disinfected, tertiary recycled water.
	June 10, 2009	Board Order No. R6V-2009-0034 adopted for the District allowing expanded use of recycled water throughout a larger area of the Antelope Valley
	August 31, 2009	Distributed tentative Master Water Recycling Requirements for public and agency review and comment. The tentative requirements added recycled water uses that result in full consumption, uses at facilities that result in a discharge regulated by either the Water Board or the California Energy Commission, and uses resulting in a discharge to a sanitary sewer system.

**08-0001**

**ISSUE:** Should the Water Board adopt a Master Water Recycling Permit expanding the authorized recycled water uses to include those that (1) result in full consumption (no discharge), (2) result in a discharge that is regulated by the Water Board or California Energy Commission, and (3) result in a discharge to a sanitary sewer system.

**DISCUSSION:** The District collects, treats and disposes of domestic wastewater generated in the Lancaster area at its Lancaster Water Reclamation Plant, which is located in northern Los Angeles County. The disposal and use of the District's treated wastewater and recycled water, respectively, are regulated by a number of Water Board permits.

On June 10, 2009, the Water Board adopted Master Water Recycling Requirements (Board Order No. R6V-2009-0034). Doing so significantly expanded the authorized recycled water use area from primarily the City of Lancaster's Division Street Corridor Recycled Water Project area to the Los Angeles County portion of the Antelope Valley. Board Order No. R6V-2009-0034 also expanded the authorized recycled water uses to include those that had received project-level CEQA review in the *Final Program Environmental Impact Report for the North Los Angeles/Kern County Regional Recycled Water Project* prepared by the Los Angeles County Waterworks District 40, Antelope Valley. These uses generally include non-agricultural irrigation, municipal, and some industrial uses.

At the June 10, 2009 Water Board meeting, the Executive Officer explained that the District had requested revisions to the proposed permit that would have further expanded the authorized recycled water uses. The Executive Officer also explained there was insufficient time to allow public review of the District's proposed revisions. As a result of this situation, the Executive Officer made a commitment to the District that he would bring the Master Water Recycling Permit with revisions back before the Water Board before the end of the 2009 calendar year.

Enclosed is a proposed Master Water Recycling Permit that includes the additional recycled water uses the District had identified leading up to the June 10, 2009 Board meeting, but were not included in Board Order No. R6V-2009-0034 for the reasons stated above. The additional uses for recycled water included in the proposed Board Order include the following:

- a. recycled water use resulting in full consumption (no discharge of any type);
- b. recycled water use at facilities, such as power plants, that results in a discharge that will be regulated by the Lahontan Water Board or the California Energy Commission; and

- c. recycled water use resulting in a discharge to a sanitary sewer system.

Additionally, the Lahontan Water Board staff proposes to include the continuing use of recycled water at the Apollo Park and the Fox Airfield (currently permitted by Order No. 6-85-35) into this permit in order to further consolidate the permitting of recycled water. All existing and proposed uses satisfy the Water Recycling Criteria specified by the California Code of Regulations, title 22, division 4, chapter 3 (Title 22).

This Order authorizes the District to produce and distribute recycled water to users that operate facilities/systems complying with water recycling requirements contained in State of California laws and regulations. This order also requires the District to regulate the users of the recycled water to ensure compliance with water recycling requirements contained in State of California laws and regulations.

Comments on the tentative order were received from the City of Lancaster (enclosure 2) and from the County Sanitation Districts of Los Angeles County (enclosure 3). A majority of the comments were incorporated into the proposed Order. Lahontan Water Board staff directly responded to comments that were not incorporated into the proposed Order (see enclosures 4 and 5).

**RECOMMEN-  
DATION:**

Adoption of the Master Water Recycling Requirements and Waste Discharge Requirements as Proposed.

**Enclosures:**

1. Proposed Board Order
2. Comment Letter from City of Lancaster, September 29, 2009
3. Comment Letter from the County Sanitation Districts of Los Angeles County, September 29, 2009
4. Lahontan Water Board response to City of Lancaster comments
5. Lahontan Water Board response to County Sanitation Districts of Los Angeles County comments

# ENCLOSURE 1

08-0004

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

BOARD ORDER NO. R6V-2009-(PROPOSED)  
WDID NO. 6B190501001

MASTER WATER RECYCLING REQUIREMENTS AND  
WASTE DISCHARGE REQUIREMENTS  
COUNTY SANITATION DISTRICT NO. 14 OF LOS ANGELES COUNTY  
(LANCASTER)  
DISINFECTED TERTIARY RECYCLED WATER

\_\_\_\_\_  
Los Angeles County \_\_\_\_\_

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

1. Definitions

The following terms, which are used within this Order, are defined by their respective code citations or policy references:

a. **Disinfected Tertiary Recycled Water.** Filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

(1) 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 time of at least 90 minutes, based on peak dry weather design flow; or

(2) 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 polio virus may be used for purposed of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does 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 does 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." [California Code of Regulations, title 22, section 60301.230]

08-0005

- b. **Incidental Runoff:** "...unintended small amounts (volume) of runoff from recycled water use areas, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area." [Paragraph 7(a), Recycled Water Policy, State Water Resources Control Board Resolution No. 2009-0011]
- c. **Master Recycling Permit:** "...a permit issued to a supplier or a distributor, or both, of recycled water, that includes waste discharge requirements prescribed pursuant to Water Code section 13263 and water recycling requirements prescribed pursuant to Water Code section 13523.1." [Water Code section 13050(r)]
- d. **Reclaimed Water.** "...wastewater which as a result of treatment is suitable for uses other than potable use." [California Code of Regulations, title 17, section 7583(i)]
- e. **Recycled Water:** "...water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource." [Water Code section 13050(n)]

2. Recycled Water Report

The County Sanitation District No. 14 of Los Angeles County (District) has filed an application with the Lahontan Water Board under Water Code section 13522.5. Pursuant to Water Code section 13523.1, the District's application requests the Lahontan Water Board to issue Master Water Recycling Requirements to the District for supply of disinfected tertiary recycled water as defined in California Code of Regulations, title 22, section 60301.230. The District submitted information on January 7, 2009, that completed the application.

3. Facilities and Treatment Process

The District collects and treats domestic wastewater generated in the District's service area, which is generally the City of Lancaster, portions of the City of Palmdale, and nearby unincorporated areas of northern Los Angeles County. The recycled water produced by the District is either discharged to surface water or used for various recycled water uses, such as agricultural irrigation or municipal and industrial uses. The District provides secondary wastewater treatment at its Lancaster Water Reclamation Plant. Disinfected tertiary wastewater treatment is provided at two separate facilities to produce disinfected tertiary recycled water. A third treatment facility is scheduled to begin operations and produce disinfected

tertiary recycled water in the fall of 2010. The three tertiary recycled water facilities are identified below:

- a. The Antelope Valley Tertiary Treatment Plant, which has an average 24-hour design capacity of 0.6 million gallons per day (mgd).
- b. The Membrane Bioreactor Plant, which has an average 24-hour design capacity of 1.75 mgd (annual average flow is 1 mgd).
- c. The Activated Sludge/Nitrification-Denitrification Plant (Stage V Tertiary Treatment Plant), planned to be completed by fall of 2010 and to have an initial average 24-hour design capacity of 18 mgd. (The District has plans to expand this plant to 21 mgd).

Total proposed disinfected tertiary recycled water flow is 19.6 mgd (annual average) with a proposed expansion to 22.6 mgd (annual average).

#### 4. Current Board Orders

Board Order No. 6-85-35 and Board Order No. R6V-2002-0053 (as amended) establish waste discharge requirements for the discharge of recycled water pursuant to Water Code section 13523.1, subdivision (b)(1). Brief descriptions of the orders are discussed in items (a) and (c) of this finding.

##### a. Waste Discharge Requirements

Board Order No. R6V-2002-0053, initially adopted on September 11, 2002, and its amendments, Board Order No. R6V-2002-0053A1 (adopted on July 13, 2005) and R6V-2002-0053A2 (adopted on March 14, 2007) include effluent limits and monitoring requirements for the District's existing primary, secondary, and tertiary treatment facilities located at the District's water reclamation plant sites as shown in Attachment B of this Order.

##### b. Waste Discharge and Water Recycling Requirements (Secondary Treatment)

The District's treatment facilities produce un-disinfected and disinfected secondary recycled water that is supplied to Nebeker Ranch and discharged to Piute Ponds, respectively. Requirements for the discharge at Nebeker Ranch are prescribed by the Lahontan Water Board in Board Order No. 6-86-58, which was adopted on May 15, 1986. Requirements for the discharge at Piute Ponds are contained in Board Order No. R6V-2002-053 and its amendments. The discharge of disinfected secondary recycled water is not considered in this master recycling permit.

08-0007

c. Waste Discharge and Water Recycling Requirements (Disinfected Tertiary Treatment)

One of the District's existing tertiary treatment plants, the Antelope Valley Tertiary Treatment Plant, has an average 24-hour treatment capacity of 0.6 mgd. From 1972 to the present, the existing 0.6 mgd disinfected tertiary treatment plant has generated recycled water that is used at Apollo Lakes Regional County Park (Apollo Park) and the General W.J. Fox Airfield (Fox Airfield). Requirements for these uses are prescribed by the Lahontan Water Board in Board Order No. 6-85-35, which was adopted on April 11, 1985. Board Order No. 6-85-35 will be rescinded and replaced by this master recycling permit.

The District's other existing tertiary treatment plant, the Membrane Bioreactor Tertiary Treatment Plant (MBR), has an average 24-hour treatment capacity of 1.75 mgd. The MBR produces recycled water that is used at the Eastern Agricultural Site (requirements for this use are prescribed by the Lahontan Water Board in Board Order No. R6V-2002-0053A2) as well as for other uses at various sites as described in Finding No. 4.d. below.

Board Order No. R6V-2002-0053A2 also includes requirements for the District's Stage V Tertiary Treatment Plant, planned to be completed by fall of 2010 and to have an initial average 24-hour treatment capacity of 18 mgd. The District plans to expand this plant to 21 mgd.

The District also uses the disinfected tertiary recycled water to irrigate a greenbelt at its treatment plant site and for soil compaction and dust control as described, below.

d. Water Recycling Requirements

On March 8, 2006, the Lahontan Water Board adopted Board Order No. R6V-2006-0009 establishing master recycling requirements for the Division Street Corridor Recycled Water Project (Division Street Project). The requirements allow the use of recycled water for landscape irrigation, dust control, and soil compaction within a 12.5 square-mile area in Lancaster. The area is bounded by Avenue J on the south, 10<sup>th</sup> Street West on the west, 15<sup>th</sup> Street East on the east, and Avenue E on the north.

Board Order No. R6V-2006-0009 was rescinded and replaced by Board Order No. R6V-2009-0034 on June 10, 2009. Board Order No. R6V-2009-0034 established master recycling requirements for the use of recycled water for municipal and industrial applications and for non-agricultural irrigation. Board Order No. R6V-2009-0034 allowed for the use of recycled water at sites

located within the portion of the Antelope Valley bounded by the Los Angeles County/Kern County line to the north (north side of Township 8 North, San Bernardino Meridian); the Los Angeles County/San Bernardino County line to the east (east side of Range 8 West, San Bernardino Meridian); south side of Township 5 North, San Bernardino Meridian to the south; and the west side of Range 14 West, San Bernardino Meridian to the west (see Attachment B). Board Order No. R6V-2009-0034 will be rescinded and replaced by this master recycling permit.

5. Reason for Action

The following uses of disinfected tertiary recycled water (hereinafter recycled water) have received project-level coverage pursuant to the California Environmental Quality Act (CEQA). The following uses are currently permitted under Board Order No. R6V-2009-0034.

- Irrigation for parks and playgrounds
- Irrigation for school yards
- Irrigation for residential landscaping (non-individually owned common areas)
- Irrigation for golf courses (both restricted and unrestricted-access)
- Irrigation for cemeteries
- Irrigation for freeways and greenbelt landscaping
- Irrigation for landfills
- Consolidation of backfill (around potable and non-potable pipes)
- Fire fighting (both structural and non-structural)
- Mixing concrete
- Soil compaction
- Decorative fountains
- Flushing sanitary sewers
- Flushing toilets and urinals
- Dust control for construction activities (includes demolition)
- Dust control on roads and streets
- Dust control at landfills
- Commercial laundries
- Priming drain traps
- Cleaning roads (street sweeping), sidewalks, and outdoor work areas

Additional uses of recycled water that are not listed above, but are allowed by Title 22, were assessed at the programmatic-level in the adopted environmental impact report. The District is proposing to expand its current permitted uses for recycled water to include:

- a. recycled water use resulting in full consumption (no discharge of any type);
- b. recycled water use at facilities, such as power plants, that results in a discharge that will be regulated by the Lahontan Water Board or the California Energy Commission pursuant to its authority under the Warren-Alquist Act; and
- c. recycled water use resulting in a discharge to a sanitary sewer system.

Furthermore, Lahontan Water Board staff proposes to include use of recycled water at the Apollo Park and the Fox Airfield (currently permitted by Order No. 6-85-35, discussed in Finding No. 4.c, above) into this permit in order to further consolidate the permitting of recycled water produced by the District's water reclamation facilities.

The total estimated water demand for all proposed recycled water uses at buildout within the Antelope Valley is 21,210 acre-feet per year (19.0 mgd) [Final Program Environmental Impact Report, November, 2008]. The total estimated water demand for the recycled water uses at buildout is less than the 19.6 mgd annual average recycled water flow estimated to be produced. This Order provides master water recycling requirements, including a requirement that the District regulate the distributors and users of the recycled water to ensure compliance with water recycling requirements contained in State of California laws and regulations.

#### 6. Sources of Recycled Water

The District currently produces recycled water at two tertiary treatment facilities. The Membrane Bioreactor Plant has an average 24-hour design capacity flow of 1.75 mgd. The Antelope Valley Tertiary Treatment Plant has an average 24-hour design capacity of 0.6 mgd. Both facilities provide disinfection to the tertiary effluent.

The District is constructing a new tertiary treatment facility, the Stage V tertiary Treatment Plant, which will have an initial average 24-hour design capacity of 18 mgd and a planned expansion to 21 mgd.

The Palmdale Water Reclamation Plant (operated by County Sanitation District No. 20 of Los Angeles County) and the Rosamond Waste Water Treatment Plant (operated by the Rosamond Community Services District) also plan to provide

recycled water as future phases of the North Los Angeles/Kern County Regional Recycled Water Project are completed and come on-line. Water recycling requirements for the County Sanitation District No. 20 of Los Angeles County and the Rosamond Community Services District will be necessary prior to these districts providing recycled water from their respective facilities.

7. Producer, Distributors and Users

Under this Order, the District is the producer of recycled water. Currently, both the City of Lancaster and the Los Angeles County Waterworks District No. 40 are the distributors of the recycled water. As future phases of the North Los Angeles/Kern County Regional Recycled Water Project are completed and come on-line, there may be additional distributors. Distributors may also be users of the recycled water. Other users may include other public agencies and private parties.

8. Recycled Water Distribution and Distribution System

The City of Lancaster previously constructed a large diameter force-main pipeline for transporting recycled water along Division Street (Division Street Pipeline) and steel tanks for storage of recycled water and supplemental water. Supplemental water is currently supplied by existing water supply well No. 4-15, which is owned by the Los Angeles County Waterworks District No. 40. The Division Street Pipeline connects to the District's existing recycled water force-main pipeline, which is located along Avenue E. Lateral pipelines are constructed for each individual user of recycled water once the site is ready to receive the recycled water.

The proposed North Los Angeles/Kern County Regional Recycled Water Project distribution system includes constructing approximately 70 miles of recycled water conveyance pipelines, four storage reservoirs, two distribution pump stations, and two booster pump stations. The proposed North Los Angeles/Kern County Regional Recycled Water Project will provide the primary distribution system for providing recycled water to end users in the Antelope Valley.

9. Permit Area

This Order authorizes use of recycled water at sites located within the portion of the Antelope Valley bounded by the Los Angeles County/Kern County line to the north (north side of Township 8 North, San Bernardino Meridian); the Los Angeles County/San Bernardino County line to the east (east side of Range 8 West, San Bernardino Meridian); south side of Township 5 North, San Bernardino Meridian to the south; and the west side of Range 14 West, San Bernardino Meridian to the west (Permit Area). The Permit Area is identified on Attachment B of this Order.

10. Authorized Recycled Water Uses

This Order authorizes recycled water use for those uses identified in Finding No. 5 of this Order. Generally, recycled water will be used for municipal and industrial applications and for non-agricultural irrigation.

11. Authorized Recycled Water Use Sites

The sites authorized for use of recycled water under this Order (Authorized Recycled Water Use Sites) are those:

- a. located within the Permit Area described in Finding No. 9, above; and
- b. where the use is limited to those described in Finding Nos. 5 and 10, above.

12. Topography

The Permit Area is located within the Antelope Valley, which is a closed topographic basin with no outlet to the ocean. The Antelope Valley is bordered by the San Gabriel Mountains to the south and west, by the Tehachapi Mountains to the west and northwest, and by a series of north-south running, low-elevation buttes that form the eastern boundaries of the valley. All water that enters the valley either infiltrates into the groundwater basin, evaporates, or flows toward the three dry lakes located on Edwards Air Force Base: Rosamond Lake, Buckhorn Lake, and Rogers Lake. In general, groundwater flows northeasterly from the mountain ranges to the dry lakes. Due to the relatively impervious nature of the dry lake soil and high evaporation rates, water that collects on the dry lakes eventually evaporates rather than infiltrates into the groundwater.

13. Hydrogeology

Unconsolidated alluvial deposits consisting of inter-bedded gravel, sand, silt and clay underlie the Permit Area. An extensive layer of lacustrine deposits is located at a depth of approximately 500 feet. Its depth and thickness varies.

The Antelope Valley Groundwater Basin is comprised of two primary aquifers: (1) the upper (principal) aquifer, and (2) the lower (deep) aquifer. Historically, the lacustrine deposits have been used to define the boundary between the two aquifers, and the deep aquifer is generally considered to be confined.

The principal aquifer is an unconfined aquifer that historically provided artesian flows due to perched water tables in some areas. These artesian conditions are currently absent due to extensive pumping of groundwater. Depth to groundwater (water table for the principal unconfined aquifer) ranges from approximately 50 to 350 feet below ground surface depending upon the location within the Antelope

Valley.

In general, the principal aquifer is thickest in the southern portion of the region near the San Gabriel Mountains, while the deep aquifer is thickest in the vicinity of the dry lakes on Edwards Air Force Base.

#### 14. Groundwater Quality

Groundwater quality is excellent within the principal aquifer but degrades toward the northern portion of the dry lake areas. Considered to be generally suitable for domestic, agricultural, and industrial uses, the water in the principal aquifer has a total dissolved solids (TDS) concentration ranging from 200 to 800 milligrams per liter (mg/l) [Department of Water Resources Bulletin 118, 2004]. The existing groundwater TDS concentration is below and within the maximum contaminant level (MCL) range of 500 to 1,000 mg/l (short term MCL is 1,500 mg/l). The deeper aquifers typically have higher TDS levels. Hardness levels range from 50 to 200 mg/l, and high fluoride, boron, and nitrates are problematic in some areas of the basin.

Arsenic is an emerging contaminant of concern in the region and has been observed in wells owned by Los Angeles County Waterworks District No. 40, Palmdale Water District, and Quartz Hill Water District in concentrations ranging from 2 to 60 micrograms per liter ( $\mu\text{g/l}$ ). The MCL for arsenic is 10  $\mu\text{g/l}$ . Arsenic is a naturally occurring inorganic element often found in groundwater and occasionally in surface water. Research conducted by Los Angeles County Waterworks District No. 40 and the United States Geologic Survey has shown the problem to reside primarily in the deep aquifer, and it is not anticipated that the existing arsenic problem will lead to future loss of groundwater as a water supply resource for the region.

There are also concerns with nitrate levels above the current MCL of 10 mg/l (as Nitrogen [N]) in portions of the basin. Groundwater monitoring data from the mid-to-late 1990s indicate nitrate (as N) concentrations exceeding the primary MCL for drinking water of 10 mg/l in two areas in the southern portion of the groundwater basin: one is northeast of the Palmdale Water Reclamation Plant and the other is near the community of Littlerock, slightly east of the upper reach of Littlerock Creek. It is estimated both nitrate plumes are similar in size, approximately five to six square miles. Agricultural fertilization practices, historic confined animal facility discharges, septic system disposal, and discharge of treated wastewater have likely contributed to the elevated levels. In the area near the Palmdale Water Reclamation Plant, actions have already been implemented by County Sanitation District No. 20 of Los Angeles County to address the nitrate plume and to minimize any future impacts from treated wastewater discharges, including treatment upgrades, a change in effluent management practices, the implementation of the North Los Angeles/Kern County Regional Recycled Water Project, and performing

groundwater remediation activities near the Palmdale Water Reclamation Plant. In the Littlerock area, Littlerock Creek Irrigation District extracts the nitrate-laden groundwater and blends it with other water sources to meet drinking water quality standards. The agricultural and confined animal facilities that are considered to have contributed to the Littlerock nitrate plume are no longer active.

15. Receiving Waters

The receiving waters are the groundwaters of the Antelope Valley Basin.

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. This Order implements the Basin Plan as amended.

17. Beneficial Uses – Groundwater

Groundwater has been, and continues to be, an important resource within the Antelope Valley. Prior to 1972, groundwater provided more than 90 percent of the total water supply (MUN, AGR, and IND). Since 1972, groundwater has provided between 50 and 90 percent of the total water supply. Groundwater pumping in the Antelope Valley peaked in the 1950s, and it decreased in the 1960s and 1970s when agricultural pumping (AGR) declined due to increased pumping costs from greater pumping lifts and higher electric power costs. The rapid increase in urban growth in the 1980s resulted in an increase in the demand for municipal (MUN) and industrial (IND) water and an increase in groundwater use. Projected urban growth and limits on the available local and imported water supply are likely to continue to increase the reliance on the groundwater. [Section 3.7, Final Program Environmental Impact Report, November, 2008]

The present and potential beneficial uses of the groundwaters of the Antelope Valley Basin 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. State Water Board Recycled Water Policy

State Water Board Resolution No. 2009-0011, "Adoption of a Policy for Water Quality Control for Recycled Water," references and adopts the "State Water Resources Control Board Recycled Water Policy" (Recycled Water Policy). The

Recycled Water Policy provides direction to the State and Regional Water Boards regarding the appropriate criteria to be used in issuing permits for recycled water projects. The Recycled Water Policy describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. This Order implements the Recycled Water Policy.

Order No. III of this Master Recycling Permit requires the District to develop and/or participate in the development of a salt/nutrient management plan and to control incidental runoff consistent with Paragraphs 6 and 7(a), respectively, of the Recycled Water Policy. Finding Nos. 21 and 22 of this Order describe Lahontan Water Board consistency with the streamlined permitting criteria outlined in Paragraphs 7(b) and 7(c) of the Recycled Water Policy. Finding No. 22 of this Order describes Lahontan Water Board consistency with the antidegradation criteria outlined in Paragraph 9 of the Recycled Water Policy. This permit allows for increased use of recycled water consistent with the mandate established in Paragraph 4 of the Recycled Water Policy to increase the use of recycled water in California.

19. Incidental Runoff of Recycled Water

The Recycled Water Policy defines incidental runoff as unintended small amounts (volume) of runoff from recycled water use areas, such as unintended minimal over-spray from sprinklers that escapes the recycled water use area. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence.

The District must develop and implement an operations and management plan that applies to all landscape irrigation recycled water use areas. This plan must provide for detection of leaks from landscape irrigation facilities (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first.

20. Discharges of Recycled Water from Surface Impoundments

The Recycled Water Policy prohibits discharge to surface waters from a surface impoundment containing recycled water unless the discharge is a result of a 25-year, 24-hour storm event or greater. Surface water impoundments used for recycled water storage shall be maintained so that no discharge occurs except as a result of a 25-year, 24-hour storm event or greater.

21. Regulation of Recycled Water

- a. California Code of Regulations, Title 22, Department of Public Health

The California Department of Public Health (CDPH), formerly the Department of Health Services, established criteria for using recycled water. These criteria are codified in Title 22 and include such requirements as Sources of Recycled Water, Uses of Recycled Water, and Use Area Requirements. The CDPH adopted revised Water Recycling Criteria that became effective on March 20, 2001. Applicable criteria are prescribed in this Order.

b. Engineering Reports

As required by California Code of Regulations, title 22, section 60323, the District has submitted engineering reports for the production and use of recycled water to the CDPH. The content and status of each report is described in the following table.

Engineering report title	Scope	CDPH review status	Water Board Response to CDPH Review and Project Status
City of Lancaster Addendum to Engineering Report for Division Street Recycled Water Distribution System, dated September 30, 2008.	Additional usage of Division Street distribution system to include additional uses within City of Lancaster.	CDPH recommended approval with conditions on December 24, 2008.	Lahontan Water Board adopted revised master recycling permit, Board Order No. R6V-2009-0034 on June 10, 2009.
Engineering Report for 0.5 mgd Antelope Valley Tertiary Treatment Plant (AVTTP) dated January 15, 2005.	Treatment and recycled water production	CDPH recommended approval with conditions on June 2, 2005	Lahontan Water Board accepted report. Adopted Board Order R6V-2002-0053A1 on July 13, 2005 and Board Order No. R6V-2006-0009 on March 8, 2006.
Revised report for Membrane Bioreactor with Chlorination, submitted June 16, 2008	Treatment and recycled water production	CDPH recommended approval with conditions on July 1, 2008	Lahontan Water Board accepted report September 16, 2008, allowing the use.

Membrane Bioreactor with UV (Wedeco), submitted June 25, 2008	Treatment and recycled water production	CDPH recommended approval with conditions on December 2, 2008, and provided additional comments on March 5, 2009. (See Attachment E)	Compliance with CDPH conditions required by this Order.
Membrane Bioreactor with UV (Trojan), submitted December 1, 2008	Treatment and recycled water production	CDPH recommended approval with conditions on April 15, 2009, amended May 15, 2009. (See Attachment E)	Compliance with CDPH conditions required by this Order.
NDN Facilities (Stage V Expansion), report expected to be submitted to CDPH prior to project completion and/or implementation.	Treatment and recycled water production	CDPH comment letter expected 30 days after report submittal to CDPH.	Compliance with CDPH conditions required by this Order upon receipt of CDPH conditions.
North Los Angeles/Kern County Regional Recycled Water Project, report expected to be submitted to CDPH prior to project completion and/or implementation.	Los Angeles/Kern County Regional Recycled Water Project distribution system	CDPH comment letter expected 30 days after report submittal to CDPH.	Compliance with CDPH conditions required by this Order upon receipt of CDPH conditions.

Prior to implementing the North Los Angeles/Kern County Regional Recycled Water Project distribution system, and prior to implementing yet-to-be identified uses, the District (or other responsible agency) will prepare the appropriate engineering reports, obtain acceptance of the project from appropriate agencies, and will implement as applicable the CDPH conditions for project acceptance pursuant to waste discharge requirements and/or water recycling requirements issued by the Lahontan Water Board.

c. Regulation

Water Code section 13523.1, subdivision (a), states:

*“Each regional board, after consulting with, and receiving the recommendations of, the State Department of Health Services and any party who has requested in writing to be consulted, with the consent of the*

*proposed permittee, and after any necessary hearing, may, in lieu of issuing waste discharge requirements pursuant to Section 13263 or water reclamation requirements pursuant to Section 13523 for a user of reclaimed water, issue a master reclamation permit to a supplier or distributor, or both, of reclaimed water."*

This Order includes water-recycling requirements which require the District to:

- i. comply with waste discharge requirements (see Finding No. 4 and Water Recycling Specification No I.B.1 of this Order);
- ii. comply with Uniform Statewide Reclamation Criteria (California Code of Regulations, title 22, sections 60301 through 60355) established pursuant to Water Code section 13521 (see Water Recycling Specification No I.B.2 of this Order);
- iii. establish and enforce rules or regulations for recycled water users (*Requirements for Recycled Water Users, Recycled Water Use Site Inspection Program, and Enforcement Response Plan* provided in Attachment C, which is made a part of this Order), governing the design and construction of recycled water use facilities and the use of recycled water (see Water Recycling Specification No I.B.3 of this Order);
- iv. submit quarterly reports to the Lahontan Water Board summarizing recycled water use, including the total amount of recycled water supplied, the total number of recycled water use sites, the locations of the recycled water use sites, and the names of the hydrologic areas underlying the recycled water use sites (see Monitoring and Reporting Program No. R6V-2009-(TENT), Sections I.E and II.B); and
- v. conduct periodic inspections of recycled water use sites to monitor compliance by users with the Uniform Statewide Reclamation Criteria established pursuant to Water Code section 13521 and the requirements of this Order (see Water Recycling Specifications No. I.B.3 and No. I.B.4 of this Order).

Regarding the requirement identified in Finding No. 21.c.i above, the District is under current requirements to comply with the waste discharge requirements listed in Finding No. 4 of this Order.

Regarding the requirement identified in Finding No. 21.c.ii above, the District, through information contained in its CEQA documents and the District's application, established that the proposed recycled water uses will comply with the Title 22 requirements.

Regarding requirements identified in Finding Nos. 21.c.iii and 21.c.v above, the District has completed and submitted a report to the Lahontan Water Board containing its *Requirements for Recycled Water Users, Recycled Water Use Site Inspection Program, and Enforcement Response Plan* (see Attachment C of this Order). The Lahontan Water Board approved these documents on September 16, 2008.

This Order implements the requirement identified in Finding No. 21.c.iv via adoption of Monitoring and Reporting Program No. R6V-2009-(PROPOSED)

22. Streamlined Permitting

a. Eligibility

The landscape irrigation elements of the proposed water recycling project meet the criteria for streamlined permitting (Paragraph 7(c) of the Recycled Water Policy) for the following reasons:

- i. The project complies with Title 22 regulations.
- ii. The proposed landscape irrigation use will not exceed agronomic rates and will not occur when soils are saturated. An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied and may include, but not be limited to, developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers. An operations and management plan may be developed to cover multiple sites.
- iii. A salt/nutrient management plan has not been prepared for the Antelope Valley groundwater basin. This Order includes a requirement that the District must participate in the development of the salt/nutrient management plan for the Antelope Valley.
- iv. The District will communicate to users the nutrient levels in the recycled water so that users can appropriately evaluate fertilizer needs.

b. Streamlined Permit Requirements

According to Paragraph 7(b)(4) of the Recycled Water Policy, landscape irrigation projects that qualify for streamline permitting are not required to conduct project-specific receiving water and groundwater monitoring unless otherwise required by an applicable salt/nutrient management plan. The

District will participate in the development of a salt/nutrient management plan for the Antelope Valley in lieu of performing project-specific monitoring as allowed by the Recycled Water Policy. This Order includes a requirement that the District must participate in the development of the salt/nutrient management plan for the Antelope Valley.

Additionally, the Recycled Water Policy requires streamlined permits to include monitoring of priority pollutants on a twice-annual basis and annual monitoring of Emerging Constituents/Constituents of Emerging Concern (e.g., endocrine disrupters, personal care products, or pharmaceuticals) (CECs). The Recycled Water Policy recognizes a lack of complete knowledge regarding CECs, and the implementation of CEC monitoring is deferred in order to incorporate the recommendations of a blue-ribbon advisory panel to be convened by the State Water Board. This Order includes monitoring for priority pollutants.

23. Maintenance of High Quality Waters in California

The proposed uses of recycled water will not result in a degradation of the existing groundwater quality within the Antelope Valley with respect to nutrients. The Stage V Tertiary Treatment Plant includes a denitrification process, which will result in reduced nitrogen concentrations in the recycled water. Furthermore, recycled water will be applied at agronomic rates to consume all remaining nitrogen.

Some of the proposed uses of recycled water could result in a degradation of the existing groundwater quality within the Antelope Valley with respect to salts (Total Dissolved Solids, or TDS). The Antelope Valley groundwater basin is estimated to have 68 million acre-feet of storage, of which 13 million acre-feet is available. TDS concentrations in the groundwater basin range from 200 to 800 mg/l [Department of Water Resources Bulletin 118, 2004], with an average of 300 mg/l. According to California Code of Regulations Title 22, the recommended secondary maximum contaminant level (MCL) in the groundwater basin for TDS is 500 mg/l, and the secondary MCL upper limit is 1,000 mg/l. The average TDS concentration in the recycled water is currently 654 mg/l, and this value is expected to be reduced to approximately 550 mg/l in 2011 after the Stage V Tertiary Treatment Plant is operational.

The District provided an analysis to conservatively calculate the groundwater basin's assimilative capacity for TDS and the proposed project's impact on the remaining assimilative capacity. Subtracting the average TDS concentration of 300 mg/l in the groundwater basin from the recommended MCL of 500 mg/l, the groundwater basin has an assimilative capacity of 200 mg/l. From a mass balance analysis, the multiple proposed uses of recycled water will not use more than one percent of the available assimilative capacity for TDS within the Antelope Valley

groundwater basin over the next ten years. Extrapolating over a 30-year period where recycled water supply is at its maximum flow level, the Lahontan Water Board projects that the multiple proposed uses of recycled water will not use more than 8.5 percent of the available assimilative capacity for TDS within the Antelope Valley groundwater basin. This level of degradation is consistent with established policies, as discussed below.

State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," states,

- "1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that a change will be consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.*
- 2. Any activity which produces or may produce a waste...and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) pollution or nuisance will not occur, and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*

This Order is consistent with Resolution No. 68-16 for the following reasons.

- a. State Water Board, through Resolution No. 77-1, has identified the beneficial use of recycled water for the people for the State, and directs regional water boards to encourage the use of recycled water in water-short areas of the State. The Antelope Valley is located in a water-short area of the State. The current demand for potable water in the Antelope Valley exceeds supply in the region, and by 2035 this demand is expected to double. The people of the State will benefit from the use of recycled water in the Antelope Valley area, where recycled water will supplement and/or replace existing water supplies (e.g., imported surface waters and overdraft of groundwaters).
- b. This Order prohibits the use of recycled water that causes a pollution or nuisance.
- c. This Order requires the District to administer (1) *Requirements for Recycled Water Users*, (2) a *Recycled Water User Site Inspection Program*, and (3) an *Enforcement Response Plan* (see Attachment C), as previously accepted by the Lahontan Water Board. The requirements and the compliance inspection

and enforcement programs are the mechanisms for ensuring that appropriate control measures are identified, implemented, and maintained. The control measures generally identified include (1) applying irrigation within agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater; and (2) developing and implementing a salt/nutrient management plan to reduce the potential for salt and nutrient loading, thereby minimizing the impacts to groundwater quality within the Antelope Valley. The control measures will ensure that the discharge will result in the best practicable control for the maximum benefit of the people of the State to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The waste discharge requirements adopted as part of this Order will ensure that the discharge will result in the best practicable control for the maximum benefit of the people of the State to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained. The control measures will prevent the groundwater quality within the Antelope Valley from exceeding the standards established in existing applicable policies.

- d. The use of recycled water as authorized by this Order will not result in water quality less than that prescribed in applicable policies.

24. Consideration of Water Code Section 13241 Factors

Section 13523.1(b)(1) of the Water Code requires master reclamation requirements to include waste discharge requirements adopted pursuant to Article 4 (commencing with section 13260) of Chapter 4. Section 13263(a) of the Water Code requires that such waste discharge requirements take into consideration the provisions of section 13241 of the Water Code. The Lahontan Water Board has considered these factors as follows:

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

This Order identifies existing groundwater quality as described in Finding No. 14. This Order also identifies past, present, and probable future beneficial uses of the Antelope Valley groundwater as described in Finding No. 17. The proposed uses of recycled water will not adversely affect present or probable future beneficial uses of water, including municipal and domestic supply, agricultural supply, industrial service supply, and freshwater replacement.

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

Finding Nos. 13 and 14 describe the environmental characteristics and quality of available groundwater. Finding No. 14 details groundwater issues related to TDS, arsenic, and nitrate concentrations.

TDS concentrations range from 200 to 800 mg/L, with higher concentrations in the deeper aquifer. These levels are below and within the MCL range of 500 to 1,000 mg/L.

Arsenic has been observed in concentrations ranging from 2 to 60 µg/L, and the MCL for arsenic is 10 µg/L. Arsenic is a naturally occurring inorganic element often found in groundwater and occasionally in surface water. Anthropogenic sources of arsenic include agricultural, industrial and mining activities. Research conducted by Los Angeles County Waterworks District No. 40 and the United States Geologic Survey has shown the problem to reside primarily in the deep aquifer, and it is not anticipated that the existing arsenic problem will lead to future loss of groundwater as a water supply resource for the region.

Nitrate concentrations exceed the primary MCL for drinking water of 10 mg/L (as N) in two areas in the southern portion of the groundwater basin. Agricultural fertilization practices, septic system disposal, and discharge of treated wastewater have likely contributed to the elevated levels.

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

The requirements of the Order, including application of recycled water at agronomic rates, will result in the protection of existing and probable future beneficial uses to the maximum benefit to the people of the State of California. The requirements of this Order will also result in the protection of water quality to continue to meet the standards prescribed in applicable existing policies.

- d. Economic considerations.

The Antelope Valley is faced with serious challenges with respect to management of water and wastewater resources in the region. The population in the Antelope Valley is expected to increase by 161 percent by 2035. Currently, the demand for potable water exceeds supply in the region, and by 2035 this demand is expected to double. Wastewater discharges also will increase in the future as the population increases. Existing demand for potable water is met largely by water imported through the State Water Project and groundwater pumped from the Antelope Valley Basin. Imported water supplies are becoming less reliable, the Antelope Valley Basin is facing overdraft conditions, and the water rights of overlying landowners of the Antelope Valley

Basin have not yet been adjudicated. The Regional Water Management Group prepared an integrated water management plan for the Antelope Valley, and the proposed North Los Angeles/Kern County Regional Recycled Water Project is identified in the plan as a project that addresses the need for both increased water supplies and wastewater effluent management. [Section 1.5, Final Program Environmental Impact Report, November, 2008]

This Order authorizes the District to expand the list of authorized recycled water uses to include the uses identified by Title 22 and Finding No. 5. Use of recycled water will replace supplied groundwater and imported water for landscape irrigation, and potentially in the future, agricultural irrigation, groundwater recharge, and other Title 22 approved uses not listed in Finding No. 5. The potable water that is being replaced by this recycled water would be available for other uses, resulting in an increase in potable water supplies.

The proposed North Los Angeles/Kern County Regional Recycled Water Project also provides a management strategy for wastewater effluent by creating a system to distribute recycled water for beneficial use. The proposed North Los Angeles/Kern County Regional Recycled Water Project will eventually enable the District to produce, sell, and distribute disinfected, tertiary-treated effluent to local water purveyors.

e. The need for developing housing within the region.

The District is not responsible for developing housing within the Antelope Valley. The Final Program Environmental Impact Report, November, 2008, identified that the proposed project would not have an impact on housing and population. The proposed project is limited to the provision of water supply infrastructure, as opposed to housing and commercial development that would directly affect the number of residents or employees within the area. Therefore, the proposed North Los Angeles/Kern County Regional Recycled Water Project would not directly contribute to the creation of additional housing or jobs within the Antelope Valley and thus would not result in direct growth inducement.

The proposed North Los Angeles/Kern County Regional Recycled Water Project would reduce the area's existing and future demand for imported water through recycling. The imported water conserved through implementation of the proposed project would be available to serve potable water demands of planned growth. The Antelope Valley Regional Urban Water Management Plan projects that eight percent of the water demand in 2030 would be met with recycled water, although substantially more would be available as additional end use demand develops. The proposed project would not directly or indirectly induce growth or remove an obstacle to growth, since the increased population would occur in any case based on the cities' and counties' approved

build-out growth control policies. The recycled water that would be made available as a result of the proposed project would be used to meet a small percentage of projected demand in 2030 that would otherwise be met with imported water.

f. The need to develop and use recycled water.

This Order authorizes the District to expand the list of authorized recycled water uses to include the uses identified in Finding No. 5.

25. California Environmental Quality Act Compliance (CEQA)

The Los Angeles County Waterworks District 40, Antelope Valley, prepared a Final Program Environmental Impact Report (PEIR) dated November 2008, for the North Los Angeles/Kern County Regional Recycled Water Project. The Los Angeles County Waterworks District 40, Antelope Valley, prepared a Findings of Fact, Statement of Overriding Considerations, Mitigation Monitoring and Reporting Program (Overriding Considerations) dated November 2008, for the same project. The Overriding Considerations addressed unavoidable noise and ground-vibration impacts that would result from construction activities. The Los Angeles County Board of Supervisors approved the PEIR on December 9, 2008, and a Notice of Determination was filed on December 15, 2008.

Mitigation measures that will be implemented as part of the project include control measures to ensure:

- a. Application of recycled water at agronomic rates to reduce the potential for irrigation to adversely impact the quality of groundwater in terms of salts and nutrients (including nitrates),
- b. There is adequate erosion control so soil is not released into stormwater runoff and surface waters, and
- c. Fertilizer application does not adversely impact waters of the State.

The Lahontan Water Board, acting as a CEQA Responsible Agency in compliance with California Code of Regulations, title 14, section 15096, evaluated the impacts to water quality addressed in the PEIR. As a result of the analysis, the Lahontan Water Board finds the mitigation measures in the PEIR, combined with compliance with the requirements specified by this Order, to be adequate to reduce water quality impacts to levels that are less than significant for the uses identified in Finding No. 5 that were initially authorized by Board Order No. R6V-2009-0034.

Furthermore, the expansion of recycled water uses to those identified in Finding

Nos. 5.a through 5.c were assessed at the programmatic level within the PEIR. Those additional recycled water uses are for: (1) those that result in full consumption without a discharge of any type; (2) those for facilities, such as power plants, that result in a discharge that will be regulated by the Lahontan Water Board or the California Energy Commission pursuant to its authority under the Warren-Alquist Act; and (3) those that result in a discharge to a sanitary sewer system. Based on the evaluation of the potential impacts from these specific uses that were assessed at the programmatic level within the PEIR, the Lahontan Water Board concludes that there is no possibility that the issuance of this Order will have a significant effect on the environment. Therefore, the expansion of recycled water uses to those uses identified in Finding Nos. 5.a through 5.c is exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, section 15061, subdivision (b)(3).

Finally, for Apollo Park and the Fox Airfield, these reclamation requirements govern the continued use of recycled water at existing facilities without any expansion of use. This continued use of recycled water without expansion is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) in accordance with California Code of Regulations, title 14, section 15301.

26. Notification of Interested Parties

The Lahontan Water Board has notified the District and interested persons of its intent to prescribe master recycling requirements.

27. Consideration of Public Comments

The Lahontan Water Board, in a public meeting, heard and considered all comments pertaining to the use of recycled water.

**IT IS HEREBY ORDERED** that the District must comply with the following:

I. WATER RECYCLING SPECIFICATIONS

A. Effluent Limitations

1. Recycled water production at the Antelope Valley Tertiary Treatment Plant must not exceed 0.6 mgd (maximum average 24-hour flow). Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling Specifications I.B through I.C is also exceeded.
2. Recycled water production at the Membrane Bioreactor Plant must not

exceed 1.75 mgd (maximum average 24-hour flow). Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling Specifications I.B through I.C is also exceeded.

3. Recycled water production at the Activated Sludge/Nitrification-Denitrification Plant (Stage V Tertiary Treatment Plant) must not exceed 18 mgd (maximum average 24-hour flow). Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling Specifications I.B through I.C is also exceeded.

When expanded in accordance with the provisions of Board Order No. R6V-2002-0053A2, recycled water production at the Stage V Tertiary Treatment Plant must not exceed 21 mgd (maximum average 24-hour flow). Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling Specifications I.B through I.C is also exceeded.

4. All disinfected tertiary recycled water supplied to the recycled water distribution system must at some point following the treatment process meet the requirements specified in California Code of Regulations, Title 22.

#### B. Regulation and Enforcement

1. Pursuant to Water Code section 13523.1, subdivision (b)(1), the District must comply with all waste discharge requirements previously adopted by the Lahontan Water Board and are in effect for regulating the production of the disinfected tertiary recycled water.
2. Pursuant to Water Code section 13523.1, subdivision (b)(2), the District must comply with the Uniform Statewide Reclamation Criteria, which are contained in California Code of Regulations, title 22, sections 60301 through 60355 and are established pursuant to Water Code section 13521.
3. Pursuant to Water Code section 13523.1, subdivision (b)(3), the District must implement and enforce its *Requirements for Recycled Water Users, Recycled Water Users Site Inspection Program, and Enforcement Response Plan* (Attachment C, which is made a part of this Order) governing the design and construction of recycled water use facilities and the use of recycled water
4. Pursuant to Water Code section 13523.1, subdivision (b)(5), the District must conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with the Uniform Statewide Reclamation Criteria and the District's *Requirements for Recycled Water*

*Users, Recycled Water Users Site Inspection Program, and Enforcement Response Plan (Attachment C, which is made a part of this Order).* During the inspections, the District shall also monitor compliance with Water Recycling Specifications No. I.C.1 through I.C.14 of this Order. At a minimum, the District must inspect each recycled water use facility at least once every three years if there are no reported violations, and at least annually if there are prior violations at the facility.

5. The District must inspect recycled water use facilities and ensure users' compliance with these master water recycling requirements.

C. General Requirements and Prohibitions

1. The discharge of recycled water to surface waters other than the artificial lakes at Apollo Park, including excessive application, intentional overflow or application, or negligence, is prohibited. However, incidental runoff of recycled water, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area is not a violation of this Order.
2. Discharge of untreated or partially treated recycled water to the recycled water distribution system is prohibited.
3. The use of recycled water must not cause a pollution or threaten to cause a pollution as defined in Water Code Section 13050.
4. The use of recycled water must not cause a nuisance as defined in Water Code Section 13050.
5. The use of recycled water under this Order must be limited to the Authorized Recycled Water Use Sites defined in Finding No. 11 of this Order.
6. The uses of recycled water authorized under this Order are limited to those described in Finding No. 10 of this Order.
7. The source of recycled water must be limited to that described in Finding No. 6 of this Order.
8. Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds agronomic rates. The District must communicate to recycled water users the nutrient levels in the recycled water at least monthly so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers.

9. Recycled water must not be applied at a rate and amount that causes ponding or runoff that is other than incidental runoff.
10. Pipelines must be maintained so as to prevent leakage.
11. The use of recycled water that causes a violation of any narrative water quality objective contained in the Basin Plan is prohibited.
12. The use of recycled water that causes a violation of any numeric water quality objective contained in the Basin Plan is prohibited.
13. Where any numeric or narrative water quality objective contained in the Basin Plan is already being exceeded, the use of recycled water that causes further degradation or pollution is prohibited.
14. The District must ensure the implementation of an operation and maintenance plan for all recycled water use sites that includes the following practices:
  - a. detection of leaks from landscape irrigation facilities and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first;
  - b. proper design and aim of sprinkler heads to ensure recycled water application at agronomic rates;
  - c. refraining from recycled water application during precipitation events; and
  - d. adequate protection of all facilities used to transport and store recycled water against overflow, structural damage, or a reduction in efficiency resulting from a 25-year, 24-hour storm or flood.
15. The District must not supply recycled water to parties who distribute, store, or use recycled water in a manner that is in violation of the Uniform Statewide Reclamation Criteria (as identified within California Code of Regulations, title 22) and the requirements of the Master Recycling Requirements.

## II. PROVISIONS

- A. The District may continue providing recycled water from its two existing tertiary treatment facilities (Membrane Bioreactor Tertiary Treatment Plant and Antelope Valley Tertiary Treatment Plant) to the Apollo Park and the Fox

Airfield (described in Finding No. 4.c of this Order) and to the distributor (City of Lancaster) and current and future users located within the Division Street Corridor Recycled Water Project (Division Street Project) recycled water use area (defined in Finding No. 4.d of this Order) pursuant to the requirements of this Order.

B. The District must:

1. prior to supplying recycled water under this Order from the Stage V Tertiary Treatment Plant, submit to the Lahontan Water Board a copy of the final engineering report for the Stage V Tertiary Treatment Plant with written confirmation from the CDPH that it has reviewed the report and finds the report to be acceptable (Review and Acceptance Letter).
2. following receipt of the CDPH's Review and Acceptance Letter for the Stage V Tertiary Treatment Plant Final Engineering Report, comply with the CDPH's conditions as specified in the Review and Acceptance Letter.
3. prior to supplying recycled water under this Order to the North Los Angeles/Kern County Regional Recycled Water Project, submit to the Lahontan Water Board a copy of the final engineering report for the North Los Angeles/Kern County Regional Recycled Water Project with written confirmation from the CDPH that it has reviewed the report and finds the report to be acceptable (Review and Acceptance Letter).
4. following receipt of the CDPH's Review and Acceptance Letter for the North Los Angeles/Kern County Regional Recycled Water Project Final Engineering Report, comply with the CDPH's conditions as specified in the Review and Acceptance Letter.
5. comply with the conditions identified in the CDPH's Approval and Comment Letters (Attachment E of this Order) as applicable to the use of the Wedeco TAK 55HP Ultraviolet Light Disinfection System for the Membrane Bioreactor Tertiary Treatment Plant and of the Trojan 3000Plus Ultraviolet Light Disinfection System for the Membrane Bioreactor Tertiary Treatment Plant.
6. prior to providing recycled water to new users, have received, reviewed and approved a completed *Report of Proposed Recycled Water Use*, which contains information demonstrating the user will comply with the Uniform Statewide Reclamation Criteria and the District's *Requirements for Recycled Water Users*. Copies of all approved *Reports of Proposed Recycled Water Use* and approval letters shall be maintained on file by the District.

- C. Pursuant to California Code of Regulations, title 22, section 60316, subdivision (b), the District shall notify the Lahontan Water Board, State Department of Public Health and County of Los Angeles Department of Health Services of any incidence of backflow from a recycled water system into the potable water system within 24 hours of discovery of the incident.
- D. Pursuant to Water Code section 13267, subdivision (b), the District shall comply with Monitoring and Reporting Program R6V-2009-(PROPOSED) (Attachment F which is made a part of this Order) as specified by the Executive Officer.
- E. The District shall comply with the "Standard Provisions for WDRs," dated September 1, 1994, in Attachment "D," which is part of this Order, with the exception that recycled water storage facilities shall be designed for protection against overflow during a 25-year, 24-hour storm.

### III. RECYCLED WATER POLICY IMPLEMENTATION

- A. The District must develop and/or participate in the development of a salt/nutrient management plan for the Antelope Valley that is consistent with Paragraph 6 of the Recycled Water Policy. The salt/nutrient management plan must be submitted to the Lahontan Water Board by **May 14, 2014**.
- B. Before supplying recycled water to new users for landscape irrigation under this Order, the District must develop and implement an operations and management plan to control incidental runoff that is consistent with Paragraph 7(a) of the Recycled Water Policy.

### IV. RESCISSION

- A. Board Order No. 6-85-35 establishing recycling requirements for the Apollo Park and the Fox Airfield is hereby rescinded.
- B. Board Order No. R6V-2009-0034 establishing master recycling requirements for the Permit Area is hereby rescinded.

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 December 9, 2009.

\_\_\_\_\_  
HAROLD J. SINGER

08-0031

EXECUTIVE OFFICER

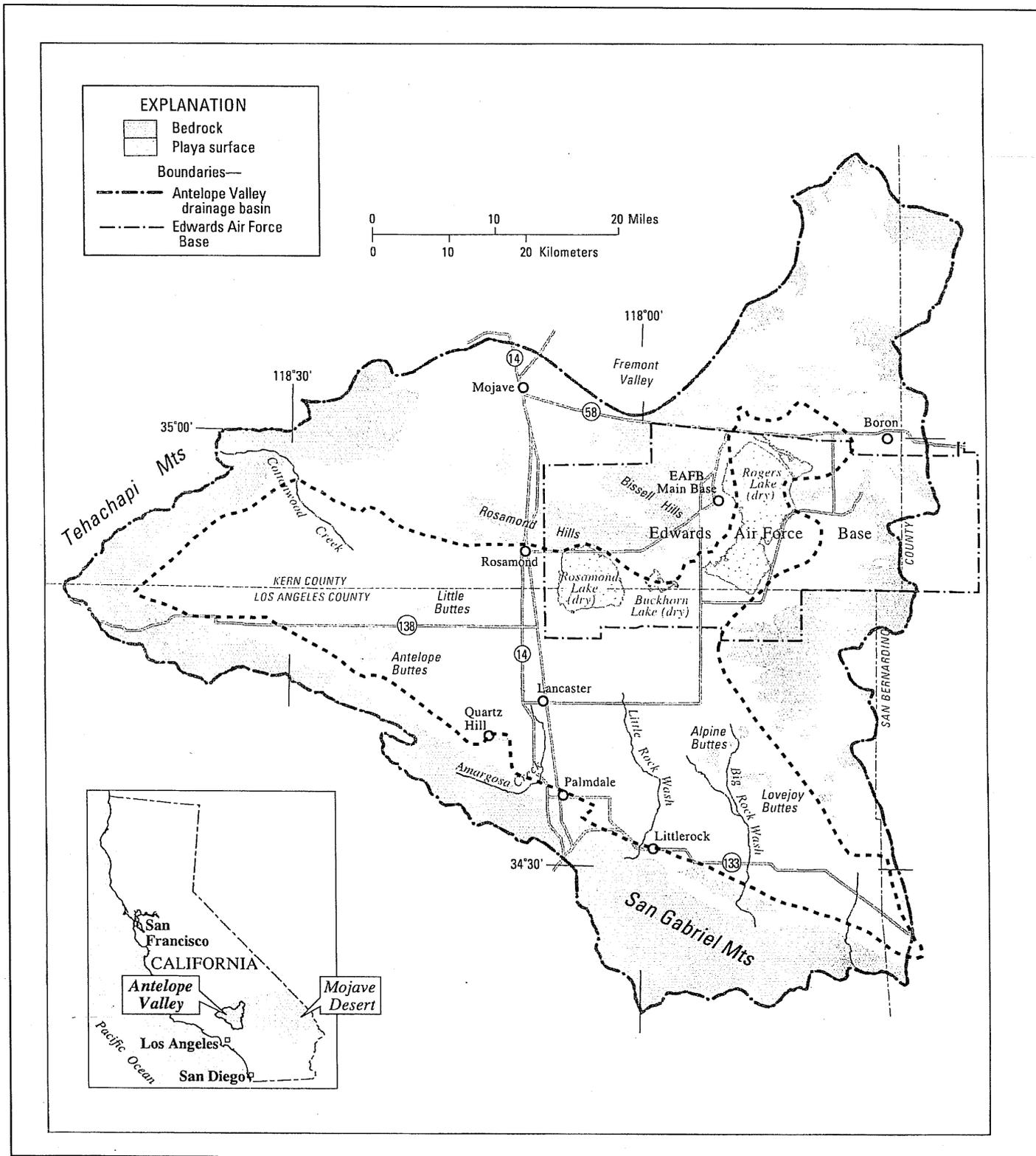
- Attachments:
- A. General Location Map
  - B. Permit Area Map
  - C. District Recycled Water Program
    - 1. Requirements for Recycled Water Users
    - 2. Recycled Water Use Site Inspection Program
    - 3. Reuse Site Inspection Report
    - 4. Enforcement Response Plan
  - D. Standard Provisions for Waste Discharge Requirements
  - E. CDPH Approval and Comment Letters
    - 1. March 5, 2009 Letter
    - 2. May 15, 2009 Letter
  - F. Monitoring and Reporting Program No. R6V-2009-(PROP)

**PROPOSED**

ATTACHMENT A  
General Location Map

08-0033

ATTACHMENT A  
General Location Map



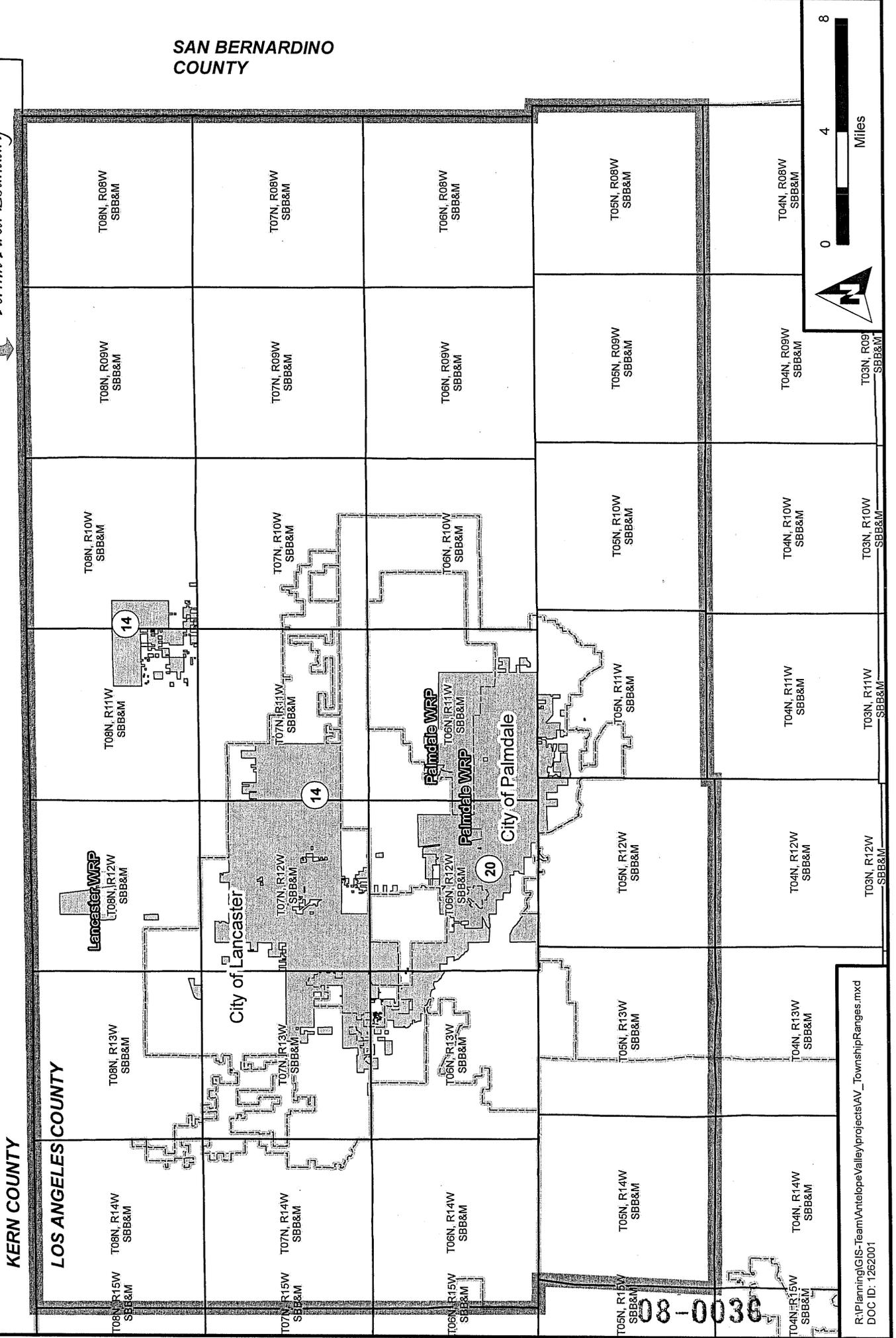
Modified from Figure 1, *Simulation of Groundwater Flow and Land Subsidence, Antelope Valley Groundwater Basin*, USGS, 2003

ATTACHMENT B  
Permit Area Map

08-0035

# ANTELOPE VALLEY: LOS ANGELES COUNTY SANITATION DISTRICTS NO. 14 AND 20

Permit Area Boundary



KERN COUNTY

LOS ANGELES COUNTY

SAN BERNARDINO COUNTY

Lancaster WRP

Palmdale WRP

Palmdale WRP

City of Palmdale

City of Lancaster

14

14

20

08-0036

ATTACHMENT C  
District Recycled Water Program

1. Requirements for Recycled Water Users
2. Recycled Water Use Site inspection Program
3. Reuse Site Inspection Report
4. Enforcement Response Plan

# REQUIREMENTS FOR RECYCLED WATER USERS

08-0038

**Requirements for Recycled Water Users  
County Sanitation Districts of Los Angeles County  
District Nos. 14 and 20**

**1. Introduction**

These Requirements for Recycled Water Users (Requirements) establish regulations pursuant to California Water Code (Water Code) section 13523.1(b), and permits issued to the County Sanitation Districts of Los Angeles County (Districts) by the California Regional Water Quality Control Board, Lahontan Region (LRWQCB). These permits include waste discharge requirements (WDRs) issued pursuant to Water Code section 13263, water reclamation requirements (WRRs) issued pursuant to Water Code section 13523, or a master reclamation permit (Master Permit) issued pursuant to Water Code section 13523.1. The Requirements are in conformance with ordinances adopted by County Sanitation District No. 14 of Los Angeles County and by County Sanitation District No. 20 of Los Angeles County (Ordinances).

**2. Background**

Water Code section 13523.1(a) authorizes the issuance of Master Permits to suppliers or distributors, or both, of recycled water in lieu of issuing individual water reclamation requirements to each recycled water user. Water Code section 13523.1(b) sets forth the requirements for Master Permits issued by the Regional Water Quality Control Boards (RWQCBs), including a condition that the permittee establish and enforce rules or regulations for recycled water users governing the design and construction of recycled water use facilities and the use of recycled water, in accordance with the uniform Statewide Reclamation Criteria established pursuant to Water Code section 13521.

A Master Permit has been adopted by the LRWQCB for the Lancaster Water Reclamation Plant (WRP). Should the LRWQCB issue individual WDRs or WRRs to the Districts for the use of tertiary recycled water for non-potable reuse applications from the Lancaster WRP or Palmdale WRP, it is the Districts' intent that the Requirements established herein will apply to those uses. These Requirements may be updated, as necessary, to comply with revisions to this permit or applicable laws and regulations.

**3. Findings**

The Requirements are in conformance with the following:

- Provisions established by the WDRs, WRRs, or Master Permits issued by the LRWQCB to the Districts.
- Applicable portions of the Water Code, including Water Code section 13523.1.
- Applicable portions of the Health and Safety Code.
- California Code of Regulations (CCR), Title 22, Division 4, Chapter 3, Uniform Statewide Reclamation Criteria.
- CCR, Title 17, Division 1, Chapter 5, Subchapter 1, Group 4, Article 1 & 2.
- Regulations established by the County of Los Angeles Department of Public Health (LACDPH) for the use of recycled water.

The Requirements are consistent with the following:

- The Guidelines for the *Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water*, California State Department of Public Health (CDPH).

- Any measures that are deemed necessary for protection of public health, such as the American Water Works Association (AWWA) California/Nevada section, *Guidelines for the Distribution of Non-Potable Water* and *Guidelines for the On-Site Retrofit of Facilities Using Disinfected Tertiary Recycled Water* or alternate measures that are acceptable to CDPH.
- Relevant user manuals such as the Los Angeles County Recycled Water Advisory Committee's, 2005, *Recycled Water User Manual*.
- Relevant guidance issued by LACDPH for the use of recycled water.

#### **4. Definitions that Apply to these Requirements**

- 4.1. Authorized Recycled Water Use Site (Site) is a site authorized for use of recycled water; the uses of recycled water and the site location must comply with Permits as issued by the LRWQCB to the Districts.
- 4.2. Direct User is any person to whom the Districts directly distribute recycled water under the Permits issued to the Districts by the LRWQCB.
- 4.3. Incidental Runoff is any small amount of recycled water that leaves the Site as a result of over-spray or leakage from sprinklers, over watering, breaks in lines, or overflow of impoundments that contain recycled water during storms.
- 4.4. Master Reclamation Permit (Master Permit) contains requirements established by the LRWQCB for the Districts pursuant to Water Code section 13523.1.
- 4.5. Permit means any LWRQCB issued WDRs, WRRs, or Master Permit.
- 4.6. Person is any individual, partnership, corporation, governmental subdivision or unit of a governmental subdivision, or public or private organization or entity of any character.
- 4.7. Purveyor is any public, private, investor-owned, or other water utility that is legally permitted to distribute water and that obtains recycled water from the Districts for distribution to Users.
- 4.8. Recycled water is water produced by a municipal water reclamation facility that is suitable for a beneficial use.
- 4.9. User is any person to whom the Districts distribute recycled water under the Permits issued to the Districts by the LRWQCB, including end users to whom recycled water is conveyed through an intermediate party. User does not include persons who have been independently issued Permits by the LRWQCB.
- 4.10. User Agreement is a contractual agreement between the User and/or Purveyor and the Districts that establishes the conditions for recycled water service and use.
- 4.11. Waste Discharge Requirements (WDRs) are requirements established for the Districts by the LRWQCB pursuant to Water Code section 13263.
- 4.12. Water Recycling Criteria are the criteria established by the CDPH generally dealing with the levels of constituents in recycled water and the means for assurance of reliability under the design concept, which will result in safe recycled water from the standpoint of public health. The criteria are established pursuant to Water Code Section 13521, and are contained in the CCR, Title 22, Division 4, Chapter 3; also referred to as the "Uniform Statewide Reclamation Criteria."
- 4.13. Water Recycling Requirements (WRRs) are requirements established for the Districts by the LRWQCB pursuant to Water Code section 13523.

## **5. Requirements for Recycled Water Users**

### **5.1 Effective Date**

The effective date of the Requirements is July 1, 2008.

### **5.2 Applicability**

- 5.2.1 Unless otherwise stated, these Requirements shall apply to any and all Users to whom the Districts distribute tertiary recycled water, either directly or through an intermediate party. These Requirements shall also apply to Purveyors that act as intermediate parties in delivering recycled water to Users. User does not include persons who have been independently issued Permits by the LRWQCB.
- 5.2.2 These Requirements do not apply to the Districts, when the Districts are both the Purveyor and/or the User, receiving WDRs or WRRs issued by the LRWQCB for the use of tertiary recycled water.

### **5.3 General Requirements**

Use of recycled water must comply with all applicable state laws, regulations, Districts' Permits, and any amendments thereto, the Ordinances, and these Requirements.

### **5.4 General Prohibitions**

- 5.4.1 Use of recycled water for any purposes other than those explicitly approved in the effective User Agreement is strictly prohibited.
- 5.4.2 The User shall insure that the treatment, storage, distribution or use of recycled water shall not create a nuisance as defined in Water Code section 13050(m).
- 5.4.3 The User shall not discharge recycled water from treatment facilities, irrigation holding tanks, storage ponds, or other containment, other than for permitted reuse, except in accordance with other LRWQCB issued Permits, contingency plans authorized by the LRWQCB or for an approved discharge to a municipal sewage treatment system.

### **5.5 Process to Obtain Permission to Use Recycled Water**

- 5.5.1 Except as provided by the Ordinances, any Direct User or Purveyor who wishes to receive recycled water produced by the Districts must enter into a User Agreement with District No. 14 or No. 20 depending on the location of the reuse project before the use of recycled water can begin. The User Agreement shall include the Districts' terms and conditions for the use of recycled water.
- 5.5.2 Any Direct User, or Purveyor with a User, who intends to utilize recycled water produced by the Districts for an authorized use at a Site must file a User Application Form (Application) with the Districts and receive approval in writing from the Districts before the use of recycled water can begin for that use and Site.
- 5.5.3 The Application filed by the Direct User or Purveyor shall include:
- .3.1. A detailed description of the proposed Site with:
    - (a) A map showing the specific boundaries of the proposed Site;
    - (b) The person or persons responsible for operation and maintenance of the site (O&M Staff), including the person designated as the Site Supervisor and contact information;

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- (c) Evidence that the O&M Staff and Site Supervisor have received appropriate training from the Districts or an equivalent training program or the date by which training will occur prior to delivery of recycled water such that the Site is operated and maintained in compliance with applicable laws and regulations, the Districts' Permits, and these Requirements;
  - (d) The specific use to be made of the recycled water at each Site.
- .3.2. Design plans and a description of best management practices that show that the quality of waters of the State will be protected (see Section 5).
- .3.3. Plans and specifications describing:
- (a) Proposed piping systems to be used;
  - (b) Pipe locations for both recycled and potable systems;
  - (c) Type and location of the outlets and plumbing fixtures that will be accessible to the public;
  - (d) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
- .3.4. The Recycled Water System Operations Manual or the date by which a Recycled Water System Operations Manual will be submitted prior to the delivery of recycled water.
- .3.5. Emergency Cross-Connection Response Plan in accordance with the guidelines established by LACDPH or the date by which the Emergency Cross-Connection Response Plan will be submitted prior to delivery of recycled water.
- 5.5.4 Any User or Purveyor who wishes to receive recycled water produced by the Districts must follow the process presented in Tables 1 and 2 that shows the various agencies involved in the process, documents that must be completed, how documents are routed, etc. Table 1 outlines the process for Direct Users or Purveyors. Table 2 outlines the process for Users receiving water from Purveyors

## **5.6 Operational Requirements and Best Management Practices**

- 5.6.1 Each User shall designate a Site Supervisor who is responsible for the recycled water system at Site(s) under the User's control. Specific responsibilities of the Site Supervisor include the proper installation, operation and maintenance of the recycled water system; compliance with the Districts' Permits, applicable laws and regulations, local health department guidelines, and these Requirements; prevention of potential hazards; coordination with the cross-connection control program in accordance with CCR, Title 17 and LACDPH or local health department guidelines; preservation of the recycled water system in "as-built" form.
- 5.6.2 The User's Site Supervisor and O&M staff shall receive appropriate training to assure proper operation of the recycled water facilities, worker protection, and compliance with all applicable laws and regulations, the Districts' Permits, and these Requirements.
- 5.6.3 The Site Supervisor shall instruct any person at the Site involved with the use of recycled water on its proper use and precautions.
- 5.6.4 All recycled water facilities and control systems shall be maintained in good working order and operated as efficiently as possible to achieve compliance with all applicable laws and regulations, the Districts' Permits, and these Requirements.

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- 5.6.5 Except as allowed under CCR, Title 17, section 7604, no physical connection shall be made nor shall a connection be allowed to exist between any recycled water system and potable water system.
- 5.6.6 Cross-connection test shall be performed as necessary to ensure the absolute separation of the recycled water system and potable water system, in accordance with the requirements of LACDPH or local health department.
- .6.1. A cross-connection test shall be performed following any significant modifications to the recycled water system or potable water system, construction of new buildings, or any activity that may impact, or has impacted these systems.
  - .6.2. An initial cross-connection test shall be performed to determine if there are any unknown connections between potable piping and existing piping to be used for recycled water prior to construction or retrofit work.
  - .6.3. Prior to connection with the recycled water system, a final cross-connection test shall be performed to verify that construction or retrofit work was performed correctly.
  - .6.4. Cross-connection testing shall be performed by a specialist who has been certified by AWWA or a group with equivalent certification requirements.
- 5.6.7 The potable water supply shall not be used as a backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of CCR, Title 17, section 7602, Subdivision (a) and CCR, Title 17, section 7603, Subdivision (a), and that such connection has been approved by CDPH and/or its delegated local agency.
- 5.6.8 Any backflow prevention device installed to protect the potable water system shall be annually inspected and maintained in accordance with CCR, Title 17, section 7605.
- .8.1. Backflow inspections shall be conducted by a person who has demonstrated competency in testing to the User, Purveyor, and/or LACDPH or local health department.
- 5.6.9 Hose bibs shall not be used in the recycled water system, except in the recycled water system for Sites for which there is restricted public access. Quick couplers that are different from that used on the potable water system may be used.
- 5.6.10 All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively marked with purple tape in accordance with Health and Safety Code section 116815 and LACDPH or local health department requirements.
- 5.6.11 All sites shall be designed and operated to prevent direct human consumption of recycled water, or use of recycled water for processing of food or drink intended for human consumption.
- .11.1. Where recycled water could potentially be accessed for human consumption, conspicuous signs shall be posted that include the following wording: "RECYCLED WATER – DO NOT DRINK."
  - .11.2. The prescribed wording included on the sign(s) shall also be translated into Spanish and other appropriate languages.
  - .11.3. Each sign shall display an international symbol similar to that shown in CCR, Title 22, section 60310, subdivision (g), Figure 60310-A.
  - .11.4. The sign(s) shall be of a size easily readable by the public; no less than 4 inches high by 8 inches wide.

- 5.6.12 Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any domestic water supply well.
- 5.6.13 Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any uncovered reservoir or stream currently used as a source of domestic water.
- 5.6.14 Impoundment of disinfected tertiary recycled water shall not occur within 100 feet of any domestic water supply well.
- 5.6.15 All recycled water impoundments shall be adequately protected from erosion, washout and flooding from a 24-hour rainfall event having a predicted frequency of once in 100 years.
- 5.6.16 Vehicles used for distributing recycled water for soil compaction and dust control or other uses shall have an adequate tank and plumbing systems to ensure that leaks and ruptures will not occur in the course of normal use.
- .16.1. Control valves shall be provided and configured such that recycled water can be applied in a controlled fashion on the Site and completely retained during transit.
  - .16.2. Spray heads or nozzles shall be provided and configured such that recycled water is applied to prevent runoff, ponding, or windblown spray conditions.
  - .16.3. Each tank shall be equipped with an approved air-gap separation between the filler tube and the tank to prevent back-siphonage.
  - .16.4. Each tank used to store and/or transport recycled water must be flushed and disinfected prior to storage and/or transport of potable water or recycled water of better quality.
  - .16.5. The vehicles shall be clearly labeled in accordance with the requirements specified in Section 5.6.11.
- 5.6.17 Sites shall be designed and operated using best management practices (BMPs) to protect waters of the state and prevent public contact with recycled water.
- 5.6.18 The Sites shall be designed and operated using BMPs to prevent recycled water spray, mist, or surface flow from either leaving the Site or reaching:
- (a) Any perennial surface waters located adjacent to the Site;
  - (b) Areas where the public has access (e.g., dwellings, designated outdoor eating areas, or food handling facilities);
  - (c) Drinking fountains unless specifically protected with a shielding device.
- 5.6.19 BMPs shall include, but not be limited to:
- (a) Use of buffer zones;
  - (b) Discontinuation of application of recycled water during precipitation events, which are of sufficient magnitude to generate surface flow or significant ponding within the Site;
  - (c) Use of devices that protect drinking water fountains against contact with recycled water spray, mist, or surface flow;
  - (d) Irrigation with recycled water during periods of minimal human use of the irrigated area and timing of irrigation to allow an adequate dry-out time before the irrigated area will be used by the public.
- 5.6.20 Any storage facility or impoundment containing recycled water for reuse applications shall be managed in a manner to control odors, nuisance conditions or vectors such as

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mosquitoes. Should such problems develop, a management plan shall be devised and implemented to monitor, correct, and control future occurrences.

5.6.21 Sites shall be designed and operated using BMPs so that application of recycled water occurs at agronomic rates whereby irrigation does not promote downward migration of salts (including nitrates), which could unreasonably affect present and anticipated beneficial uses of water, or result in water quality less than that prescribed in water quality control plans or policies.

.21.1. To demonstrate whether irrigation is at agronomic rates, the User shall provide information to the Districts including a tabular comparison of the volume of water required for plant growth in the landscape area to the volume of recycled water (and supplemental water) applied to the area.

5.6.22 Fertilizer application shall:

.22.1. Not unreasonably affect present and anticipated beneficial uses of water, or result in water quality less than that prescribed in water quality control plans or policies.

.22.2. Occur at agronomic rates. To demonstrate whether fertilizer application is at agronomic rates, the User shall provide information to the Districts including a tabular comparison of the amount of fertilizer needed for plant growth in the landscape area to the amount applied to the area.

.22.3. Occur if the levels of nitrogen in the recycled water are not sufficient for plant growth. If levels are not sufficient, the Site Supervisor shall calculate how much fertilizer needs to be applied by subtracting the level in recycled water from the level needed for plant growth.

5.6.23 Sites shall be designed and operated using BMPs so that adequate erosion control is implemented so that soil is not released into storm water runoff or surface waters.

5.6.24 Each User shall demonstrate to the Districts the means by which all applicable use area requirements as specified in the Districts' Permits and these Requirements will be complied with.

## **6. Site Inspections and Site Access**

6.1 The Purveyor shall conduct periodic site inspections and prepare a report for each Site inspection pursuant to Section 8.3.

.1.1. Site inspections must be conducted at a minimum once every three (3) years per site or more frequently at the request of the Districts.

.1.2. In the event of identification of violation(s) during site inspections, corrective actions must be taken pursuant to Section 7 and notification shall be provided pursuant to Section 8.3.

6.2 The User shall allow an authorized representative of any of the following agencies the right to enter, inspect the Site, and conduct testing upon presentation of proper credentials: the Districts, LRWQCB, CDPH, and LACDPH or local health department.

6.3 In cooperation with the User or Purveyor, the Districts will make periodic inspections of the Site.

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## **7. Corrective Action**

- 7.1 The Site Supervisor shall immediately initiate corrective action to eliminate violation of any applicable laws or regulations, the Districts' Permits, or these Requirements, and make the appropriate notifications pursuant to Section 8.2.
- 7.2 The Purveyor or Direct User must verify the corrective action(s) and report to the Districts pursuant to Section 8.2.
- 7.3 In the event of contamination of a potable water system due to a cross-connection with the recycled water system, the Site Supervisor shall immediately invoke the Emergency Cross-Connection Response Plan and make the appropriate notifications pursuant to Section 8.1.

## **8. Notification and Reporting**

### **8.1 Public Health, Spills, Unauthorized Discharges**

- 8.1.1 Upon being notified or determining that one of the following events has occurred, the Site Supervisor shall immediately notify the Districts by telephone, and the LRWQCB, CDPH and LACDPH by telephone or electronic means. Written confirmation must be provided to all agencies within three (3) business days from the day of notification.
  - .1.1. There is a complaint (or other source of information) concerning recycled water use that may involve illness.
  - .1.2. An unauthorized discharge of more than 50,000 gallons of tertiary recycled water. Information provided shall include: the date and time the spill began and ended; the location of the spill; if the spill entered a storm drain or receiving water; the estimated volume of the spill or flow if the spill is ongoing; the estimated time of repair; the cause of the spill; the agencies involved with repair and clean-up; and corrective actions taken or plans for corrective actions.
  - .1.3. The potable water system has been contaminated due to a cross-connection with recycled water.
- 8.1.2 Upon being notified or determining that a spill or other release of recycled water from a Site, other than incidental runoff, including, but not limited to, breaks in the recycled water irrigation or distributions systems has occurred, the Site Supervisor shall immediately notify the Districts by telephone. Information provided shall include: the date and time the spill began and ended; the location of the spill; if the spill entered a storm drain or receiving water; the estimated volume of the spill or flow if the spill is ongoing; the estimated time of repair; the cause of the spill; the agencies involved with repair and clean-up; and corrective actions taken or plans for corrective actions. Written confirmation shall be provided within three (3) business days from the date of notification.

### **8.2 Non-compliance with Regulations**

- 8.2.1 The Site Supervisor shall notify the Districts by telephone or electronic means upon knowledge of any noncompliance of applicable laws and regulations, the Districts' Permits, and these Requirements. Written confirmation shall be provided within three (3) business days from the date of notification.

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8.2.2 The Purveyor or Direct User shall provide written verification to the Districts within ninety (90) days from the date of knowledge of the violation that corrective actions have been implemented.

### 8.3 Site Inspections

8.3.1 The site inspection report shall be signed and dated by the Site Supervisor and the inspector, and provided to the Districts within thirty (30) days following the end of the quarter in which the inspection was conducted.

8.3.2 The inspector shall immediately notify the Site Supervisor of violation(s) identified during site inspections and what corrective actions must be taken.

8.3.3 The Purveyor or Direct User shall notify the Districts by electronic means at least one (1) week prior to conducting a site inspection.

### 8.4 Miscellaneous Information

8.4.1 If someone other than the User is responsible for applying the recycled water (e.g., a truck hauler), then the User shall inform them of these Requirements in a written permit or other suitable manner.

8.4.2 The Site Supervisor is required to provide the Districts with an address and phone number(s) where he or she can be contacted at all times. The Site Supervisor is responsible for maintaining current pertinent information regarding the Site and Districts' contacts.

8.4.3 The Districts shall be notified in writing of any proposed changes in the individual designated as the Site Supervisor.

8.4.4 The Districts shall be notified in writing of any planned modifications or additions to the recycled water system. Any proposed significant modifications or additions to the recycled water system shall be reviewed and approved by the Districts before being made.

8.4.5 The User or Purveyor shall provide information as requested by the Districts in order for the Districts to comply with monitoring and reporting requirements issued by the LRWQCB.

## 9. Record Keeping

9.1 Current as-built drawings and other design plans of the recycled water system and potable water system, and any forms or reports as required by the Districts including, but not limited to, inspection reports, cross-connection tests, etc., shall be maintained by the Site Supervisor or Purveyor.

9.2 A copy of these Requirements, the Districts' Permits, the Emergency Cross-Connection Response Plan, and the Recycled Water System Operations Manual shall be maintained by the Site Supervisor so that they are available to operating personnel at all times.

9.3 For each site, the Site Supervisor or Purveyor must keep operation and maintenance logs that are available to the Districts. The logs shall include information that will be required for compliance with Permit requirements. This information, such as the monthly volumes of recycled water used at each site, dates of inspections and tests, etc, will be specified by the Districts in the approval letter.

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**Table 1. Process to Obtain Recycled Water for Direct Users or Purveyors**

<b>Process</b>	<b>Applicable Documents or Actions Required</b>	<b>Responsible Entity</b>
<i>Step 1</i> – Consult with Districts and review Recycled Water Users Handbook	Districts' Recycled Water Users Handbook	Direct User or Purveyor
<i>Step 2</i> - Prepare draft plans and specifications	California Department of Public Health (CDPH) requirements in California Code of Regulations (CCR) Title 17 and 22 <sup>1</sup> , Los Angeles County Department of Public Health (LACDPH) Guidelines	Direct User or Purveyor
<i>Step 3</i> - Draft User Agreement or amendment (if site is not covered under existing agreement)	Districts' User Agreement	Districts / Direct User or Purveyor
<i>Step 4</i> - Approve User Agreement or Amendment	Present Agreement or Amendment to Districts' Board and governing body of Direct User or Purveyor for approval	Districts / Direct User or Purveyor
<i>Step 5</i> - Submit Application for recycled water use	Districts' User Application Form	Direct User or Purveyor
<i>Step 6</i> - Identify distribution issues, verify allowed uses, estimate quantity of water and delivery schedule	Verification of information provided in the Application Form. Send conditional approval in writing with caveat that project commencement is contingent upon Direct User or Purveyor receiving all regulatory approvals.	Districts
<i>Step 7</i> – Complete California Environmental Quality Act (CEQA) Process	Make sure there is proper CEQA documentation for the site	Direct User or Purveyor
<i>Step 8</i> – Consult with health agencies ( <i>recommended</i> )	Describe project and show draft plans to CDPH and LACDPH	Direct User or Purveyor
<i>Step 9</i> – Finalize and submit plans and specifications	Plans and specifications submitted to LACDPH; LACDPH Cross-Connection Plan Approval Application and fee.	Direct User or Purveyor
<i>Step 10</i> - Provide materials and/or training to User on proper operation of a recycled water system	Districts' Recycled Water Users Handbook to be provided by Districts; training to be provided by Districts and/or Purveyor (or an other equivalent program can be substituted)	Districts or Purveyor
<i>Step 11</i> – Consult with Lahontan Regional Water Quality Control Board (LRWQCB) ( <i>recommended</i> )	Describe project and discuss Engineering Report needs	Direct User or Purveyor

<sup>1</sup> <http://www.cdph.ca.gov/healthinfo/environhealth/water/Pages/Waterrecycling.aspx>.

**Table 1. Process to Obtain Recycled Water for Direct Users or Purveyors**

<b>Process</b>	<b>Applicable Documents or Actions Required</b>	<b>Responsible Entity</b>
Step 12 – Final plans and specifications	Obtain approval of final plans and specifications from LACDPH	Direct User or Purveyor
Step 13 – Prepare / amend Engineering Report	CDPH <i>Guidelines for Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water</i> <sup>2</sup> ; Districts' information on water reclamation plants; Direct User or Direct User or Purveyor completes the Engineering Report; the Districts provide information related to treatment facilities; the report must be prepared and stamped by a professional engineer registered in California.	Direct User or Purveyor and Districts
Step 14 – Submit Engineering Report to CDPH and LRWQCB, with copy to Districts	Completed Engineering Report	Direct User or Purveyor
Step 15 – If applicable, submit revised Engineering Report, with copy to Districts	Revisions/additional information may be requested by CDPH and/or the LRWQCB	Direct User or Purveyor
Step 16 – Authorization of project under existing or new LRWQCB permit	Letter or permit	LRWQCB; possibly CDPH and/or LACDPH
Step 17 – Notify Districts of Final Regulatory Approvals	Direct User or Purveyor sends copy of LRWQCB letter or permit to Districts and any other applicable CDPH or LACDPH documents	Direct User or Purveyor
Step 18 – Pre- and post-construction inspections	Contact LACDPH prior to construction to arrange for site inspections, initial cross-connection and backflow prevention device testing; LACDPH Guidelines and Recycled Water System Inspection Report.	Direct User or Purveyor
Step 19 – Approval of final construction	By LACDPH	Direct User or Purveyor
Step 20 – Begin project implementation		Direct User or Purveyor
Step 21 – Submit revised as-built drawings of recycled water distribution system if necessary	Must be provided to LACDPH and Districts if any modifications have been made to original drawings	Direct User or Purveyor

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<sup>2</sup> <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Recharge/ERGUIDE2001.PDF>.

**Table 2. Process to Obtain Recycled Water for Users Receiving Water From Purveyors**

<b>Process</b>	<b>Applicable Documents or Actions Required</b>	<b>Responsible Entity</b>
<i>Step 1</i> – Consult with Purveyor and review Recycled Water Users Handbook	Districts' Recycled Water Users Handbook	User and Purveyor
<i>Step 2</i> – Prepare draft plans and specifications	California Department of Health Services (CDPH) requirements in California Code of Regulations (CCR) Title 17 and 22 <sup>3</sup> , Los Angeles County Department of Public Health (LACDPH) Guidelines.	User or Purveyor
<i>Step 3</i> – Request for recycled water service	Use recycled water Purveyor's application process	User
<i>Step 4</i> – Draft User Agreement or amendment (if site is not covered under existing agreement)	Districts' User Agreement or Amendment	Districts / Purveyor
<i>Step 5</i> – Approve User Agreement or Amendment	Present Agreement or Amendment to Districts' Board and governing body of Purveyor for approval	Districts / Purveyor
<i>Step 6</i> – Submit Application for recycled water use to Districts	Districts' User Application Form	Purveyor
<i>Step 7</i> – Identify distribution issues, verify allowed uses, estimate quantity of water and delivery schedule	Verification of information provided in the Districts' User Application Form. Send conditional approval in writing with caveat that project commencement is contingent upon Direct User or Purveyor receiving all regulatory approvals.	Districts
<i>Step 8</i> – Draft contract or amendment or other legal control mechanism (if site is not covered under existing contract or control mechanism)	Contract, contract amendment, or control mechanism between Purveyor and User	Purveyor and User
<i>Step 9</i> – Approve contract or amendment or other legal control mechanism (if site is not covered under existing contract or control mechanisms)	Purveyor and User authorize contract, contract amendment, or control mechanism	Purveyor and User
<i>Step 10</i> – Complete California Environmental Quality Act (CEQA) Process	Make sure there is proper CEQA documentation for the site	Purveyor and User
<i>Step 11</i> – Consult with health agencies ( <i>recommended</i> )	Describe project and show draft plans to CDPH and LACDPH	Purveyor
<i>Step 12</i> – Finalize and submit plans and specifications	Plans and specifications submitted to LACDPH; LACDPH Cross-Connection Plan Approval Application and fee	Purveyor

<sup>3</sup> <http://www.cdph.ca.gov/healthinfo/environhealth/water/Pages/Waterrecycling.aspx>.  
DOC# 1062369

**Table 2. Process to Obtain Recycled Water for Users Receiving Water From Purveyors**

<b>Process</b>	<b>Applicable Documents or Actions Required</b>	<b>Responsible Entity</b>
<i>Step 13</i> – Provide materials and/or training to User on proper operation of a recycled water system	Districts' Recycled Water Users Handbook and training to be provided by Purveyor (the Districts' training program or another equivalent program can be substituted)	Purveyor
<i>Step 14</i> – Consult with Lahontan Regional Water Quality Control Board (LRWQCB) ( <i>recommended</i> )	Describe project and discuss Engineering Report needs	Purveyor
<i>Step 15</i> – Final plans and specifications	Obtain approval of final plans and specifications from LACDPH	Purveyor
<i>Step 16</i> – Prepare / amend Engineering Report	CDPH <i>Guidelines for Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water</i> <sup>4</sup> ; Districts' information on water reclamation plants; Purveyor completes the Engineering Report; the Districts provide information related to treatment facilities; the report must be prepared and stamped by a professional engineer registered in California.	Purveyor and Districts
<i>Step 17</i> – Submit Engineering Report to CDPH and LRWQCB, with copy to Districts	Completed Engineering Report	Purveyor
<i>Step 18</i> – If applicable, submit revised Engineering Report, with copy to Districts	Revisions/additional information may be requested by CDPH and/or the LRWQCB	Purveyor
<i>Step 19</i> – Authorization of project under existing or new LRWQCB permit	Letter or permit	LRWQCB; possibly CDPH and/or LACDPH
<i>Step 20</i> – Notify Districts of Final Regulatory Approvals	Purveyor sends copy of LRWQCB letter or permit to Districts and any other applicable CDPH or LACDPH documents	Purveyor
<i>Step 21</i> – Pre- and post-construction inspections	Contact LACDPH prior to construction to arrange for site inspections, initial cross-connection and backflow prevention device testing; LACDPH <i>Guidelines and Recycled Water System Inspection Report</i>	Purveyor
<i>Step 22</i> – Approval of final construction	By LACDPH	Purveyor
<i>Step 23</i> – Begin project implementation		Purveyor and User
<i>Step 24</i> – Submit revised as-built drawings of recycled water distribution system if necessary	Must be provided to LACDPH and Districts if any modifications have been made to original drawings	Purveyor

<sup>4</sup> <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Recharge/ERGUIDE2001.PDF>.

RECYCLED WATER USE SITE INSPECTION PROGRAM

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**Recycled Water Use Site Inspection Program  
County Sanitation Districts of Los Angeles County  
District Nos. 14 and 20**

## **1. Introduction**

County Sanitation District Nos. 14 and 20 of Los Angeles County (Districts) have developed Requirements for Recycled Water Users (Requirements). The Requirements, which are mandated by the Water Code, have been developed to ensure that recycled water users comply with all applicable statutes, regulations, and the Districts' Master Permits. A Master Permit has been adopted by the California Regional Water Quality Control Board, Lahontan Region (LRWQCB) for the Lancaster Water Reclamation Plant (WRP). The Districts expect that a Master Permit for the Palmdale WRP will also be adopted in the future. For Master Permits, the Water Code specifies that the permittee conduct "periodic" inspections of the recycled water use sites (Sites) to monitor compliance with the uniform statewide recycling criteria established by California Department of Public Health (CDPH) and the Requirements of the Master Permit. The Requirements address Site inspections in Sections 6, 7, 8 and 9. This document summarizes the requirements pertaining to Site inspections and describes specific implementation procedures.

## **2. Inspection Program**

The inspection program will consist of the following elements:

- 2.1. The Districts' inspection program consists of inspections conducted by both the Districts and the Purveyors, currently the City of Lancaster and the Los Angeles County Waterworks District No. 40. These inspections are in addition to inspections conducted by the Los Angeles County Department of Public Health (LACDPH) or other regulatory agencies.
- 2.2. The Districts will conduct an initial baseline inspection of new Sites during their first year of operation. The LACDPH will also conduct inspections during Site construction and prior to a Site's initial operation.
- 2.3. Upon completion of the baseline inspections, the Districts will conduct periodic site inspections once every three years. The Districts may conduct more frequent inspections depending on factors such as compliance record, potential for human exposure to recycled water and Site retrofits.
- 2.4. For Sites out of compliance, the Districts will conduct annual follow-up inspections.
- 2.5. The Purveyors must also conduct periodic inspections once every three years at a minimum. These inspections will be independent of the Districts' inspections. The Districts may require more frequent inspections by the Purveyors depending on factors such as compliance record, potential for human exposure to recycled water and Site retrofits.
- 2.6. The Districts will work with the Purveyors and users to ensure that the periodic inspections address the Master Permits, the Requirements, applicable laws and regulations, and LACDPH or local health department guidelines.
- 2.7. The Districts require Purveyors to develop and initiate an inspection program within the first year of a Site's operation.
- 2.8. A Site Inspection Report will be completed for each inspection. The Districts' Site Inspection Report Form is attached. The Purveyors may elect to use the Districts' Site Inspection Report

**08-0053**

Form for adopt their own. In the latter case, the Districts will work with the Purveyors to ensure all regulatory requirements are addressed in the Site Inspection Report.

- 2.9. The Site Inspection Report shall be signed and dated by the Site Supervisor and the inspector, and provided to the Districts (if the Districts are not the inspector) within thirty (30) days following the end of the quarter in which the inspection was conducted.
- 2.10. The inspector shall immediately notify the Site Supervisor of violation(s) identified during Site inspections and what corrective actions and follow up actions must be taken.
- 2.11. The Site Supervisor shall notify the Districts by telephone or electronic means upon knowledge of any noncompliance with applicable laws and regulations, the Districts' Permits, and the Requirements. Written confirmation shall be provided within three (3) business days from the date of notification.
- 2.12. The Purveyor or Direct User shall provide written verification to the Districts within ninety (90) days from the date of knowledge of the violation that corrective actions have been implemented.
- 2.13. Site Inspection Reports shall be maintained by the Site Supervisor or Purveyor.
- 2.14. The Purveyor shall notify the Districts by electronic means at least one (1) week prior to conducting a Site inspection.
- 2.15. The Districts will maintain a database of Sites, inspections, and compliance actions.
- 2.16. The recycled water user shall allow an authorized representative of any of the following agencies the right to enter and conduct an inspection of the Site upon presentation of proper credentials: the Districts, LRWQCB, CDPH, LACDPH or local health department.

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# REUSE SITE INSPECTION REPORT

08--0055

**REUSE SITE INSPECTION REPORT  
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY  
District Nos. 14 and 20**

Recycled Water User:

Location of Site:

Type of Use:

Date & Time of Inspection:

Name of Inspector:

Name of User Representative/Title:

**VERIFICATION OF COMPLIANCE INSPECTION AND ENFORCEMENT PROGRAM**

Is recycled water used for any purposes not listed in the Regional Water Quality Control Board permit(s)? If yes, please provide an explanation in the space below.

Yes

No

Have there been any changes or modifications to the recycled water system? If yes, please provide an explanation in the space below.

Yes

No

Has there been a change in the Site Supervisor? If yes, please provide updated information in the space below.

Yes

No

Has on-site staff received appropriate training? If no, please explain in the space below when training will be provided.

Yes

No

Reuse Site:

Date:

Are copies of the Site Operation Manual, Emergency Cross-Connection Response Plan, and Districts' <i>Requirements for Recycled Water Users</i> available to employees at all times? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there complete and up-to-date O&M records for the recycled water system? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>INSPECTION OF USER OPERATIONS</b>		
Is irrigation limited to the authorized use areas? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is recycled water running off from the authorized use area through surface runoff or windblown spray? If yes, please explain in the space below how and when this will be corrected, and make note of the source, volume, and destination of the runoff.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are any unusual odors associated with the recycled water use, supply, or storage? If yes, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there any evidence of ponding of recycled water? If yes, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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Reuse Site:  
Date:

<p>Is there any evidence of mosquito breeding? If yes, please explain in the space below how and when this will be corrected.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are signs properly placed, labeled and legible with regard to not drinking recycled water? If no, please explain in the space below how and when this will be corrected.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are tags visible and legible? If no, please explain in the space below how and when this will be corrected.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is there any evidence of overflows, erosion, or improper management of impoundments? If yes, please explain in the space below how and when this will be corrected</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are there any leaks or breaks in the irrigation system piping or evidence of plugged, broken, or otherwise faulty irrigation components including sprinklers? If yes, please explain in the space below how and when this will be corrected.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is recycled water being sprayed directly on people, dwellings, food-handling facilities, or drinking fountains? If yes, please explain in the space below how and when this will be corrected</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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Reuse Site:

Date:

<p>Is irrigation system being operated during periods of minimal human use with adequate time to dry-out before public use? If no, please explain in the space below how and when this will be corrected.</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>
<p>Does irrigation take place within 50 feet of any domestic water supply well? If yes, please explain in the space below how and when this will be corrected.</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>
<p>Does impoundment of disinfected tertiary recycled water occur within 100 feet of any domestic water supply well? If yes, please explain in the space below how and when this will be corrected.</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>
<p>Does irrigation take place within 50 feet of any uncovered reservoir or stream currently used as a source of domestic water? If yes, please explain in the space below how and when this will be corrected.</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>
<p>Are all impoundments property maintained and adequately protected from erosion, washout, and flooding from a 24-hour rainfall event having a predicted frequency of once in 100 years? If no, please explain in the space below how and when this will be corrected.</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>
<p>Are there any hose bibbs in the recycled water system? If yes, please explain in the space below how and when this will be corrected.</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>

08-0059

Reuse Site:

Date:

Are pipes properly maintained and marked? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are valves and controllers properly maintained and marked? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are points of connection properly maintained and marked? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are other recycled water facilities and control systems including but not limited to pump stations, storage facilities and pressure reducers properly maintained? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is backflow prevention in place? If no, please explain in the space below how and when this will be corrected.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there a schedule for testing backflow prevention and is testing up to date? If no, please explain in the space below how and when this will be corrected. Date of Last Test: _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No

08-0060

Reuse Site:

Date:

<p>Is there a need for cross-connection testing due to major modifications to the system? If yes, in the space below explain when the testing will be conducted.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are best management practices being used to prevent erosion control and runoff? If no, please explain in the space below how and when this will be corrected.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are best management practices being used to irrigate at agronomic rates? If no, please explain in the space below how and when this will be corrected.</p>		
<p>Is fertilizer being used? If yes explain below how best management practices are being used to protect water quality.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>REQUIRED ACTION/FOLLOW-UP ACTION</b>		
<input type="checkbox"/> None		
<input type="checkbox"/> Yes by District – List	Compliance Date	Date Achieved
<input type="checkbox"/> Yes by User – List		

08-0061



# ENFORCEMENT RESPONSE PLAN

08-0063

**Enforcement Response Plan for Requirements for Recycled Water Users (ERP)  
County Sanitation Districts of Los Angeles County  
District Nos. 14 and 20**

**1. Introduction**

In 2006 and 2007, County Sanitation District Nos. 14 and 20 of Los Angeles County (Districts) adopted Ordinances to govern the permitting, enforcement, and inspection activities associated with the use of recycled water to ensure that the Districts had the authority to take action to correct inappropriate uses of recycled water, revoke water users' sales agreements if inappropriate uses persisted, and cease deliveries of recycled water. In conformance with the Ordinances, the Districts have also established *Requirements for Recycled Water Users* (Requirements) to ensure that recycled water users comply with all applicable statutes, regulations, and the Districts' Master Reclamation Permits. The Requirements contain rules governing the use of recycled water, procedures for obtaining permission to use recycled water, requirements for the operation and management of sites, information on site inspection and site access, corrective actions, notification and reporting, and record keeping.

Timely and consistent enforcement of the Ordinances and Requirements is critical to the success of the Districts' water recycling program. Thus, the Districts have developed this ERP to create a framework for identifying and investigating instances of noncompliance, and for taking enforcement actions that are appropriate in relation to the nature and severity of the violation. It is the Districts' intent to respond to violations as soon as they are discovered and to encourage users to achieve compliance as soon as possible. The overall goal of the ERP is to promote and ensure compliance among recycled water users.

**2. Progressive Enforcement**

The ERP is founded on the principle of progressive enforcement. Progressive enforcement is an escalating series of actions that allows for the efficient and effective use of enforcement resources to: 1) assist users in achieving compliance; 2) compel compliance for repeat violations; and 3) provide a disincentive for noncompliance.

While the Districts consider each violation to be a priority that needs to be corrected immediately, the Districts intend to tailor the type of enforcement response to the severity of the violation. For example, for very serious violations, a user's recycled water service may be terminated. For less serious violations, the response may be a verbal notification or a written notice or compliance letter. Also, if a violation continues, the enforcement response may be escalated until compliance is achieved.

Examples of more serious types of violations may include, but are not limited to:

- Unauthorized discharges of recycled water, including discharge to surface water.
- Spraying of food prep areas or drinking fountains.
- Creating a nuisance condition, which would include any action that is injurious to health, is indecent or offensive to the senses, obstructs the use of property, or otherwise adversely affects an individual or community.

08-0084

- Allowing for, or creating, cross-connections between a recycled water line and a potable water line.
- Allowing for backflow between a recycled water system and a potable water system or failure to install backflow prevention devices.
- Failure to prevent recycled water from leaving the site.
- Allowing the use of recycled water outside of an approved area.
- Unauthorized use of recycled water.
- Failure to conduct cross-connection or backflow prevention testing.
- Failure to allow access for inspections.
- Failure to take or complete corrective actions.
- Failure to report spills greater than 50,000 gallons, and incidents of illness, cross-connections or backflow.
- Failure to notify the Districts of violations.

Examples of less serious violations may include, but are not limited to:

- Failure to maintain the recycled water system in good working condition.
- Allowing ponding or pooling of recycled water.
- Improper signage or marking of reuse facilities.
- Improper pipe, valves, valve boxes, etc.
- Improper operation or application of best management practices at reuse sites.
- Irrigation above agronomic rate or fertilizer needs.
- Failure to provide training for recycled water system by personnel.
- Failure to report minor releases of recycled water from the site.
- Failure to provide the Districts with required or requested information.
- Failure to keep records.
- Failure to appoint and maintain a Site Supervisor.

Violations may be found during routine inspection by purveyors or during routine operations by users. Once a violation is discovered, the Site Supervisor must take actions in accordance with Sections 7 (Corrective Action) and 8 (Notification and Reporting) of the Requirements. Such actions include: 1) immediately notifying the Districts and regulatory agencies; 2) providing written confirmation to the Districts and regulatory agencies within 3 business days from the date of notification; 3) providing follow-up documentation that the necessary corrections have been made.

If violations are found during a Districts' inspection, they will be noted on the Districts' inspection form with required follow-up actions and compliance dates. Verification of the corrective action must be made by the purveyor within 90 days of the initial inspection and reported to the Districts.

08-0065

ATTACHMENT D  
Standard Provisions for Waste Discharge Requirements

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;
- 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 owner(s) of, and discharger upon, property subject to waste discharge requirements shall be considered to have a continuing responsibility for ensuring compliance with applicable waste discharge requirements 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 waste discharge requirements shall be reported to the Regional Board. Notification of applicable waste discharge requirements 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.

08-0067

- e. Reports required by the waste discharge requirements, 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 (\$1000) for each day of violation.
- f. If the discharger becomes aware that their waste discharge requirements 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 waste discharge requirements be rescinded.

3. Right to Revise Waste Discharge Requirements

The Board reserves the privilege of changing all or any portion of the waste discharge requirements 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 waste discharge requirements may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and reissuance, or modification.

5. Duty to Mitigate

The discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the waste discharge requirements 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 waste discharge requirements. 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 waste discharge requirements.

7. Waste Discharge Requirement Actions

The waste discharge requirements 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 reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the waste discharge requirements conditions.

8. Property Rights

The waste discharge requirements 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 waste discharge requirements including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the waste discharge requirements shall kept and maintained by the discharger and be available at all times to operating personnel.

11. Severability

Provisions of the waste discharge requirements 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 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.

ATTACHMENT E  
CDPH Approval and Comment Letters

1. March 5, 2009 Letter
2. May 15, 2009 Letter

MARCH 5, 2009 LETTER

08-0072



MARK B HORTON, MD, MSPH  
Director

State of California—Health and Human Services Agency  
California Department of Public Health



ARNOLD SCHWARZENEGGER  
Governor

March 5, 2009

Mr. Mike Plaziak, Supervising Engineer  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

**SYSTEM NO. 1990005 – (REVISED) COMMISSIONING TESTS SUMMARY REPORT FOR WEDECO TAK-55HP ULTRAVIOLET LIGHT (UV) DISINFECTION SYSTEM OF THE MEMBRANE BIO-REACTOR (MBR) PLANT, LANCASTER, CALIFORNIA (REVISED)**

Dear Mr. Plaziak:

We have received comments from Mr. Phil Ackman of the Sanitation Districts of Los Angeles County (District) regarding the Department's letter dated December 2, 2008. The letter refers to the District's Lancaster UV Field Commissioning Tests Summary Report (Report) for the Wedeco TAK-55HP UV Reactor prepared by Carollo Engineers, dated September 2008. The Department has reviewed the District's comments to the recommended provision provided in the Department's letter and determines that they are reasonable. Therefore, the Department has incorporated the District's comments to the following recommended provisions (changes are in *italic*):

1. These recommendations are based on the equipment cited in the Report. No equivalents or substitutions will be accepted without a demonstration of equivalent disinfection performance.
2. Since the LWWTTP uses a membrane filter, the UV system must be operated to deliver a minimum UV dose of 80 mJ/cm<sup>2</sup> at all times.
3. The equations from the Report are to be used as part of the automatic UV disinfection control system for calculating UV dose and should be specified as a permit provision. They are:

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DOC #  
                     Tremblay R

DOC #1228112

Equation 3

$$\text{Dose} = (S / (0.8 * S_0)) * 10^{-2.2548 - 0.8538 * \log \text{Flow} + 2.9182 * \log \text{UVT}}$$

Equation 4

$$S_0 = -0.046359 * \text{UVT} + 0.001476 * \text{UVT}^2$$

Where:

Dose = Delivered UV dose per bank (mJ/cm<sup>2</sup>);

UVT = % UV transmittance at 254 nm (%);

Flow = Flow rate per lamp [gallons per minute (gpm)/lamp], with gpm/lamp calculated as gpm divided by the number of lamps in one bank;

S = UV intensity as measured by the UV sensor, mW/cm<sup>2</sup>;

S<sub>0</sub> = Expected UV intensity of a new lamp at 100 percent output and unfouled conditions, mW/cm<sup>2</sup>;

4. The LWWTP Wedeco UV Reactor is limited to the following operational parameter ranges:
  - a. Permit only flows from 230 to 866 gpm (0.3 to 1.2 MGD). The actual capacity of the Wedeco UV system for the design conditions of 65 % UVT, 80 mJ/cm<sup>2</sup> dose, end-of-lamp-life (EOLL) of 0.88, and fouling factor (FF) of 0.8, using Equations ES-1 and ES-2 of the Report, results in a capacity of 0.91 MGD (630 gpm). If the design capacity is to be based on 66.6 percent UVT, the system capacity using Equations ES-1 and ES-2 from this report meets the 1.0 mgd design objective with a delivered dose of 80.1 mJ/cm<sup>2</sup>.
  - b. Under worse-case conditions, assume end-of-lamp-life (EOLL) of 0.88, and fouling factor (FF) of 0.8; however, proper operation and maintenance should produce more favorable conditions and this may be monitored by UV intensity sensors.

08-0074

- c. UVTs should be maintained at or above 67 percent<sup>1</sup>, unless the EOLL and FF can be demonstrated to be better than the assumed worst case factors, as measured by properly calibrated UV intensity sensors;
  - d. The water level in the Wedeco UV Reactor is maintained below the maximum value of 19.13 inches.
5. In all cases, the UV intensity sensors must monitor the combined effect of UVT, lamp aging and sleeve fouling to ensure that the target UV dose is being met at all times.
  6. Flow meters, UV intensity sensors, and UVT monitors must be properly calibrated to ensure proper disinfection.
  7. UV intensity sensors (duty sensors) must be checked against a reference sensor at least monthly.
  8. For all UV intensity sensors in use, the ratio of the duty UV sensor intensity to the reference UV sensor intensity must be less than or equal to 1.2. If the calibration ratio is >1.2, the failed duty UV sensor must be replaced by a properly calibrated sensor and recalibrated by a qualified facility. The reference UV intensity sensors shall be recalibrated at least annually by a qualified facility using a National Institute of Standards and Technology (NIST) traceable standard.
  9. UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.
  10. *If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2% or more, the on-line UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.*
  11. *Flow meters measuring the flow through a UV reactor must be verified to determine accuracy at least monthly via checking the flow reading against other flow determination methods.*
  12. The facility should be operated in accordance with an approved operations plan, which specifies clearly the operational limits and responses required for critical alarms.
  13. These applicable recommendations should be incorporated into the final permit for the UV system. Approval for the use of any and all water recycling

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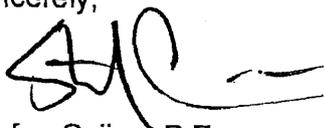
<sup>1</sup> At UVT values below 67 percent, the validated and checked equations state that the Wedeco TAK-55HP can deliver 80 mJ.cm<sup>2</sup> at a flow rate of 0.91 MGD, assuming the EOLL and FF.

Mr. Mike Plaziak  
March 5, 2009  
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applications is granted through the Regional Water Quality Control Board's Water Reclamation permitting process.

If you have questions regarding this letter, please contact Mr. Chi Diep at (213) 580-5727 or myself at (213) 580-3127.

Sincerely,

A handwritten signature in black ink, appearing to read 'SC', with a horizontal line extending to the right.

Stefan Cajina, P.E.  
District Engineer  
Central District

08-0076

Mr. Mike Plaziak  
March 5, 2009  
Page 5

cc: Curt Shifrer  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

Steven A Dassler  
Assistant Public Works Director/City Engineer  
44933 Fern Avenue  
Lancaster, CA 93534-2461

Raymond Tremblay  
Section Head - Monitoring  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Phil Ackman  
Wastewater Research Section  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Erika de Hollan  
Project Engineer  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Andrew Salvesson  
Carollo Engineers  
2700 Ygnacio Valley Road, Suite 300  
Walnut Creek, CA 94598

08-0077

MAY 15, 2009 LETTER

08-0078



MARK B HORTON, MD, MSPH  
Director

State of California—Health and Human Services Agency  
California Department of Public Health



ARNOLD SCHWARZENEGGER  
Governor

May 15, 2009

Mr. Mike Plaziak, Supervising Engineer  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

Dear Mr. Plaziak:

**SYSTEM NO. 1990005 – COMMISSIONING TESTS SUMMARY REPORT FOR  
TROJAN 3000PLUS ULTRAVIOLET LIGHT (UV) DISINFECTION SYSTEM OF THE  
MEMBRANE BIO-REACTOR (MBR) PLANT, LANCASTER, CALIFORNIA**

We were recently informed that there was an error on the letter dated April 15, 2009 regarding the above subject that was sent to your office. The dose equation under recommendation 5b has been corrected. Please replace the April 15, 2009 letter with the corrected version attached.

If you have questions regarding this letter, please contact Mr. Chi Diep at (213) 580-5727 or myself at (213) 580-3127.

Sincerely,

Stefan Cajina, P.E.  
District Engineer  
Central District

Enclosure

MAY 19 2009 AM 09:45

DOC #

TREMBLAY R

Southern California Drinking Water Field Operations Branch, Southern California Section  
1449 West Temple St., Room 202, Los Angeles, CA 90026  
Telephone: (213)580-5723 Fax: (213)580-5711  
Internet Address: [www.cdph.ca.gov](http://www.cdph.ca.gov)

08-0079

Mr. Mike Plaziak  
May 15, 2009  
Page 2

cc: Mike Coony  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

Ghasem Pour-Ghasemi  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

Steven A Dassler  
Assistant Public Works Director/City Engineer  
44933 Fern Avenue  
Lancaster, CA 93534-2461

Raymond Tremblay  
Section Head - Monitoring  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Thomas E. Weiland  
Supervising Engineer  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Erika de Hollan  
Project Engineer  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Andrew Salveson  
Carollo Engineers  
2700 Ygnacio Valley Road, Suite 300  
Walnut Creek, CA 94598

08-0080

State of California—Health and Human Services Agency  
California Department of Public Health



MARK B HORTON, MD, MSPH  
Director



ARNOLD SCHWARZENEGGER  
Governor

April 15, 2009

Mr. Mike Plaziak, Supervising Engineer  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

**SYSTEM NO. 1990005 – COMMISSIONING TESTS SUMMARY REPORT FOR  
TROJAN 3000PLUS ULTRAVIOLET LIGHT (UV) DISINFECTION SYSTEM OF THE  
MEMBRANE BIO-REACTOR (MBR) PLANT, LANCASTER, CALIFORNIA**

Dear Mr. Plaziak:

We have reviewed the Sanitation Districts of Los Angeles County (District) Lancaster UV Field Commissioning Tests Summary Report (Report) for the Trojan 3000Plus UV Reactor prepared by Carollo Engineers, dated December 2008 – revised February 2009. The Trojan UV Reactor is being evaluated as a primary disinfection process for the District's Membrane Bio-Reactor (MBR) treatment process at the Lancaster Waste Water Treatment Plant (LWWTP). UV disinfection systems designed and tested following the National Water Research Institute/American Water Works Association's UV Disinfection Guidelines (2003), when combined with accepted filtration technologies, should adequately achieve the microbiological water quality objectives of the California Code of Regulations, Title 22, Chapter 3, Article 1, Section 60301.230 (a)(2).

The Report documented the performance verification testing for the Trojan UV Reactor at Lancaster. The verification process included an on-site checkpoint bioassay using seeded MS2 applied over a range of flows. Results documenting virus disinfection performance of the UV system compared to the standards found in Title 22 CCR were submitted in the Report for review by the Department. The Department has completed its review and recommends the approval of the Trojan 3000Plus UV Reactor for the LWWTP with the following recommendations:

1. The following recommendations are based on the equipment cited in the report. No equivalents or substitutions will be accepted without a demonstration of equivalent disinfection performance.

---

Southern California Drinking Water Field Operations Branch, Southern California Section  
1449 West Temple St., Room 202, Los Angeles, CA 90026  
Telephone: (213)580-5723 Fax: (213)580-5711  
Internet Address: [www.cdph.ca.gov](http://www.cdph.ca.gov)

08-0081

2. Since the District's Lancaster plant uses a membrane filter, the UV system must be operated to deliver a minimum UV dose of  $80 \text{ mJ/cm}^2$  at all times. The equation from the February 2006 validation report is to be used as part of the automatic UV disinfection control system for calculating UV dose and should be specified as a permit provision. This equation must be verified or modified via the on-site bioassay.
3. The District's Lancaster UV system has a sixteen-bulb array, rather than the twenty-four-bulb array configuration that was validated in 2005 and documented in "UV3000Plus Validation Report, Final" (Carollo Engineers, February 2006). Therefore, the hydraulic characteristics and ability to inactivate MS-2 must be re-validated.
4. The Report has the following issues delineated below.
  - a. Tests were conducted at six flow rates in May and July 2007 (T1-T6), ranging from 164 to 830 gpm (the plant is rated at a maximum of one MGD or 694 gpm). These "check-points" were compared to the dose predicted by the operating equation developed and documented in the validation report of February 2006. Comparing the "Lower 75% Confidence Interval UV Dose/Bank  $\text{mJ/cm}^2$ ", which is recommended by the NWRI guidance<sup>1</sup>, the District's Lancaster UV system tests were from 49% less to 17% more dose delivered than predicted by the equation from the February 2006 validation report. Three of the six tests were below what the validated operational equation predicted.
    - i. T4 was conducted at 830 gpm and the average dose measured was  $34 \text{ mJ/cm}^2$  with a Lower 75% Confidence Interval (CI) of  $32.7 \text{ mJ/cm}^2$ . This was 49% less dose delivered than predicted. An explanation for this poor performance postured by Carollo is that the hydraulics were poor because the water level was 0.25 inches too high at 17.25 inches.
    - ii. Carollo proposes a maximum water level of 17 inches. It should be clarified whether the control system can ensure that the water level will not exceed 17.0 inches.
    - iii. Test T4 should be disregarded because it was above the acceptable highest flow.

<sup>1</sup> 2003 Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse published by the National Water Research Institute/AWWA Research Foundation.

- b. Tests were conducted at three flow rates in April 2008 (T7-T9), ranging from 396 to 719 gpm.
- c. Seven more tests were conducted in July 2008 (C1-C7), at flow rates ranging from 389 to 700 gpm.
- d. The District proposed development of a unique, site-specific UV dose equation for the Lancaster Trojan 3000Plus UV system. Analysis and incorporation of these results in development of a site-specific UV dose equation has the following issues:
  - i. Tests were conducted by District.
  - ii. Only two effluent samples were collected per tests C1-C7 as opposed to five for tests T1-T9.
  - iii. Lower 75% Confidence Interval (CI) calculations raise questions because there are only two numbers rather than five.
  - iv. The two samples for test C5 resulted in the same log inactivation and delivered dose.
  - v. The two samples for test C5 resulted in a Lower 75% CI that is higher than the delivered dose - opposite to what is expected and confirmed in the other tests.
  - vi. The two samples for test C6 also resulted in the same log inactivation and delivered dose.
- e. To address the uncertainties of the C1-C7 tests, an additional dose response correction factor of 0.95 should be incorporated in the District's site-specific UV dose equation for the Lancaster Trojan UV3000Plus.

#### **DISTRICT'S LANCASTER PERMIT FOR TROJAN 3000PLUS**

- 5. **The following recommendations should be incorporated into the final permit for the UV system.** Approval for the use of any and all water recycling applications is granted through the Regional Water Quality Control Board's Water Reclamation permitting process.
  - a. Since the LWWTP uses a membrane filter, the UV system must be operated to deliver a minimum UV dose of 80 mJ/cm<sup>2</sup> at all times.

08-0083

- b. A modification of the District proposed unique, site-specific UV dose equation for the Lancaster Trojan UV3000Plus is to be used as part of the automatic UV disinfection control system for calculating UV dose and should be specified as a permit provision. This equation was developed based on the on-site bioassay. In order to correct for uncertainties of the dose response curve during the on-site tests, an additional uncertainty correction factor of 0.95 should be incorporated in the District's site-specific UV dose equation for the Lancaster Trojan UV3000Plus.

The equations to be used as part of the automatic UV disinfection control system for calculating UV dose should be specified as a permit provision. They are:

$$\text{Dose} = (U_{DR}) * (FF) * (LHF) * 10^{-6.3547 - 0.98208 * \log \text{Flow} + 4.0824 * \log \text{UVT} + 1.0396 * \log P}$$

and

$$\text{LHF} = \text{lamp hour factor} = 1 - [\text{operational lamp hours} * (1 - \text{EOLL}) / 9,000]$$

Where:

Dose = Delivered UV dose per bank (mJ/cm<sup>2</sup>);

$U_{DR}$  = Uncertainty of dose response curve = 0.95;

FF = Fouling Factor = 0.95;

UVT = % UV transmittance at 254 nm (%);

Flow = Flow rate per lamp [gallons per minute (gpm)/lamp], with gpm/lamp calculated as gpm divided by the number of lamps in one bank;

EOLL = End of Lamp Life = 0.98 at 9000 hours; and

P = percent power.

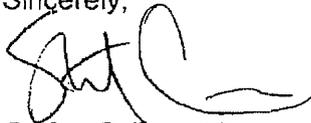
- c. The Trojan 3000plus low-pressure high-output (LPHO) UV disinfection system reactor is limited to the following operational parameter ranges:
- i. Permit flow up to 1.0 MGD (694 gpm).
  - ii. Minimum UVT = 64%.

08-0084

- iii. Minimum one of the four banks in redundant standby mode. If during short-term, unexpected conditions the UVT is less than 64 percent, the redundant bank would need to be utilized in order to maintain the required 80-mJ/cm<sup>2</sup> dose, otherwise, the flow must be diverted.
  - iv. The water level in the Trojan reactor is maintained below the maximum value of 17 inches.
- d. Flow meters and UVT monitors must be properly calibrated to ensure proper disinfection.
  - e. UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.
  - f. If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2% or more, the on-line UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.
  - g. Flow meters measuring the flow through a UV reactor must be verified to determine accuracy at least monthly via checking the flow reading against other flow determination methods.
  - h. The Trojan 3000Plus system has an automated mechanical wiping mechanism to reduce sleeve fouling. A minimum frequency of wiping should be developed specific to the District's Lancaster UV system. This should then be correlated to the proposed 0.95 fouling factor, which is incorporated into the UV dose equation above.
  - i. The facility should be operated in accordance with an approved operations plan, which specifies clearly the operational limits and responses required for critical alarms.

If you have questions regarding this letter, please contact Mr. Chi Diep at (213) 580-5727 or myself at (213) 580-3127.

Sincerely,



Stefan Cajina, P.E.  
District Engineer  
Central District

08-0085

Mr. Mike Plaziak  
April 15, 2009  
Page 6

cc: Curt Shifrer  
California Regional Water Quality Control Board - Lahontan Region  
Victorville Branch Office  
14440 Civic Drive, Suite 200  
Victorville, CA 92392-2306

Steven A Dassler  
Assistant Public Works Director/City Engineer  
44933 Fern Avenue  
Lancaster, CA 93534-2461

Raymond Tremblay  
Section Head - Monitoring  
Sanitation Districts of Los Angeles County  
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P.O. Box 4998  
Whittier, CA 90607-4998

Erika de Hollan  
Project Engineer  
Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, CA 90607-4998

Andrew Salveson  
Carollo Engineers  
2700 Ygnacio Valley Road, Suite 300  
Walnut Creek, CA 94598

08-0086

Mr. Mike Plaziak  
April 15, 2009  
Page 7

bcc: Reading  
1990005 – Correspondence  
Region  
Jeff Stone  
Brian Bernados  
Chi – PICME

TrojanUV(005).doc  
SC/CD:

08-0087

# ENCLOSURE 2

08-0088

**From:** "Dassler, Steve" <sdassler@cityoflancafterca.org>  
**To:** "Sferguson@rb6s.swrcb.ca.gov" <Sferguson@rb6s.swrcb.ca.gov>  
**CC:** "Neal, Robert" <rneal@cityoflancafterca.org>  
**Date:** 9/29/2009 11:25 AM  
**Subject:** City of Lancaster Comments on Tentative Master Water Recycling Requirements and Waste Discharge Requirements for the County Sanitation District No.docx  
**Attachments:** City of Lancaster Comments on Tentative Master Water Recycling Requirements and Waste Discharge Requirements for the County Sanitation District No.doc  
x

Scott attached are the City of Lancaster's comments on the tentative board order R6V-2009-(tentative). Thank you for the opportunity to comment. Should you have any questions please contact me.

Steven A. Dassler  
Utility Services Manager  
615 W. Avenue H  
Lancaster, Ca 93534  
(661) 945-6863  
sdassler@cityoflancafterca.org

08-0089

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION  
BOARD ORDER NO. R6V-2009-(TENTATIVE) WDID NO. 6B190501 001

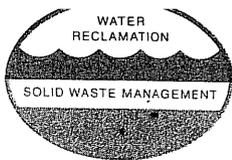
City of Lancaster Comments on Tentative Master Water Recycling Requirements and Waste Discharge Requirements for the County Sanitation District No. 14 of Los Angeles County (Lancaster). The following are the comments from the City of Lancaster prepared by Steven A. Dassler, Utility Services Manager.

1. Page 3-a. Clarification of last sentence required: Sentence refers to “the District’s water reclamation plant site as shown in Attachment B of this Order.” However, Attachment B identifies 3 District water reclamation sites.
2. Page 4 -c. second paragraph should include Lancaster as a user (for irrigation and sewer flushing along with the Eastern Ag Site.
3. Page 5. Recommend modifying bullet that identifies “Dust control for construction activities” as a currently permitted use of RW under Board Order (No. R6V-2009-0034) to “Dust control for construction and demolition activities” as RW is more often used for controlling (mitigating) asbestos containing (ACM) demolition dust and debris.
4. Page 6 -a. Does this use include such industrial processes as ethanol production (BlueFire Ethanol Inc) and Chlorine production (HASA) or any other process where a product is produced? Does this cover lined or other barrier type of ponds used for recycled water storage?
5. Page 6- 5<sup>th</sup> paragraph the discussion of amount of recycled water at build out should include a note that indicates where the information comes from i.e. the North Los Angeles/Kern County Regional Recycled Water Project PEIR. The volume identified at build out is for use identified at the time of the writing of the PEIR (Nov 2008) there are numerous other potential users particularly solar user that are seeking recycled water at this time. The volume of recycled water demand could be in excess of the available recycled water from Palmdale and Lancaster WR Plants in the near future (10 years).
6. Page 26, III.B. – States the “District must develop and implement an operations and management plan to control incidental (recycled water) runoff” – Is/will this be considered a “blanket” plan covering all recycled water users, or will the City be required to develop its own subordinate version on a local scale?

08-0090

# **ENCLOSURE 3**

08-0091



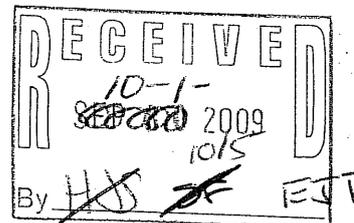
# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400  
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998  
Telephone: (562) 699-7411, FAX: (562) 699-5422  
www.lacsd.org

STEPHEN R. MAGUIN  
Chief Engineer and General Manager

September 29, 2009  
File No. 14-14.01-55

Harold Singer, Executive Officer  
California Regional Water Quality Control Board  
Lahontan Region, Lake Tahoe Office  
2501 Lake Tahoe Blvd.  
South Lake Tahoe, CA 96150



Dear Mr. Singer:

**Comments on Tentative Master Water Recycling Requirements,  
Board Order No. R6V-2009-(TENTATIVE) for the  
Lancaster Water Reclamation Plant WDID No. 6B190501001**

This letter contains County Sanitation District No. 14 of Los Angeles County's (Sanitation District) comments on the Tentative Master Water Recycling Requirements and Waste Discharge Requirements (Tentative Master Permit) for the Lancaster Water Reclamation Plant (LWRP). The Sanitation District appreciates the opportunity to provide comments on the Tentative Master Permit and would also like to recognize the considerable amount of staff effort that went into its preparation. In general, the Sanitation District concurs with the approach taken by Regional Board staff with the Tentative Master Permit, in permitting the reuse of tertiary-treated recycled water. We would prefer, however, that future Master Water Recycling Permits allow all uses under state law, but we will continue to work with your staff to achieve this goal. The Sanitation District is prepared to support the proposed Master Permit with the inclusion of modifications as suggested below and in the attached tables.

Leak Detection Requirements

The Sanitation District requests that the requirement to detect leaks before the release of 1,000 gallons or the passage of 72 hours (see Finding 19 and Section I.C.14.a. of the Tentative Master Permit) be clarified to only apply to above ground portions of the recycled water distribution system. It is simply not possible for the Sanitation District as well, as recycled water users and producers who operate the distribution system, to comply with this provision in the case of underground piping. The recycled water pipeline operators will engage in all water industry best management practices to prevent leaks whenever possible, and find and correct them. Unfortunately, even the best maintained pipeline system can leak. A small, undetectable leak in an underground pipeline could result in leakage that exceeds the volume limit in a single day, but not be detected. Our concern is that a leak of this nature would be identified long after the 72 hours had passed, and we would have to consider this a violation of the permit.

The Sanitation District acknowledges that the requirement for detection of leaks before the release of 1,000 gallons occurs, or before the passage of 72 hours, is consistent with the State Recycled Water Policy. However, the Sanitation District understands that this requirement was intended to ensure compliance with the Incidental Runoff Best Management Practices, and would only apply to above-ground recycled water irrigation systems, such as broken sprinkler heads. If this were to apply to in-ground pipelines, it would be an impracticable requirement, especially for large distribution systems.

08-0092

DOC #1368094

*Suggested language:*

*Finding 19:* "This plan must provide for detection of leaks from above-ground recycled water irrigation facilities (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first."

*Section I.C.14.a:* "...detection of leaks from above-ground recycled water irrigation facilities and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first;"

Requirement Regarding Application Rates of Water and Nutrients

The Sanitation District requests that the requirement in Section I.C.8. of the Tentative Master Permit and Section I.B of the Monitoring and Reporting Program (MRP) be clarified to require irrigation of landscape at agronomic rates. The Tentative Master Permit requires that the Sanitation District ensure that water and nutrients are not applied at landscape irrigation sites at rates greater than the needs of the plants. The Sanitation District is concerned that the proposed language might be interpreted to require a less than agronomic rate application of water and nutrients to landscaping that would not be sustainable for recycled water users. There is a substantial difference between the amount of water and nutrients needed by a plant for minimal survival, assuming perfect irrigation efficiency, and the amount that a user applies "agronomically" to ensure a healthy and visually appealing landscape. Because water and nutrients cannot be applied precisely when and where the plants need them<sup>1</sup>, additional quantities are applied in accordance with good agronomic practice to ensure adequate water and nutrients are available to the plant at all times.

*Suggested language:*

*Finding 22.a.ii:* "The proposed landscape irrigation use ~~is in amounts and rates needed for the landscape~~ will not exceed agronomic rates."

*Section I.C.8:* "Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds ~~the irrigation and nutrient needs of the vegetation~~ agronomic rates."

*MRP Section I.B.1.a:* "~~volume of water required for plant growth in~~ agronomic rate of each irrigated area;"

*MRP Section I.B.2.a:* "~~amount of nitrogen (N) needed for plant growth in~~ agronomic rate of nitrogen (N) for each landscape and agricultural area"

Requirement to Calculate Agronomic Nitrogen Demand On A Monthly Basis

The Sanitation District requests that the requirement to determine agronomic nitrogen demand on a monthly basis (Section I.C.8 of the Tentative Master Permit and Section I.B.2 of the MRP) be modified to an annual basis. The Tentative Master Permit requires that the agronomic nitrogen demand and total nitrogen application be determined for each reuse site on a monthly basis. This requirement is overly burdensome and not consistent with typical management practices for landscape managers. Recycled Water Users at typical irrigation sites plan for one or more fertilizer applications on a yearly basis, rather

<sup>1</sup> Personal communication, Dr. Charles Burt, Irrigation Training and Research Center

than month-to-month. Thus, nutrient agronomic rates are more appropriately determined for a calendar year. The Sanitation District requests that this nitrogen calculation be replaced by a requirement that the Site Supervisor be informed yearly of the nutrient content of the recycled water supply, and instructed to modify the fertilizer application at the site accordingly.

*Suggested language:*

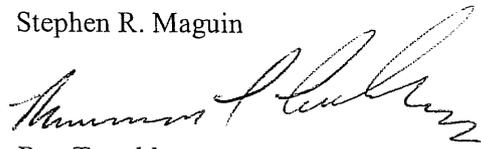
*Section I.C.8:* "The District must communicate to landscape irrigation recycled water users the previous year's nutrient levels in the recycled water at least monthly annually so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers."

*MRP Section I.B.2:* "b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; c. total amount of N applied to each area for the year, including the amount of N in the recycled water and the amount of N in any fertilizer applied; d. and number of acres for each area."

If you have any questions regarding these comments, please do not hesitate to contact Erika de Hollan at (562) 908-4288, extension 2836 (or by email at [edehollan@lacsdsd.org](mailto:edehollan@lacsdsd.org)) or the undersigned at extension 2502.

Very truly yours,

Stephen R. Maguin



Ray Tremblay  
Assistant Department Head  
Technical Services

RT:EXD:lmb  
Attachments

cc: Eric Taxer, Lahontan Regional Board-South Lake Tahoe Office  
Steve Dassler, City of Lancaster  
Dave Rydman, Los Angeles County Waterworks  
Gordon Phair, City of Palmdale  
Curtis Paxton, Palmdale Water District

08-0094

**Table 1. Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
1	3	Finding 4.	Board Order No. 6-85-35 and R6V-2002-0053, as amended on July 13, 2005 and on March 14, 2007, establish waste discharge requirements for the discharge of recycled water pursuant to Water Code section 13523.1(b)(1).	Order No. R6V-2002-0053 was originally adopted in September 11, 2002 and is still in effect.  Suggested language: “...R6V-2002-0053, as adopted on September 11, 2002, amended on July 13, 2005 and on March 14, 2007...”
2	4	Finding 4.c.	The District's other existing tertiary treatment plant, the Membrane Bioreactor Tertiary Treatment Plant (MBR), has a 24-hour treatment capacity of 1.75 mgd. The MBR produces recycled water that is used at the Eastern Agricultural Site.	Recycled water produced at the MBR is used for other uses in addition to the Eastern Agricultural Site.  Suggested language: “The MBR produces recycled water that is used at the Eastern Agricultural Site (as well as for other uses/sites as described below).”
3	5	Finding 4.d. and Finding 9	...and Range 14 West...	Please, clarify which border of Range 14 West binds the authorized area.  Suggested language: “...and the west side of Range 14 West...”
4	5	Finding 4.d.	Board Order No. R6V-2000-0034 will be rescinded and replaced by this master recycling permit.	Typographical error.
5	6	Finding 5	b. recycled water use at power plants...	Suggested language: “Board Order No. R6V-2000-0034 will be rescinded...” Although it is expected that power plants are the types of facilities that will be using recycled water in the manner proposed, it has not been determined that these facilities are the only types that are proposing to use recycled water for industrial uses.
6	11	Finding 18	Order No. III of this Master Recycling Permit requires the District to develop a salt/nutrient management plan and to control incidental runoff consistent with Paragraphs 6 and 7(a), respectively, of the Recycled Water Policy.	Suggested language: “b. recycled water use at facilities, such as power plants, ...” Order No. II. Requires the Sanitation District to develop or participate in the development of a salt/nutrient management plan for the Antelope Valley.  Suggested language: “Order No. III of this Master Recycling Permit requires the District to develop or participate in the development of a salt/nutrient management plan...”

08-0095

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
7	11	Finding 19	The District must develop and implement an operations and management plan that applies to all recycled water use areas.	<p>The intention of the State Recycled Water Policy is to have an operations and management (O&amp;M) plan that applies specifically to landscape irrigation projects for the purposes of detecting and correcting leaks. Also, the Recycled Water User should be able to develop an O&amp;M plan that addresses these issues specific to a particular Recycled Water Use Site. For clarification of the applicability of the O&amp;M plan(s), the Sanitation District proposes changes to the statement as indicated below.</p> <p>Suggested language:                      “The District must develop and implement an operations and management plan that applies to all landscape irrigation recycled water use areas. Alternatively, a Recycled Water User may develop and implement an operations and management plan that applies specifically to the User’s recycled water use site.”</p>
8	11	Finding 19	This plan must provide for detection of leaks (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first.	<p>The Sanitation District acknowledges that the requirement for the detection of leaks before the release of 1000 gallons or before the passage of 72 hours is from the State Recycled Water Policy, but understands this requirement was intended to ensure compliance with the Incidental Runoff Best Management Practices and to apply to above-ground recycled water irrigation systems. If this requirement were to apply to in-ground pipelines, it would be an impracticable requirement. The Sanitation District suggests the following language to provide clarification.</p> <p>Suggested language:                      “This plan must provide for detection of leaks from above-ground recycled water irrigation facilities (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first.”</p>
9	11	Finding 20	The Recycled Water Policy prohibits discharge to surface waters from a surface impoundment containing recycled water unless the discharge is a result of a 25-year, 24-hour storm event or greater. Surface water impoundments used for recycled water storage will retain a 25-year, 24-hour storm event.	<p>This statement is somewhat contradictory in that the State Recycled Water Policy is allowing for discharge only in the event that a 25-year, 24-hour storm or greater occurs. The second sentence indicates that no discharge may occur in a 25-year, 24-hour storm. To clarify the prohibition of discharge, the Sanitation District proposes changes to the second sentence as indicated below.</p> <p>Suggested language:                      “Surface water impoundments used for recycled water storage shall be maintained so that no discharge occurs except as a result of <del>will retain</del> a 25-year, 24-hour storm event or greater.”</p>

08-0096

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
10	13	Finding 21.b.	<p>Engineering Reports Table:                      In rows titled, "NDN Facilities (Stage V Expansion), report expected to be submitted to CDPH in October 2009," and, "North Los Angeles/Kern County Regional Recycled Water Project, report expected to be submitted to CDPH in October 2009."                      Under the "Engineering report title" and "CDPH review status" columns.                      Statement 1: "report expected to be submitted to CDPH in October 2009."                      Statement 2: "CDPH comment letter expected November, 2009."</p>	<p>The Engineering Reports for each project may be submitted later than October 2009.                      Suggested language:                      Statement 1: "report expected to be submitted to CDPH in <del>October</del> <u>2009</u> prior to project completion and/or implementation."                      Statement 2: "CDPH comment letter expected <del>November, 2009</del> <u>30 days after report submittal to CDPH.</u>"</p>
11	15	Finding 22.a.ii.	<p>The proposed landscape irrigation use is in amounts and rates needed for the landscape.</p>	<p>There is a difference between the amount of water and nutrients needed by the plant, which could be interpreted as a minimum amount for mere survival, and what can be taken up by the plant, or more importantly what can be applied to the landscape irrigation site that will not cause a nuisance condition in the groundwater. The Sanitation District requests that "agronomic rates" be used instead.                      Suggested language:                      "The proposed landscape irrigation use <del>is in amounts and rates needed for the landscape</del> <u>will not exceed agronomic rates.</u>"</p>
12	15	Finding 22.a.ii.	<p>An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied including, but not limited to, developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers.</p>	<p>The elements described in this section (i.e., "developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers") may be included in an O&amp;M plan, but some are not appropriate or applicable to some landscape irrigation sites.                      Suggested language:                      "An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied <del>including</del> <u>and may include, but not be limited to...</u>"</p>

08-0097

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
13	16	Finding 23	[end of second paragraph] The average TDS concentration in the recycled water is currently 654 mg/L, and this value will be reduced to 550 mg/L in 2011 after the Stage V Tertiary Treatment Plant is operational.	While the TDS concentration in the effluent of the Stage V Tertiary Treatment Plant will most likely be lower than the current tertiary effluent from the Lancaster WRP, it is an approximate expected value.  Suggested language: “...this value <del>will be</del> <u>is expected to be reduced to approximately 550 mg/L</u> in 2011 after the Stage V Tertiary Treatment Plant is operational.”
14	21	Finding 25.a.	Application of recycled water at agronomic rates so irrigation does not promote downward migration of salts and nutrients (including nitrates), which could adversely impact the quality of groundwater...	As indicated in a previous communication from the Sanitation District to the Regional Board, the focus of this mitigation measure should be on avoiding adverse impacts to groundwater, not avoiding an unspecified downward migration salts. In a June 5, 2009 letter to the Sanitation District, Regional Board staff indicated that they concurred with this comment and would modify the Finding accordingly. However, no such modification was made and may have been inadvertently left unchanged.  Suggested language: “Application of recycled water at agronomic rates <del>so irrigation does not promote downward migration of salts and nutrients (including nitrates), which could to</del> <u>reduce the potential for irrigation to adversely impact the quality of groundwater in terms of salts and nutrients (including nitrates).</u> ”
15	22	WDR I.A.1. through I.A.3.	1. Recycled water production at the Antelope Valley Tertiary Treatment Plant must not exceed 0.6 mgd (maximum average 24-hour flow). 2. Recycled water production at the Membrane Bioreactor Plant must not exceed 1.75 mgd (maximum average 24-hour flow). 3. Recycled water production at the Activated Sludge/Nitrification-Denitrification Plant (Stage V Tertiary Treatment Plant) must not exceed 18 mgd (maximum average 24-hour flow).	To reflect consistency with the discharge specifications in the waste discharge requirements as prescribed in Regional Board Order No. R6V-2002-053A2 for the LWRP that exceeding the flow limit does not necessarily indicate a permit violation; the Sanitation District suggests adding the following language to each of Sections I.A.1 through I.A.3 (see Sections I.A.1 through I.A.3 in R6V-2002-053A2 for similar language).  Suggested language: “ <u>Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling</u>

08-0098

Specifications I.B. through I.C. is also exceeded.”

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
16	22	WDR I.A.3.	Recycled water production at the Activated Sludge/Nitrification- Denitrification Plant (Stage V Tertiary Treatment Plant) must not exceed 18 mgd (maximum average 24-hour flow).	<p>Regional Board Order No. R6V-2002-053A2 for the LWRP includes a provision for the Stage V Tertiary Treatment Plant subsequent expansion to 21 mgd (see Section I.A.4 in R6V-2002-053A2 for similar language). The Sanitation District requests that this Master Permit includes a similar provision.</p> <p>Suggested language:            Add a new section in I.A: <u>“Recycled water production at the subsequent expanded Stage V Tertiary Treatment Plant must not exceed 21 mgd (maximum average 24-hour flow). Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling Specifications I.B. through I.C. is also exceeded.”</u></p> <p>There are waste discharge requirements (WDRs) previously adopted by Regional Board that have been rescinded or amended. To clarify that the Sanitation District must comply with WDRs that, while previously adopted by Regional Board, are also still in effect—the following statement changes are suggested.</p>
17	22	WDR I.B.1.	Pursuant to Water Code section 13523.1, subdivision (b)(1), the District must comply with all waste discharge requirements previously adopted by the Lahontan Water Board for regulating the production of the disinfected tertiary recycled water.	<p>Suggested language:            “Pursuant to Water Code section 13523.1, subdivision (b)(1), the District must comply with all waste discharge requirements previously adopted by the Lahontan Water Board and are in effect for regulating the production of the disinfected tertiary recycled water.”</p> <p>As mentioned in Comment #11 above, there is a difference between the amount of water and nutrients needed by the plant and what can be taken up by the plant that will not cause a nuisance condition in the groundwater. The Sanitation District requests that “agronomic rates” be used instead.</p> <p>Suggested language:            “Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds <del>the irrigation and nutrient needs of the</del> <u>vegetation agronomic rates.</u>”</p>
18	24	WDR I.C.8.	Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds the irrigation and nutrient needs of the vegetation.	<p>Suggested language:            “Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds <del>the irrigation and nutrient needs of the</del> <u>vegetation agronomic rates.</u>”</p>

08-0099

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
19	24	WDR I.C.8.	The District must communicate to recycled water users the nutrient levels in the recycled water at least monthly so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers.	There are seasonal variations in the needs of the vegetation and possible seasonal variations in the nutrient levels of the recycled water. This variation may make monthly communications of the nutrient levels in the recycled water less effective than communicating the expected monthly nutrient levels. This would allow for better planning of fertilizer application on the part of the landscape irrigation recycled water user (Note: nutrient levels concerns does not apply for all uses). The Sanitation District can provide to the landscape irrigation recycled water user the previous year's nutrient water quality data on an annual basis for use as a nutrient prediction tool. This data may also be included in the Sanitation District's "Recycled Water User Handbook" that is distributed to Recycled Water Use Site Supervisors and provided on the Sanitation District's website.
20	24	WDR I.C.14.a.	...detection of leaks and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first;	<p>Suggested language:                      "The District must communicate to <u>landscape irrigation recycled water</u> users the <u>previous year's monthly</u> nutrient levels in the recycled water at least <u>monthly</u> annually so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers."</p> <p>Similar to Comment #8, the Sanitation District understands the requirement in the Recycled Water Policy was intended to apply to above-ground recycled water irrigation systems. If this requirement were to apply to below ground pipelines, it would be an impracticable requirement. The Sanitation District suggests the following language to provide clarification.</p> <p>Suggested language:                      "...<u>detection of leaks from above-ground recycled water irrigation facilities</u> and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first,"</p>

08-0100

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
21	27	WDR III.B.	Before supplying recycled water to new users under this Order, the District must develop and implement an operations and management plan to control incidental runoff that is consistent with Paragraph 7(a) of the Recycled Water Policy.	<p>The O&amp;M plan required by the Recycled water Policy is intended for landscape irrigation recycled water use. Thus, prior to implementing the indicated O&amp;M plan, the Sanitation District should be able to supply new users of recycled water for uses other than landscape irrigation. The Sanitation Districts request clarification of recycled water use and suggest the following statement change.</p> <p>Suggested language:            “Before supplying recycled water to new users for landscape irrigation under this Order, the District must develop and implement an operations and management plan to control incidental runoff that is consistent with Paragraph 7(a) of the Recycled Water Policy.”</p>

08-0101

**Table 2. Comments to Monitoring and Reporting Program**

Item	Page	Section	Tentative Statement	Comment
22	1	I.A.2. through I.A.4	The District shall record the total volume, in million gallons, and the average 24-hour flow rate, in mgd, of recycled water supplied...	To clarify the flow parameter to be monitored, the Sanitation District suggests adding "monthly" to the requirement for each Section (I.A.2. through I.A.4).  Suggested language: "The District shall record the total volume, in million gallons, and the <u>monthly average 24-hour flow rate...</u> "
23	2	I.B.1.a.	volume of water required for plant growth in each irrigated area;	Similar to Comment #11, the volume of water required for plant growth is different than the amount that can be taken up by the plant and not adversely affect the groundwater. The Sanitation District suggests comparing the amount of water applied with the agronomic rate.  Suggested language: " <u>a. volume of water required for plant growth in agronomic rate of each irrigated area;</u> "
24	2	I.B.2.	For each calendar month, the District shall record, and provide a tabular comparison of, the: a. amount of nitrogen (N) needed for plant growth in each landscape and agricultural area; b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; and c. number of acres for each area.	Similar to Comments #11 and 23, the amount of nutrients required for plant growth is different than the amount that can be taken up by the plant and not adversely affect the groundwater. In addition, typical irrigation sites plan for one or more fertilizer applications on a yearly basis, rather than month-to-month. Thus, nutrient agronomic rates are more appropriately determined for a calendar year.  Suggested language: "For each calendar month, the District shall record, and provide a tabular comparison of the: a. <u>amount of nitrogen (N) needed for plant growth in agronomic rate of nitrogen (N) for each landscape and agricultural area;</u> b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; c. total amount of N applied to each area for the year, including the <u>amount of N in the recycled water and the amount of N in any fertilizer applied;</u> d. and number of acres for each area."

08-0102

**Table 2. Comments to Monitoring and Reporting Program**

Item	Page	Section	Tentative Statement	Comment
25	2	I.C.	<p>Recycled Water Quality Monitoring Table:                      The table indicates that "Monthly" monitoring of recycled water is required for total dissolved solids, sulfate, and chloride.</p>	<p>Recycled water quality monitoring of some parameters is more frequent than in the existing WDRs/MRP (i.e., Board Order No. R6V-2002-053, adopted March 14, 2007) for surface water and other discharges—i.e., total dissolved solids, sulfate, and chloride are monitored on a quarterly basis at the treatment plants in compliance with the existing WDRs/MRP, whereas the Tentative Master Permit MRP is requiring monthly monitoring. Moreover, additional recycled water quality monitoring, if necessary, shall be addressed by the salt/nutrient management plans required to be developed and implemented. For consistency with existing WDRs/MRPs, the Sanitation District requests that the Master Permit MRP maintains the monitoring frequency of Board Order No. R6V-2002-053, adopted March 14, 2007).</p> <p>Suggested language:  <u>"Monthly Quarterly"</u></p>
26	2	I.C.	<p>Recycled Water Quality Monitoring Table:                      The table indicates that a "Grab" sample is required to monitor recycled water for n-nitrosodimethylamine.</p>	<p>n-nitrosodimethylamine (NDMA), is listed in the table as requiring a grab sample analysis on a quarterly basis. Typically, the Sanitation District conducts NDMA analyses on a quarterly basis using 24-hour composite samples of recycled water in accordance with the Revised MRP No. R6V-2002-053, adopted on March 14, 2007. The Sanitation District requests that the results from these 24-hour composite samples fulfill the requirements of the Master Permit MRP.</p> <p>Suggested language:  <u>"Grab Composite"</u></p>
27	3	I.C.	<p>Recycled Water Quality Monitoring Table:                      The table indicates that a "Grab" sample is required to monitor recycled water for priority pollutants.</p>	<p>In some cases, the Sanitation District conducts priority pollutant analyses using 24-hour composite recycled water samples. For example, metals (except hexavalent chromium), total phenols, and semivolatile organics are analyzed using 24-hour composite samples in fulfillment of the Revised MRP No. R6V-2002-053. While this table indicates that a grab sample is required, the Sanitation District requests that the results from either 24-hour composite or grab samples fulfill the requirements of the Master Permit MRP.</p> <p>Suggested language:  <u>"Grab or Composite"</u></p>

08-0103

**Table 2. Comments to Monitoring and Reporting Program**

Item	Page	Section	Tentative Statement	Comment
28	5	I.E.6.	The District must ensure that the recycled water distribution system is annually inspected for leaks or drops in pressure, and that pressure tests are conducted at a minimum once every three years.	<p>The requirement of pressure testing is impracticable since large water distribution systems with numerous valves cannot be properly isolated without excavating piping to properly segregate sections of piping, as some valves will not adequately seal to hold pressure during testing. Typically, pressure tests are conducted when there are significant modifications to the recycled water system, in accordance with California Department of Public Health regulations. Also, leaks can be identified by conducting visual inspections.</p> <p>Suggested language: "The District must ensure that the recycled water distribution system is annually inspected visually for leaks or drops in pressure, and that pressure tests are conducted <del>at a minimum once every three years</del> as necessary and according to California Department of Public Health regulations."</p>
29	6	II.C.	Beginning on <u>March 1, 2010</u> , semi-annual monitoring reports including the preceding information must be submitted to the Lahontan Water Board by the first day of the third month following each semi-annual monitoring period [Water Code section 13523.1 (b)(6)].	<p>Monitoring of priority pollutants in the recycled water is the only specific semi-annual requirement in the Tentative Master Permit MRP. The Sanitation District requests that this data be reported along with the appropriate quarterly report, thus combining the quarterly and semiannual reports into one; thus, reducing both Sanitation Districts and Regional Board staff time of preparing and reviewing such reports.</p> <p>Suggested language:  "<u>Beginning on <b>March 1, 2010</b>, semi-annual monitoring reports data including the preceding information must be submitted to the Lahontan Water Board by the first day of the third month following each semi-annual monitoring period [Water Code section 13523.1 (b)(6)]. Data that are required on a semi-annual basis will be incorporated into the quarterly report that coincides with the period for which the analyses are required.</u>"</p>

08-0104

# **ENCLOSURE 4**

08-0105



# California Regional Water Quality Control Board Lahontan Region



Linda S. Adams  
Secretary for  
Environmental Protection

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

Arnold Schwarzenegger  
Governor

November 3, 2009

Steven A. Dassler, Utility Services Manager  
City of Lancaster  
615 W. Avenue H  
Lancaster, CA 93534

## **RESPONSE TO COMMENTS RECEIVED FROM THE CITY OF LANCASTER ON THE TENTATIVE WATER RECYCLING REQUIREMENTS AND WASTE DISCHARGE REQUIREMENTS FOR THE COUNTY SANITATION DISTRICT NO. 14 OF LOS ANGELES COUNTY (LANCASTER), DISINFECTED TERTIARY RECYCLED WATER – WDID NO. 6B190501001**

Lahontan Regional Water Quality Control Board (Water Board) staff has reviewed the comments you submitted by electronic mail on September 29, 2009, for the tentative Master Water Recycling Requirements for the County Sanitation District No. 14 of Los Angeles County, Lancaster (District). Your comments are repeated below, in *italic lettering*, and our response follows each respective comment.

### **Comment 1. Finding 4.a**

*Clarification of last sentence required: Sentence refers to “the District’s water reclamation plant site as shown in Attachment B of this Order.” However, Attachment B identifies 3 District water reclamation sites.*

Change made.

### **Comment 2. Finding 4.c**

*Second paragraph should include Lancaster as a user (for irrigation and sewer flushing) along with the Eastern Ag Site.*

Water Board staff modified this paragraph as suggested by the Discharger. The paragraph now reads,

“The District’s other existing tertiary treatment plant, the Membrane Bioreactor Tertiary Treatment Plant (MBR), has an average 24-hour treatment capacity of 1.75 mgd. The MBR produces recycled water that is used at the Eastern Agricultural Site

(requirements for this use are prescribed by the Lahontan Water Board in Board Order No. R6V-2002-0053A2) as well as for other uses at various sites as described in Finding No. 4.d, below.”

### **Comment 3. Finding 5, List of Approved Uses**

*Recommend modifying bullet that identifies “Dust control for construction activities” as a currently permitted use of RW under Board Order (No. R6V-2009-0034) to “Dust control for construction and demolition activities” as RW is more often used for controlling (mitigating) asbestos containing (ACM) demolition dust and debris.*

Water Board staff concurs with the comment. The current list of permitted uses includes construction activities with the understanding that demolition activities are included. The bulleted item for dust control now also indicates the use for demolition activities.

### **Comment 4. Finding 5.a, Potential Uses**

*Does this use include such industrial processes as ethanol production (BlueFire Ethanol Inc) and Chlorine production (HASA) or any other process where a product is produced? Does this cover lined or other barrier type of ponds used for recycled water storage?*

The proposed requirements include uses of recycled water that result in full consumption (no discharge of any type). Assuming that the industrial processes described in the comment letter do not result in a discharge, then those uses would be allowed. Impoundments other than those associated with recreational activities and landscaping are not discussed in the application nor in the environmental document. However, a temporary impoundment could be considered provided the ultimate use results in no discharge.

### **Comment 5. Amount of Recycled Water at Buildout**

*The discussion of amount of recycled water at build out should include a note that indicates where the information comes from i.e. the North Los Angeles/Kern County Regional Recycled Water Project PEIR. The volume identified at build out is for use identified at the time of the writing of the PEIR (Nov 2008) there are numerous other potential users particularly solar user that are seeking recycled water at this time. The volume of recycled water demand could be in excess of the available recycled water from Palmdale and Lancaster WR Plants in the near future (10 ears).*

Water Board staff concurs with the comment. The applicable paragraph now reads,

“The total estimated water demand for all proposed recycled water uses at buildout within the Antelope Valley is 21,210 acre-feet per year (19.0 mgd) [Final Program

Environmental Impact Report, November, 2008]. The total estimated water demand for the recycled water uses at buildout is less than the 19.6 mgd annual average recycled water flow estimated to be produced. This Order provides master water recycling requirements, including a requirement that the District regulate the distributors and users of the recycled water to ensure compliance with water recycling requirements contained in State of California laws and regulations.”

**Comment 6. Operations and Management Plan**

*Page 26, III.b. – States the “District must develop and implement an operations and management plan to control incidental (recycled water) runoff” – Is/will this be considered a “blanket” plan covering all recycled water users, or will the City be required to develop its own subordinate version on a local scale?*

The District is required to submit an O&M plan prior to supplying recycled water. This plan has not yet been submitted. The District will decide how and who prepares the plan.

Thank you for submitting your comments and for continuing to work with Water Board staff on this permit. Please contact me at (530) 542-5432 if you have any additional questions or comments on this matter.



Scott C. Ferguson, P.E.  
Senior Water Resource Control Engineer  
Enforcement and Special Projects Unit

cc: Erika Dehollan/County Sanitation Districts of Los Angeles County  
Thomas E. Weiland/County Sanitation Districts of Los Angeles County  
Ray Tremblay/County Sanitation Districts of Los Angeles County

EJT/clhT: LACSD-14, Response to City of Lancaster, 2009-11-02 EJT  
File Room Under: 6B190501001

# **ENCLOSURE 5**

08-0109



# California Regional Water Quality Control Board Lahontan Region



Linda S. Adams  
Secretary for  
Environmental Protection

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

Arnold Schwarzenegger  
Governor

November 9, 2009

Raymond Tremblay  
County Sanitation Districts of Los Angeles County  
P.O. Box 4998  
Whittier, Ca 90607-4998

## **RESPONSE TO COMMENTS ON TENTATIVE MASTER WATER RECYCLING REQUIREMENTS FOR THE COUNTY SANITATION DISTRICT NO. 14 OF LOS ANGELES COUNTY, LANCASTER – WDID NO. 6B190501001**

Lahontan Regional Water Quality Control Board (Water Board) staff has reviewed the September 29, 2009 comments you submitted for the tentative Master Water Recycling Requirements for the County Sanitation District No. 14 of Los Angeles County, Lancaster (District). A table summarizing all 29 comments is enclosed for reference.

Of the 29 comments provided, we incorporated 22 of the comments in their entirety. The remaining seven comments are repeated below, in *italic lettering*, and our response follows each respective comment.

### **Comment 1. Finding 4, Order Adoption Dates**

*Order No. R6V-2002-0053 was originally adopted in September 11, 2002 and is still in effect.*

*Suggested language: "...R6V-2002-0053, as adopted on September 11, 2002, amended on July 13, 2005 and on March 14, 2007..."*

Water Board staff concurs with the District's comment. However, the adoption dates of the multiple amendments are discussed later on in the Finding. Therefore, the introductory paragraph was modified as follows:

"Board Order No. 6-85-35 and Board Order No. R6V-2002-0053 (as amended) establish waste discharge requirements for the discharge of recycled water pursuant to Water Code section 13523.1, subdivision (b)(1). Brief descriptions of the orders are discussed in items (a) and (c) of this finding."

**Comment 6. Finding 18, Salt/Nutrient Plan**

*Order No. III. Requires the Sanitation District to develop or participate in the development of a salt/nutrient management plan for the Antelope Valley.*

*Suggested language: "Order No. III of this Master Recycling Permit requires the District to develop or participate in the development of a salt/nutrient management plan..."*

Water Board staff concurs with the District's comment. The phrase "...develop or participate..." has been modified to read "develop and/or participate..."

**Comment 8. Finding 19, Landscape Leak Detection  
(Duplicated in Comment 20. Order I.C.14.a)**

*The Sanitation District acknowledges that the requirement for the detection of leaks before the release of 1000 gallons or before the passage of 72 hours is from the State Recycled Water Policy, but understands this requirement was intended to ensure compliance with the Incidental Runoff Best Management Practices and to apply to above-ground recycled water irrigation systems. If this requirement were to apply to in-ground pipelines, it would be an impracticable requirement. The Sanitation District suggests the following language to provide clarification.*

*Suggested language: "This plan must provide for detection of leaks from above-ground recycled water irrigation facilities (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first."*

Water Board staff generally concurs with the District's comment. However, the phrase "...from above-ground recycled water irrigation facilities..." has been replaced with the phrase, "...from landscape irrigation facilities..." to maintain consistency with the Recycled Water Policy. The preferred language was selected to recognize that the requirement to detect and control incidental runoff falls under the subject heading of "Landscape Irrigation Projects" within the Recycled Water Policy. The Recycled Water Policy does not specifically exclude incidental runoff that may originate from a broken in-ground pipe. However, it may generally be concluded that a break from an in-ground pipe would more than likely result in something greater than what is defined as incidental runoff. In order to maintain the flexibility provided by the Recycled Water Policy, the proposed language now reads,

"The District must develop and implement an operations and management plan that applies to all landscape irrigation recycled water use areas. This plan must provide for detection of leaks from landscape irrigation facilities (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first."

**Comment 11. Finding 22.a.ii, Agronomic Rates**

*There is a difference between the amount of water and nutrients needed by the plant, which could be interpreted as a minimum amount for mere survival, and what can be taken up by the plant, or more importantly what can be applied to the landscape irrigation site that will not cause a nuisance condition in the groundwater. The Sanitation District requests that "agronomic rates" be used instead.*

*Suggested language: "The proposed landscape irrigation use ~~is in amounts and rates needed from the landscape~~ will not exceed agronomic rates."*

Water Board staff generally concurs with the District's comment provided that language is also added to specify that irrigation will not occur when soils are saturated. Such a requirement is consistent with Section 7.c.(2) of the Recycled Water Policy. The proposed language now reads,

"The proposed landscape irrigation use will not exceed agronomic rates and will not occur when soils are saturated. An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied and may include, but not be limited to, developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers. An operations and management plan may be developed to cover multiple sites."

**Comment 19. Order I.C.8, Reporting Frequency of Nutrient Levels to Users**

*There are seasonal variations in the needs of the vegetation and possible seasonal variations in the nutrient levels of the recycled water. This variation may make monthly communications of the nutrient levels in the recycled water less effective than communicating the expected monthly nutrient levels. This would allow for better planning of fertilizer application on the part of the landscape irrigation recycled water user (Note: nutrient levels concerns does [sic] not apply for all uses). The Sanitation District can provide to the landscape irrigation recycled water user the previous year's nutrient water quality data on an annual basis for use as a nutrient prediction tool. This data may also be included in the Sanitation District's "Recycled Water User Handbook" that is distributed to Recycled Water Use Site Supervisors and provided on the Sanitation District's website.*

*Suggested language: "The District must communicate to landscape irrigation recycled water users the previous year's monthly nutrient levels in the recycled water at least ~~monthly~~ annually so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers."*

Water Board staff agrees there is value in publishing the previous year's monthly nutrient levels in the recycled water for planning purposes. Staff also believes there is enough potential for changes in nutrient levels, especially with new treatment facilities coming on line in the fall of 2010 to justify monthly reporting. Therefore, the proposed language has not been changed from that provided in the tentative requirements. Water Board staff may, in the future, relax the reporting requirement to recycled water users once all treatment systems demonstrate stable effluent water quality.

### **Comment 23. MRP Section I.B.1.a, Water Volume Application**

*Similar to Comment #11, the volume of water required for plant growth is different than the amount that can be taken up by the plant and not adversely affect the groundwater. The Sanitation District suggests comparing the amount of water applied with the agronomic rate.*

*Suggested language: "~~a. volume of water required for plant growth in~~ agronomic rate of each irrigated area."*

Water Board staff concurs with the recommendation with the addition that the agronomic rate be reported in a volume measurement. The proposed language now reads, "a. agronomic rate (volume of water) of each irrigated area."

### **Comment 24. MRP Section I.B.2, Measuring Nitrogen Applications**

*Similar to Comments #11 and 23, the amount of nutrients required for plant growth is different than the amount that can be taken up by the plant and not adversely affect the groundwater. In addition, typical irrigation sites plan for one or more fertilizer applications on a yearly basis, rather than month-to-month. Thus, nutrient agronomic rates are more appropriately determined for a calendar year.*

*Suggested language:*

- "a. ~~amount of nitrogen (N) needed for plant growth in~~ agronomic rate of nitrogen (N) for each landscape and agricultural area;*
- b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied;*
- c. total amount of N applied to each area for the year, including the amount of N in the recycled water and the amount of N in any fertilizer applied;*
- d. and number of acres for each area."*

Water Board staff generally agrees with the District's comment. However, as noted in our response to Comment 19, the District will be bringing a new treatment plant on line in order to expand its treatment capacity. Such expansions are typically prone to fluctuations in effluent quality during start-up operations. It is unclear how recycled water users can ensure appropriate agronomic rate applications of recycled

water when they are provided with data that is at least one year old, and based upon the facilities that have been replaced. Such information does not provide the nutrient levels that monthly data may provide to help ensure compliance with agronomic rate application requirements. Therefore, the annual reporting reference in subsection c was removed. Water Board staff may, in the future, relax the reporting requirement to recycled water users once all treatment systems demonstrate stable effluent water quality. The language as proposed reads:

2. For each calendar month, the District shall record, and provide a tabular comparison of, the:
  - a. agronomic rate of nitrogen (N) for each landscape and agricultural area;
  - b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied;
  - c. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; and
  - d. number of acres for each area.

#### **Comment 28. MRP Section I.E.6, Pressure Testing Requirements**

*The requirement of pressure testing is impracticable since large water distribution systems with numerous valves cannot be properly isolated without excavating piping to properly segregate sections of piping, as some valves will not adequately seal to hold pressure during testing. Typically, pressure tests are conducted when there are significant modifications to the recycled water system, in accordance with California Department of Public Health regulations. Also, leaks can be identified by conducting visual inspections.*

*Suggested language: "The District must ensure that the recycled water distribution system is annually inspected visually for leaks or drops in pressure, and that pressure tests are conducted at a minimum once every three years as necessary and according to California Department of Public Health regulations."*

Water Board staff initially proposed language that would require annual pressure testing of all distribution systems last spring. After consulting with the District, the requirement was relaxed to allow pressure testing every three years. This compromise was made so that the District would not be subject to an undue burden. The requirement was approved by the Water Board at its June 2009, meeting without objection by the District. The District has not provided sufficient reasons to remove this requirement that was approved by all parties only four months prior to the District's current request. The proposed language has not been modified from that provided in the tentative requirements.

Thank you for submitting your comments and for continuing to work with Water Board staff on this permit. Please contact me at (530) 542-5432 if you have any additional questions or comments on this matter.



Scott C. Ferguson, P.E.  
Senior Water Resource Control Engineer  
Enforcement and Special Projects Unit

Enclosure (1)

cc (w/enc): Regional Board Members  
Erika Dehollan, County Sanitation Districts of Los Angeles County  
Thomas E. Weiland, Monitoring Section, County Sanitation Districts of  
Los Angeles County

**Table 1. Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
1	3	Finding 4.	Board Order No. 6-85-35 and R6V-2002-0053, as amended on July 13, 2005 and on March 14, 2007, establish waste discharge requirements for the discharge of recycled water pursuant to Water Code section 13523.1(b)(1).	Order No. R6V-2002-0053 was originally adopted in September 11, 2002 and is still in effect.  Suggested language: “...R6V-2002-0053, as adopted on September 11, 2002, amended on July 13, 2005 and on March 14, 2007...”
2	4	Finding 4.c.	The District's other existing tertiary treatment plant, the Membrane Bioreactor Tertiary Treatment Plant (MBR), has a 24-hour treatment capacity of 1.75 mgd. The MBR produces recycled water that is used at the Eastern Agricultural Site.	Recycled water produced at the MBR is used for other uses in addition to the Eastern Agricultural Site.  Suggested language: “The MBR produces recycled water that is used at the Eastern Agricultural Site (as well as for other uses/sites as described below).”
3	5	Finding 4.d. and Finding 9	...and Range 14 West...	Please, clarify which border of Range 14 West binds the authorized area.  Suggested language: “...and the west side of Range 14 West...”
4	5	Finding 4.d.	Board Order No. R6V-2000-0034 will be rescinded and replaced by this master recycling permit.	Typographical error.  Suggested language: “Board Order No. R6V-20099-0034 will be rescinded...”
5	6	Finding 5	b. recycled water use at power plants...	Although it is expected that power plants are the types of facilities that will be using recycled water in the manner proposed, it has not been determined that these facilities are the only types that are proposing to use recycled water for industrial uses.  Suggested language: “b. recycled water use at facilities, such as power plants,....”
6	11	Finding 18	Order No. III of this Master Recycling Permit requires the District to develop a salt/nutrient management plan and to control incidental runoff consistent with Paragraphs 6 and 7(a), respectively, of the Recycled Water Policy.	Order No. II. Requires the Sanitation District to develop or participate in the development of a salt/nutrient management plan for the Antelope Valley.  Suggested language: “Order No. III of this Master Recycling Permit requires the District to develop or participate in the development of a salt/nutrient management plan...”

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
7	11	Finding 19	The District must develop and implement an operations and management plan that applies to all recycled water use areas.	<p>The intention of the State Recycled Water Policy is to have an operations and management (O&amp;M) plan that applies specifically to landscape irrigation projects for the purposes of detecting and correcting leaks. Also, the Recycled Water User should be able to develop an O&amp;M plan that addresses these issues specific to a particular Recycled Water Use Site. For clarification of the applicability of the O&amp;M plan(s), the Sanitation District proposes changes to the statement as indicated below.</p> <p>Suggested language:                      “The District must develop and implement an operations and management plan that applies to all <u>landscape irrigation recycled water use areas</u>. Alternatively, a Recycled Water User may develop and implement an operations and management plan that applies specifically to the User’s recycled water use site.”</p>
8	11	Finding 19	This plan must provide for detection of leaks (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first.	<p>The Sanitation District acknowledges that the requirement for the detection of leaks before the release of 1000 gallons or before the passage of 72 hours is from the State Recycled Water Policy, but understands this requirement was intended to ensure compliance with the Incidental Runoff Best Management Practices and to apply to above-ground recycled water irrigation systems. If this requirement were to apply to in-ground pipelines, it would be an impracticable requirement. The Sanitation District suggests the following language to provide clarification.</p> <p>Suggested language:                      “This plan must provide for detection of leaks from above-ground recycled water <u>irrigation facilities</u> (for example, broken sprinkler heads) and correction within 72 hours of detection or prior to a release of 1,000 gallons, whichever occurs first.”</p>
9	11	Finding 20	The Recycled Water Policy prohibits discharge to surface waters from a surface impoundment containing recycled water unless the discharge is a result of a 25-year, 24-hour storm event or greater. Surface water impoundments used for recycled water storage will retain a 25-year, 24-hour storm event.	<p>This statement is somewhat contradictory in that the State Recycled Water Policy is allowing for discharge only in the event that a 25-year, 24-hour storm or greater occurs. The second sentence indicates that no discharge may occur in a 25-year, 24-hour storm. To clarify the prohibition of discharge, the Sanitation District proposes changes to the second sentence as indicated below.</p> <p>Suggested language:                      “Surface water impoundments used for recycled water storage <u>shall be maintained so that no discharge occurs except as a result of will retain a 25-year, 24-hour storm event or greater.</u>”</p>

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
10	13	Finding 21.b.	<p>Engineering Reports Table:                      In rows titled, "NDN Facilities (Stage V Expansion), report expected to be submitted to CDPH in October 2009," and, "North Los Angeles/Kern County Regional Recycled Water Project, report expected to be submitted to CDPH in October 2009."                      Under the "Engineering report title" and "CDPH review status" columns.</p> <p>Statement 1: "report expected to be submitted to CDPH in October 2009."                      Statement 2: "CDPH comment letter expected November, 2009."</p>	<p>The Engineering Reports for each project may be submitted later than October 2009.</p> <p>Suggested language:                      Statement 1: "report expected to be submitted to CDPH in October 2009 prior to project completion and/or implementation."                      Statement 2: "CDPH comment letter expected November, 2009 30 days after report submittal to CDPH."</p>
11	15	Finding 22.a.ii.	<p>The proposed landscape irrigation use is in amounts and rates needed for the landscape.</p>	<p>There is a difference between the amount of water and nutrients needed by the plant, which could be interpreted as a minimum amount for mere survival, and what can be taken up by the plant, or more importantly what can be applied to the landscape irrigation site that will not cause a nuisance condition in the groundwater. The Sanitation District requests that "agronomic rates" be used instead.</p> <p>Suggested language:                      "The proposed landscape irrigation use is in amounts and rates needed for the landscape will not exceed agronomic rates."</p>
12	15	Finding 22.a.ii.	<p>An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied including, but not limited to, developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers.</p>	<p>The elements described in this section (i.e., "developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers") may be included in an O&amp;M plan, but some are not appropriate or applicable to some landscape irrigation sites.</p> <p>Suggested language:                      "An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied <del>including</del> and may include, but not be limited to..."</p>

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
13	16	Finding 23	<p>[end of second paragraph]                      The average TDS concentration in the recycled water is currently 654 mg/L, and this value will be reduced to 550 mg/L in 2011 after the Stage V Tertiary Treatment Plant is operational.</p>	<p>While the TDS concentration in the effluent of the Stage V Tertiary Treatment Plant will most likely be lower than the current tertiary effluent from the Lancaster WRP, it is an approximate expected value.</p> <p>Suggested language:                      "...this value <del>will</del> is expected to be reduced to approximately 550 mg/L in 2011 after the Stage V Tertiary Treatment Plant is operational."</p>
14	21	Finding 25.a.	<p>Application of recycled water at agronomic rates so irrigation does not promote downward migration of salts and nutrients (including nitrates), which could adversely impact the quality of groundwater...</p>	<p>As indicated in a previous communication from the Sanitation District to the Regional Board, the focus of this mitigation measure should be on avoiding adverse impacts to groundwater, not avoiding an unspecified downward migration salts. In a June 5, 2009 letter to the Sanitation District, Regional Board staff indicated that they concurred with this comment and would modify the Finding accordingly. However, no such modification was made and may have been inadvertently left unchanged.</p>
15	22	WDR I.A.1. through I.A.3.	<p>1. Recycled water production at the Antelope Valley Tertiary Treatment Plant must not exceed 0.6 mgd (maximum average 24-hour flow).                      2. Recycled water production at the Membrane Bioreactor Plant must not exceed 1.75 mgd (maximum average 24-hour flow).                      3. Recycled water production at the Activated Sludge/Nitrification- Denitrification Plant (Stage V Tertiary Treatment Plant) must not exceed 18 mgd (maximum average 24-hour flow).</p>	<p>Suggested language:                      "Application of recycled water at agronomic rates so irrigation does not promote downward migration of salts and nutrients (including nitrates), which could to reduce the potential for irrigation to adversely impact the quality of groundwater in terms of salts and nutrients (including nitrates)."</p> <p>To reflect consistency with the discharge specifications in the waste discharge requirements as prescribed in Regional Board Order No. R6V-2002-053A2 for the LWRP that exceeding the flow limit does not necessarily indicate a permit violation; the Sanitation District suggests adding the following language to each of Sections I.A.1 through I.A.3 (see Sections I.A.1 through I.A.3 in R6V-2002-053A2 for similar language).</p> <p>Suggested language:                      "Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling</p>

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Specifications I.B. through I.C. is also exceeded."

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
16	22	WDR I.A.3.	Recycled water production at the Activated Sludge/Nitrification- Denitrification Plant (Stage V Tertiary Treatment Plant) must not exceed 18 mgd (maximum average 24-hour flow).	Regional Board Order No. R6V-2002-053A2 for the LWRP includes a provision for the Stage V Tertiary Treatment Plant subsequent expansion to 21 mgd (see Section I.A.4 in R6V-2002-053A2 for similar language). The Sanitation District requests that this Master Permit includes a similar provision.  Suggested language: Add a new section in I.A: " <u>Recycled water production at the subsequent expanded Stage V Tertiary Treatment Plant must not exceed 21 mgd (maximum average 24-hour flow). Flow in excess of this limitation shall not be considered a violation of this provision unless one or more of the Water Recycling Specifications I.B. through I.C. is also exceeded.</u> "
17	22	WDR I.B.1.	Pursuant to Water Code section 13523.1, subdivision (b)(1), the District must comply with all waste discharge requirements previously adopted by the Lahontan Water Board for regulating the production of the disinfected tertiary recycled water.	There are waste discharge requirements (WDRs) previously adopted by Regional Board that have been rescinded or amended. To clarify that the Sanitation District must comply with WDRs that, while previously adopted by Regional Board, are also still in effect—the following statement changes are suggested.  Suggested language: "Pursuant to Water Code section 13523.1, subdivision (b)(1), the District must comply with all waste discharge requirements previously adopted by the Lahontan Water Board and are in effect for regulating the production of the disinfected tertiary recycled water." As mentioned in Comment #11 above, there is a difference between the amount of water and nutrients needed by the plant and what can be taken up by the plant that will not cause a nuisance condition in the groundwater. The Sanitation District requests that "agronomic rates" be used instead.
18	24	WDR I.C.8.	Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds the irrigation and nutrient needs of the vegetation.	Suggested language: "Recycled water used to irrigate landscape areas must not be applied at a rate and amount that exceeds the irrigation and nutrient needs of the vegetation agronomic rates."

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**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
19	24	WDR I.C.8.	The District must communicate to recycled water users the nutrient levels in the recycled water at least monthly so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers.	<p>There are seasonal variations in the needs of the vegetation and possible seasonal variations in the nutrient levels of the recycled water. This variation may make monthly communications of the nutrient levels in the recycled water less effective than communicating the expected monthly nutrient levels. This would allow for better planning of fertilizer application on the part of the landscape irrigation recycled water user (Note: nutrient levels concerns does not apply for all uses). The Sanitation District can provide to the landscape irrigation recycled water user the previous year's nutrient water quality data on an annual basis for use as a nutrient prediction tool. This data may also be included in the Sanitation District's "Recycled Water User Handbook" that is distributed to Recycled Water Use Site Supervisors and provided on the Sanitation District's website.</p> <p>Suggested language:                      "The District must communicate to <u>landscape irrigation recycled water users the previous year's monthly nutrient levels in the recycled water at least monthly annually</u> so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers."</p>
20	24	WDR I.C.14.a.	...detection of leaks and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first;	<p>Similar to Comment #8, the Sanitation District understands the requirement in the Recycled Water Policy was intended to apply to above-ground recycled water irrigation systems. If this requirement were to apply to below ground pipelines, it would be an impracticable requirement. The Sanitation District suggests the following language to provide clarification.</p> <p>Suggested language:                      "...detection of leaks <u>from above-ground recycled water irrigation facilities and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first.</u>"</p>

08-0121

**Table 1 (continued). Comments to Master Water Recycling Requirements and Waste Discharge Requirements**

Item	Page	Section	Tentative Statement	Comment
21	27	WDR III.B.	<p>Before supplying recycled water to new users under this Order, the District must develop and implement an operations and management plan to control incidental runoff that is consistent with Paragraph 7(a) of the Recycled Water Policy.</p>	<p>The O&amp;M plan required by the Recycled water Policy is intended for landscape irrigation recycled water use. Thus, prior to implementing the indicated O&amp;M plan, the Sanitation District should be able to supply new users of recycled water for uses other than landscape irrigation. The Sanitation Districts request clarification of recycled water use and suggest the following statement change.</p> <p>Suggested language:                      “Before supplying recycled water to new users for landscape irrigation under this Order, the District must develop and implement an operations and management plan to control incidental runoff that is consistent with Paragraph 7(a) of the Recycled Water Policy.”</p>

**Table 2. Comments to Monitoring and Reporting Program**

Item	Page	Section	Tentative Statement	Comment
22	1	I.A.2. through I.A.4	The District shall record the total volume, in million gallons, and the average 24-hour flow rate, in mgd, of recycled water supplied...	<p>To clarify the flow parameter to be monitored, the Sanitation District suggests adding "monthly" to the requirement for each Section (I.A.2. through I.A.4).</p> <p>Suggested language:                      "The District shall record the total volume, in million gallons, and the monthly average 24-hour flow rate..."</p>
23	2	I.B.1.a.	volume of water required for plant growth in each irrigated area;	<p>Similar to Comment #11, the volume of water required for plant growth is different than the amount that can be taken up by the plant and not adversely affect the groundwater. The Sanitation District suggests comparing the amount of water applied with the agronomic rate.</p> <p>Suggested language:                      "a. <u>volume of water required for plant growth in agronomic rate of each irrigated area,</u>"</p>
24	2	I.B.2.	<p>For each calendar month, the District shall record, and provide a tabular comparison of, the:</p> <ul style="list-style-type: none"> <li>a. amount of nitrogen (N) needed for plant growth in each landscape and agricultural area;</li> <li>b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; and</li> <li>c. number of acres for each area.</li> </ul>	<p>Similar to Comments #11 and 23, the amount of nutrients required for plant growth is different than the amount that can be taken up by the plant and not adversely affect the groundwater. In addition, typical irrigation sites plan for one or more fertilizer applications on a yearly basis, rather than month-to-month. Thus, nutrient agronomic rates are more appropriately determined for a calendar year.</p> <p>Suggested language:                      "For each calendar month, the District shall record, and provide a tabular comparison of the:</p> <ul style="list-style-type: none"> <li>a. <u>amount of nitrogen (N) needed for plant growth in agronomic rate of nitrogen (N) for each landscape and agricultural area;</u></li> <li>b. <u>total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied;</u></li> <li>c. <u>total amount of N applied to each area for the year, including the amount of N in the recycled water and the amount of N in any fertilizer applied;</u></li> <li>d. <u>and number of acres for each area."</u></li> </ul>

08-0123

**Table 2. Comments to Monitoring and Reporting Program**

Item	Page	Section	Tentative Statement	Comment
25	2	I.C.	<p>Recycled Water Quality Monitoring Table: The table indicates that "Monthly" monitoring of recycled water is required for total dissolved solids, sulfate, and chloride.</p>	<p>Recycled water quality monitoring of some parameters is more frequent than in the existing WDRs/MRP (i.e., Board Order No. R6V-2002-053, adopted March 14, 2007) for surface water and other discharges—i.e., total dissolved solids, sulfate, and chloride are monitored on a quarterly basis at the treatment plants in compliance with the existing WDRs/MRP, whereas the Tentative Master Permit MRP is requiring monthly monitoring. Moreover, additional recycled water quality monitoring, if necessary, shall be addressed by the salt/nutrient management plans required to be developed and implemented. For consistency with existing WDRs/MRPs, the Sanitation District requests that the Master Permit MRP maintains the monitoring frequency of Board Order No. R6V-2002-053, adopted March 14, 2007).</p>
26	2	I.C.	<p>Recycled Water Quality Monitoring Table: The table indicates that a "Grab" sample is required to monitor recycled water for n-nitrosodimethylamine.</p>	<p>Suggest language: "Monthly Quarterly" n-nitrosodimethylamine (NDMA), is listed in the table as requiring a grab sample analysis on a quarterly basis. Typically, the Sanitation District conducts NDMA analyses on a quarterly basis using 24-hour composite samples of recycled water in accordance with the Revised MRP No. R6V-2002-053, adopted on March 14, 2007. The Sanitation District requests that the results from these 24-hour composite samples fulfill the requirements of the Master Permit MRP.</p>
27	3	I.C.	<p>Recycled Water Quality Monitoring Table: The table indicates that a "Grab" sample is required to monitor recycled water for priority pollutants.</p>	<p>Suggested language: "Grab Composite" In some cases, the Sanitation District conducts priority pollutant analyses using 24-hour composite recycled water samples. For example, metals (except hexavalent chromium), total phenols, and semivolatile organics are analyzed using 24-hour composite samples in fulfillment of the Revised MRP No. R6V-2002-053. While this table indicates that a grab sample is required, the Sanitation District requests that the results from either 24-hour composite or grab samples fulfill the requirements of the Master Permit MRP.</p>

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**Table 2. Comments to Monitoring and Reporting Program**

Item	Page	Section	Tentative Statement	Comment
28	5	I.E.6.	The District must ensure that the recycled water distribution system is annually inspected for leaks or drops in pressure, and that pressure tests are conducted at a minimum once every three years.	The requirement of pressure testing is impracticable since large water distribution systems with numerous valves cannot be properly isolated without excavating piping to properly segregate sections of piping, as some valves will not adequately seal to hold pressure during testing. Typically, pressure tests are conducted when there are significant modifications to the recycled water system, in accordance with California Department of Public Health regulations. Also, leaks can be identified by conducting visual inspections.
29	6	II.C.	Beginning on <u>March 1, 2010</u> , semi-annual monitoring reports including the preceding information must be submitted to the Lahontan Water Board by the first day of the third month following each semi-annual monitoring period [Water Code section 13523.1 (b)(6)].	Suggested language: "The District must ensure that the recycled water distribution system is annually inspected <u>visually</u> for leaks or drops in pressure, and that pressure tests are conducted at a <del>minimum once every three</del> years as necessary and according to California Department of Public Health regulations." Monitoring of priority pollutants in the recycled water is the only specific semi-annual requirement in the Tentative Master Permit MRP. The Sanitation District requests that this data be reported along with the appropriate quarterly report, thus combining the quarterly and semiannual reports into one; thus, reducing both Sanitation Districts and Regional Board staff time of preparing and reviewing such reports.
				Suggested language: "Beginning on <u>March 1, 2010</u> , semi-annual monitoring reports data including the preceding information must be submitted to the Lahontan Water Board by the first day of the third month following each semi-annual monitoring period [Water Code section 13523.1 (b)(6)]. <u>Data that are required on a semi-annual basis will be incorporated into the quarterly report that coincides with the period for which the analyses are required.</u> "

ATTACHMENT F

Monitoring and Reporting Program  
No. R6V-2009-(PROP)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM NO. R6V-2009-(PROPOSED)  
WDID NO. 6B190501001

MASTER WATER RECYCLING REQUIREMENTS AND  
WASTE DISCHARGE REQUIREMENTS  
COUNTY SANITATION DISTRICT NO. 14 OF LOS ANGELES COUNTY  
(LANCASTER)  
DISINFECTED TERTIARY RECYCLED WATER

Los Angeles County

I. MONITORING

A. Flow Monitoring

1. County Sanitation District No. 14 of Los Angeles County (District) shall record the total volume, in million gallons, and the average flow rate, in million gallons per day (mgd), of recycled water provided by the District to each Authorized Water Use site (including Apollo Park and Fox Airfield sites). This information must be recorded and reported for each calendar month.
2. The District shall record the total volume, in million gallons, and the monthly average 24-hour flow rate, in mgd, of recycled water supplied by the Antelope Valley Tertiary Treatment Plant into the North Los Angeles/Kern County Regional Recycled Water Project distribution system. This information must be recorded and reported for each calendar month.
3. The District shall record the total volume, in million gallons, and the monthly average 24-hour flow rate, in mgd, of recycled water supplied by the Membrane Bioreactor Plant into the North Los Angeles/Kern County Regional Recycled Water Project distribution system. This information must be recorded and reported for each calendar month.
4. The District shall record the total volume, in million gallons, and the monthly average 24-hour flow rate, in mgd, of recycled water supplied by the Activated Sludge/Nitrification-Denitrification Plant (Stage V Tertiary Treatment Plant) into the North Los Angeles/Kern County Regional Recycled Water Project distribution system. This information must be recorded and reported for each calendar month.

B. Agronomic Application Rate Monitoring for Fertilizers and Recycled Water

1. For each calendar month, the District shall record, and provide a tabular comparison of, the:

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- a. agronomic rate (volume of water) of each irrigated area;
  - b. volume of recycled water (and non-recycled supplemental water) applied to each irrigated area; and
  - c. number of acres for each irrigated area.
2. For each calendar month, the District shall record, and provide a tabular comparison of, the:
- a. agronomic rate of nitrogen (N) for each landscape and agricultural area;
  - b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied;
  - c. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; and
  - d. number of acres for each area.

**C. Recycled Water Quality Monitoring**

The District must collect and analyze samples of the recycled water supplied by the (1) Antelope Valley Tertiary Treatment Plant, (2) Membrane Bioreactor Plant, and (3) Stage V Tertiary Treatment Plant for reuse by recycled water users in accordance with the following table:

Parameter	Units	Type	Minimum Frequency
Turbidity <sup>1</sup>	NTU	Recorder	Continuous
Total Chlorine Residual	mg/L	Recorder	Continuous (When chlorine is used as disinfectant)
Modal Contact Time <sup>2</sup>	minutes	Calculated	Daily (When chlorine is used as disinfectant)
CT Value <sup>3</sup>	mg-minutes/L	Calculated	Daily (When chlorine is used as disinfectant)
Total Coliform	MPN/100mL	Grab	Daily
Kjeldahl Nitrogen	mg/L	Composite	Monthly
Ammonia Nitrogen	mg/L	Composite	Monthly
Nitrate Nitrogen	mg/L	Composite	Monthly
Total Dissolved Solids	mg/L	Composite	Quarterly
Sulfate	mg/L	Composite	Quarterly
Chloride	mg/L	Composite	Quarterly
Total Trihalomethanes	µg/L	Grab	Quarterly
n-nitrosodimethylamine	µg/L	Composite	Quarterly
Priority Pollutants, excluding asbestos (Appendix A to 40 CFR part 423)	as specified	Grab or composite	Semi Annually

<sup>1</sup>For each 24-hour period, record and report the following:

- a. Antelope Valley Tertiary Treatment Plant: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.
- b. Membrane Bioreactor Plant: amount of time (minutes) the turbidity exceeded 0.2 NTUs (if any) and the maximum turbidity.
- c. Stage V Tertiary Treatment Plant: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.

<sup>2</sup>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. (CCR, title 22, sec 60301.600)

<sup>3</sup>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.  $CT$  (mg-minutes per liter) = chlorine residual (mg/L) × 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.

#### D. Quarterly Recycled Water Use Monitoring

The District must record the following information each quarter (quarters defined in Requirement No. II.B, below) in accordance with Water Code section 13523.1(b)(4):

1. Total amount of recycled water supplied into the North Los Angeles/Kern County Regional Recycled Water Project distribution system during the quarter.
2. Total amount of recycled water supplied to the Apollo Park and Fox Airfield sites.
3. The total number of sites that received recycled water during the quarter.
4. A list of all recycled water use sites. For each site, the list must include:
  - a. site name,
  - b. site location
  - c. name of underlying hydrologic area
  - d. user name
  - e. type of use
  - f. site area (acres)
  - g. date of District recycled water use approval

5. A map of suitable scale showing the boundary of the Permit Area (as defined by Finding No. 9 of Board Order R6V-2009-**PROPOSED** and showing the approved recycled water use site locations.

E. Inspections and Enforcement Monitoring

1. The District must provide in its annual report (see Requirement No. II.D, below) an inspection schedule for all recycled water use facilities. The inspection schedule shall document the date of each facility's prior inspection and its respective compliance status. Any facility with a reported incidence of noncompliance in its most recent inspection report must be re-inspected no later than one year from its prior inspection. Any facility that was in compliance during its most recent inspection must be scheduled for a re-inspection no later than three years from its prior inspection.
2. The District must record and report on a quarterly basis all recycled water use sites inspected pursuant to Requirement No. I.B.4 of Board Order No. R6V-2009-**PROPOSED** during each respective quarter (See Requirement No. II.B, below). The list of sites inspected must include the following information for each recycled water use site:
  - a. Date of inspection, name of recycled water use site, user name, and type of use.
  - b. A description of all noted violations (including compliance with Requirement Nos. I.C.1 through I.C.15 of Board Order No. R6V-2009-**PROPOSED**).
  - c. The date compliance was achieved and the respective corrective action taken, if applicable.
  - d. A description of enforcement action taken (if any), including any schedule for achieving compliance.
  - e. Date of prior compliance inspection.
3. The District must ensure that monthly inspections of all signage informing the public that recycled water is currently being used at the artificial lakes at Apollo Park and for irrigation purposes at each irrigation recycled water use facility are completed. Maintenance of this signage is required. The results of such inspections must be reported by the District in its quarterly report (see Requirement No. II.B, below).
4. The District must ensure that monthly inspections of all Best Management Practices (BMPs) in place to prevent contamination of potable water supplies (including groundwater) are completed. The results of such inspections and measures taken to maintain and repair these BMPs must be reported by the District in its quarterly report (see Requirement No. II.B, below).

5. The District must ensure that annual visual inspections of the recycled water distribution system for cross connections with the potable water supply are completed.
6. The District must ensure that the recycled water distribution system is annually inspected for leaks or drops in pressure, and that pressure tests are conducted at a minimum once every three years.

F. Operation and Maintenance Monitoring

The District must record and maintain records of all actions and analytical results necessary to demonstrate compliance with California Department of Public Health conditions identified in Board Order No. R6V-2009- **PROPOSED**, Requirement No. II.B. and to document any operational problems and maintenance activities with the recycled water treatment facilities, distribution system, and user sites. The District must submit a brief summary of its findings to the California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) with each quarterly monitoring report. This summary must discuss the elements listed below.

1. All modifications or additions to the recycled water treatment facilities, distribution systems, and user sites;
2. Test results of all backflow prevention devices at each recycled water use site.
3. The results of cross connection inspections at each authorized recycled water use site.
4. Test results of the District's recycled water distribution system pressure testing.
5. Any non-routine maintenance conducted on the recycled water treatment facilities, distribution system, and user systems.
6. Any major problems occurring to the recycled water treatment facilities, distribution system, and user systems.
7. Calibration results of any recycled water flow measuring devices.

## II. REPORTING

### A. General Provisions

1. The District must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this Monitoring and Reporting Program (Attachment A).
2. The District must comply with the Sampling and Analysis Plan that was submitted on September 8, 2009, which is attached to and made part of this Monitoring and Reporting Program (Attachment B).

### B. Quarterly Reports

Beginning on **December 1, 2009**, quarterly monitoring reports including the preceding information must be submitted to the Lahontan Water Board by the first day of the third month following each quarterly monitoring period [Water Code section 13523.1, subdivision (b)(4)].

Quarterly monitoring periods are defined as follows:

First Quarter	January 1 - March 31
Second Quarter	April 1 - June 30
Third Quarter	July 1 - September 30
Fourth Quarter	October 1 - December 31

### C. Semi-Annual Report

Beginning on **March 1, 2010**, semi-annual monitoring data including the preceding information must be submitted to the Lahontan Water Board by the first day of the third month following each semi-annual monitoring period [Water Code section 13523.1, subdivision (b)(6)]. Data that are required on a semi-annual basis will be incorporated into the quarterly report that coincides with the period for which the analyses are required.

Semi-annual monitoring periods are defined as follows:

First half	January 1 - June 30
Second half	July 1 - December 31

D. Annual Report

Beginning on **April 1, 2010** and continuing thereafter, the District must submit an annual report to the Lahontan Water Board with the information listed.

1. Documentation of the District's compliance status with Board Order No. R6V-2009-**PROPOSED**, including progress made towards developing the salt/nutrient management plan that is required by Board Order No. R6V-2009- **PROPOSED**, Requirement No. III.A.
2. The compliance record and the corrective actions taken or scheduled/planned to return the District into full compliance with Board Order No. R6V-2009- **PROPOSED**.
3. The District's time schedule for completing corrective actions needed to achieve compliance.

Ordered by: \_\_\_\_\_ Dated: \_\_\_\_\_  
HAROLD J. SINGER  
EXECUTIVE OFFICER

Attachment A: General Provisions for Monitoring and Reporting Program  
Attachment B: Sampling and Analysis Plan, dated September 8, 2009

# **ATTACHMENT A**

08-0134

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. 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 method used shall also be reported. If methods other than USEPA 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 ensure 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 ensure 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.

08-0135

## 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 obtained 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 submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling 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 Regional 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;
  - 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

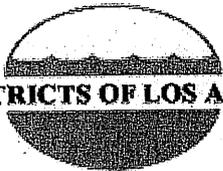
This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

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.

# **ATTACHMENT B**

08-0138



**SANITATION DISTRICTS OF LOS ANGELES COUNTY**

**Master Water Recycling Monitoring and Reporting Program**

**SELF-MONITORING  
SAMPLING AND ANALYSIS PLAN (SAP)**

**September 8, 2009**

**Lancaster Water Reclamation Plant  
County Sanitation District No. 14 of Los Angeles County**

**08-0139**

DOC #: 13848201

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## **Overview**

This document describes the self-monitoring sampling and analysis plan (SAP) proposed by County Sanitation District No. 14 of Los Angeles County (Sanitation District No. 14) for the Lancaster Water Reclamation Plant (LWRP). This SAP is compiled in accordance with Board Order No. R6V-2009-0034 (Master Permit), adopted on June 10, 2009 by the California Regional Water Quality Control Board, Lahontan Region (Regional Board). The Master Permit includes Water Recycling Requirements (WRRs), Waste Discharge Requirements (WDRs), and the Monitoring and Reporting Program (MRP) for the LWRP's water recycling program.

Constituent concentrations will be monitored under the conditions specified in the MRP and this document at the following locations:

- Effluent from the LWRP membrane bioreactor facility (MBR), after chlorination disinfection and after ultraviolet light (UV) disinfection
- Effluent from the Antelope Valley Tertiary Treatment Plant (AVTTP)
- Effluent from the LWRP Stage V Activated Sludge /Nitrification-Denitrification (AS/NDN) Plant

Locations for effluent monitoring points are shown in Figures 2 and 3. The Stage V AS/NDN Plant is currently under construction; therefore, the exact location where the effluent samples will be sampled will be determined after facility completion.

## **Sampling Schedule**

The complete self-monitoring sampling schedule is shown in Table 1. This schedule is a compilation of all the monitoring outlined in the MRP. In some cases the annual monitoring events will be conducted along with a quarterly and/or monthly event.

## **Sampling Constituents, Analytical Methods and Schedule**

Table 2 provides a compilation of the sampling and analytical protocols for all constituents requiring self-monitoring. The analytical methods and sampling techniques used may change if alternative methods are found to provide better results. The Sanitation District will seek Regional Board staff's approval for any changes in analytical methods and sampling techniques prior to implementation.

## **Quality Assurance/Quality Control (QA/QC)**

The Quality Assurance (QA) Group of the Sanitation Districts of Los Angeles County (Sanitation Districts, or LACSD) Laboratories Section is responsible for monitoring the validity and quality of analytical data produced in all laboratories operated by the Sanitation Districts. In order to accomplish this goal, a quality assurance plan prepared by the QA Group is strictly followed. The plan includes routine QA activities that are performed in the laboratories in order to assure the defensibility of data reported.

1. A routine practice of running laboratory control samples, duplicates and matrix spikes or duplicate spikes for every ten samples, or every analytical batch of less than ten samples, is maintained. Control limits have been established for both precision and accuracy, and quality control data are plotted on control charts for trend analyses. For situations where the data are outside of the control limits, corrective action is initiated and maintained at the bench level until the problems are solved.

2. A reagent or method blank is routinely run with each batch of samples as a contamination check.
3. Calibration standards are analyzed as required. For some tests, a daily calibration verification standard is used to check the initial calibration curve. For other tests, a multi-point calibration curve is prepared on each day of analysis.
4. For most organic constituents, surrogate standards are added to every sample, duplicate, spike, and blank. The results are compared to established acceptance limits. When unacceptable results are obtained, corrective action is performed.
5. Instrument QA is also performed (e.g., for GC/MS, mass calibration and tuning are performed to meet ion abundance criteria).
6. The Sanitation Districts laboratories supply data for NPDES monitoring programs and must participate in the United States Environmental Protection Agency's (EPA) annual Discharge Monitoring Report – Quality Assurance (DMR-QA) study. This requires the successful analysis of blind chemistry and toxicity samples obtained from one of the EPA certified suppliers.
7. All ten Sanitation Districts' laboratories are accredited by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP). To retain their certification, each laboratory must successfully analyze blind samples on an annual basis through Proficiency Testing studies. ELAP staff also performs site inspections of each laboratory.
8. Quality control samples in the form of blind check standards, either prepared in-house or purchased from commercial sources, are issued by the QA Group to all Los Angeles County Sanitation Districts' laboratories. In situations where the results are not acceptable, the analysts and their supervisors are informed and error resolutions are performed. This consists of checking calculations, data transcription, instrumentation, methodology, etc. Follow-up check samples are issued to verify that the analyses are back in control.
9. The QA Group also issues split samples collected from one of the water reclamation plants to each laboratory to assess their analysis with an actual environmental matrix. Results of these analyses are statistically evaluated for outliers.

### **Sampling Procedures**

Samples are collected and handled in the manner specified in the analytical method. Table 2 provides additional sampling information for the monitoring crew including sample bottle material, holding times, and sample preservation.

Time-based 24-hour composite samples are currently utilized by LWRP and are preferred whenever possible. However, there are situations where grab samples are more appropriate or specified by standard procedures (e.g., total cyanide).

Two sampling procedures are attached:

1. Appendix 1 – Standard Operating Procedure for Daily Sample Collection (Without Custody Transfer)
2. Appendix 2 – Standard Operating Procedure for Collection of Samples for Priority Pollutant Analysis

08-0142

**Sample Chain of Custody**

Chain of custody forms (COCs) using names of specific individuals are used to track the handling of samples. The COCs also contain the complete analytical request and full documentation of the sample origin including sample date, sample time, sample location, preservation, and sampler's name. An example of the COC form is attached (Appendix 3). This paper trail is archived along with the sample analytical results.

**Results Reporting**

Analytical results are reported following a review of the QA/QC data. Monitoring reports are to be submitted according to the due dates specified in the permit.

Table 1. Recycled Water Quality Self-Monitoring Schedule

Parameter	Units	Sample Type	Minimum Frequency
Flow	million gallons per day	Recorder	Continuous
Turbidity <sup>1</sup>	NTU	Recorder	Continuous
Total Chlorine Residual	mg/L	Recorder	Continuous <sup>4</sup>
Modal Contact Time <sup>2</sup>	minutes	Calculated	Daily <sup>4</sup>
CT Value <sup>3</sup>	mg-minutes/L	Calculated	Daily <sup>4</sup>
Total Coliform	MPN/100mL	Grab	Daily
Kjeldahl Nitrogen	mg/L	Composite	Monthly
Ammonia Nitrogen	mg/L	Composite	Monthly
Nitrate Nitrogen	mg/L	Composite	Monthly
Total Dissolved Solids	mg/L	Composite	Monthly
Sulfate	mg/L	Composite	Monthly
Chloride	mg/L	Composite	Monthly
Total Trihalomethanes	µg/L	Grab	Quarterly
n-nitrosodimethylamine	µg/L	Grab / Composite (as specified)	Quarterly
Priority Pollutants, excluding asbestos (Appendix A to 40CFR part 423)	as specified	Grab / Composite (as specified)	Semiannually

<sup>1</sup> For each 24-hour period, record and report the following:

- AVTTP: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.
- MBR: amount of time (minutes) the turbidity exceeded 0.2 NTUs (if any), and the maximum turbidity
- Stage V AS/NDN Plant: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.

<sup>2</sup> 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. (CCR, title 22, sec 60301.600)

<sup>3</sup> 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:

- Modal contact time under highest flow and corresponding total chlorine residual at that time.
- Lowest total chlorine residual and corresponding modal contact time.
- Highest total chlorine residual and corresponding modal contact time.
- 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.

<sup>4</sup> When chlorine is used as disinfectant.

Self-Monitoring Sampling and Analysis Plan  
Lancaster Water Reclamation Plant Master Water Recycling Monitoring and Reporting Program

Table 2. Sampling Handling, Analytical Methods and Detection Limits

Constituent	Method	Preservative	Holding Time (h)	Reporting Limit (%)	Units	Sample Type	Sample Bottle (e)	Analytical Lab (d)
Total Dissolved Solids	SM 2540C	Cool, 4°C	7 days	7 - 10	mg/L	composite	P/G	LACSD
Nitrate Nitrogen	SM 4500 NO <sub>3</sub> -F / EPA 300.0	Cool, 4°C	48 hours	0.2 / 0.05	mg/L as N	composite	P/G	LACSD
Nitrite Nitrogen	SM 4500-NO <sub>2</sub> B	Cool, 4°C	48 hours	0.03	mg/L as N	composite	P/G	LACSD
Total Kjeldahl Nitrogen	EPA 351.2	H <sub>2</sub> SO <sub>4</sub> to pH<2; Cool, 4°C	28 days	0.2	mg/L as N	composite	P/G	LACSD
Ammonia Nitrogen	SM 4500-NH <sub>3</sub> G	H <sub>2</sub> SO <sub>4</sub> to pH<2; Cool, 4°C	28 days	0.1 as N	mg/L	composite	P/G	LACSD
Chloride	EPA 300.0	Cool, 4°C	28 days	0.2	mg/L	composite	P/G	LACSD
Sulfate	EPA 300.0	Cool, 4°C	28 days	0.5	mg/L	composite	P/G	LACSD
Heavy Metals (5)	EPA 200.8 + sec Notes (5)	HNO <sub>3</sub> to pH<2; Cool, 4°C	6 months	0.25 - 10	µg/L	composite	P/G	LACSD
Mercury	EPA 245.1 / EPA 1631	HNO <sub>3</sub> to pH<2; Cool, 4°C	28 days	0.04/ 0.0005	µg/L	composite	G	LACSD
Hexavalent Chromium	SM 3500-CrB / EPA 218.6	Cool, 4°C	24 hours	10 / 0.1	µg/L	grab	P/G	LACSD
Total Cyanides	SM 45900-CNC, E	Sodium thiosulfate in presence of chlorine NaOH pH>12; Cool, 4°C	14 days	5	µg/L	grab	P/G	LACSD
Total Phenols	EPA 420.1	H <sub>2</sub> SO <sub>4</sub> to pH<4; Cool, 4°C	28 days	0.006	µg/L	composite	G	LACSD
Bromoform	EPA 624	sodium thiosulfate in presence of chlorine; HCl to pH<2; Cool, 4°C	14 days	0.5	µg/L	grab	G, TFE lined cap	LACSD
Chloroform	EPA 624	sodium thiosulfate in presence of chlorine; HCl to pH<2; Cool, 4°C	14 days	0.5	µg/L	grab	G, TFE lined cap	LACSD
Dibromochloromethane	EPA 624	sodium thiosulfate in presence of chlorine; HCl to pH<2; Cool, 4°C	14 days	0.5	µg/L	grab	G, TFE lined cap	LACSD

08-0145

Table 2. Sampling Handling, Analytical Methods and Detection Limits (continued)

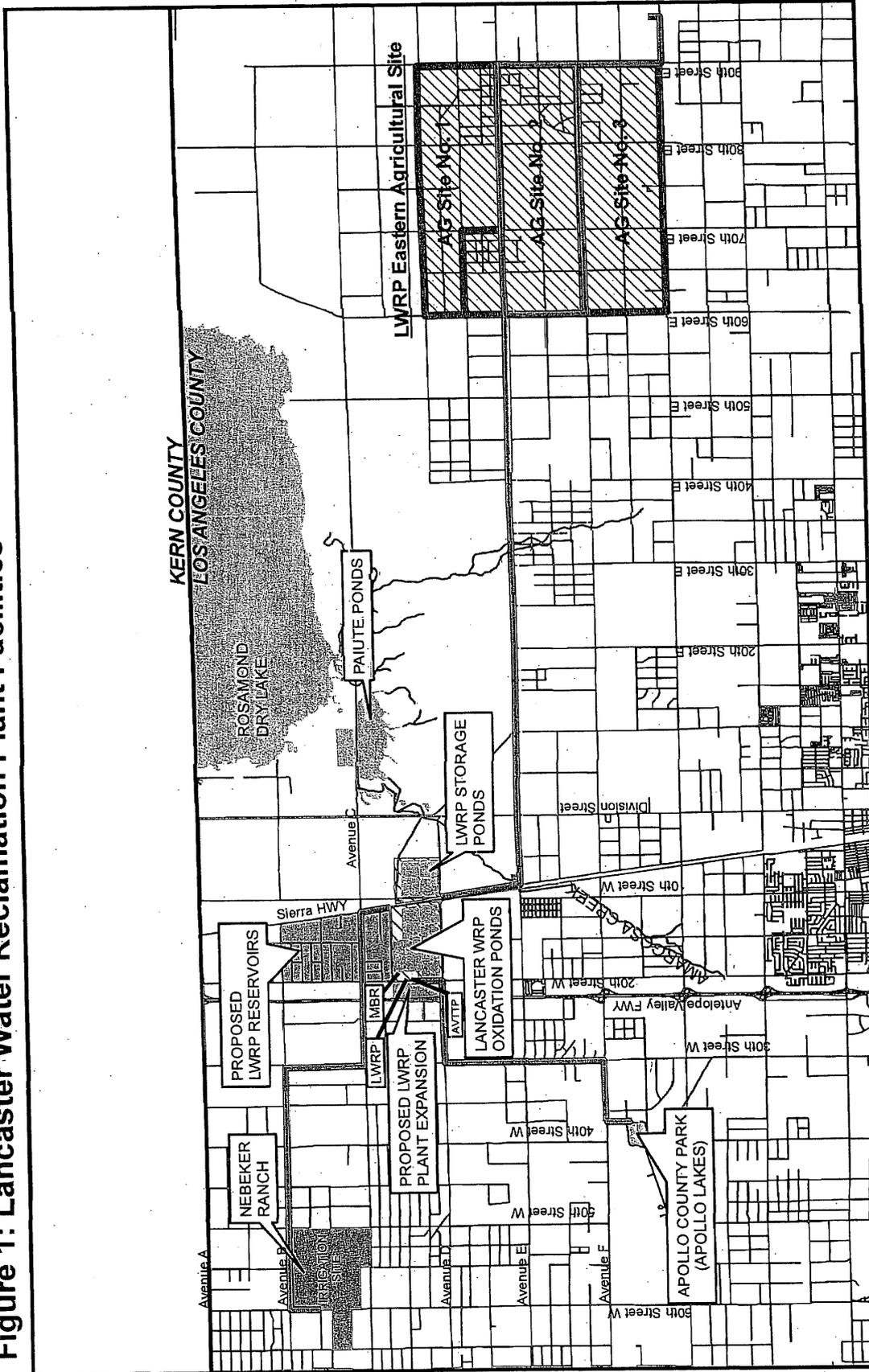
Constituent	Method	Preservative	Holding Time (6)	Reporting Limit (2)	Units	Sample Type	Sample Bottle (3)	Analytical Lab (4)
Dichlorobromomethane	EPA 624	sodium thiosulfate in presence of chlorine; HCl to pH<2; Cool, 4°C	14 days	0.5	µg/L	grab	G, TFE lined cap	LACSD
Volatile Organics (5)	EPA 624	sodium thiosulfate in presence of chlorine; HCl to pH<2; Cool, 4°C	14 days	0.5 - 2	µg/L	grab	G, TFE lined cap (zero headspace)	LACSD
Acid Extractable Organics (5)	EPA 625	sodium thiosulfate in presence of chlorine; Cool, 4°C	7 days; 40 days	1 - 10	µg/L	composite	Amber G, TFE lined cap	LACSD
Base/Neutral Extractable Organics (5)	EPA 625	sodium thiosulfate in presence of chlorine; Cool, 4°C	7 days; 40 days	1 - 10	µg/L	composite	Amber G, TFE lined cap	LACSD
Pesticides and PCBs (5)	EPA 608	sodium sulfite in presence of chlorine; Cool, 4°C	7 days; 40 days	0.01 - 0.5	µg/L	composite	Amber G, TFE lined cap	LACSD
Turbidity	SM 2130B	Cool, 4°C	48 hours	0.1	NTU	grab	P/G	LACSD
Chlorine Residual	SM 4500-CL C	None	immediately	0.05	mg/L	grab	P/G, zero headspace	LACSD
Total Coliform	SM 9222B	sodium thiosulfate in presence of chlorine	6 hours	1	cfu/100mL	grab	Sterile plastic	LACSD

## Notes:

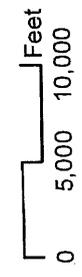
- (1) Maximum holding times from Standard Methods/EPA specifications
- (2) Reporting limit refers to the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and incorporates all dilution/concentration factors if any.
- (3) G = glass; P = plastic; types of glass/plastic containers and rinsing techniques will vary depending on types of constituents being analyzed.
- (4) In general, LACSD laboratories will perform all the analyses. However, LACSD will occasionally send samples to commercial laboratories for analysis.
- (5) Please see Appendix 4 for specific Reporting Limits for individual parameters.

08-0146

**Figure 1: Lancaster Water Reclamation Plant Facilities**



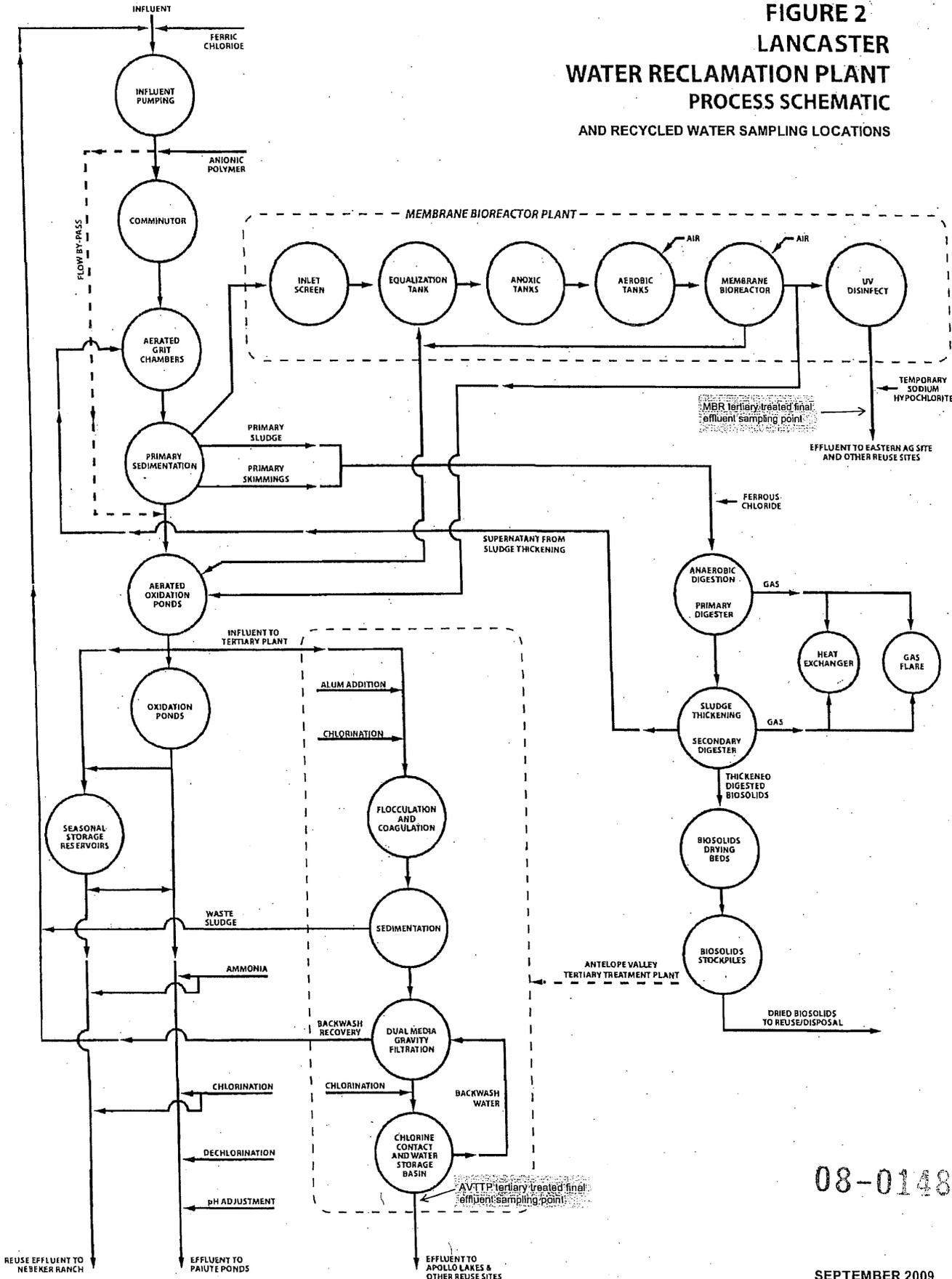
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Recycled Water Force Mains

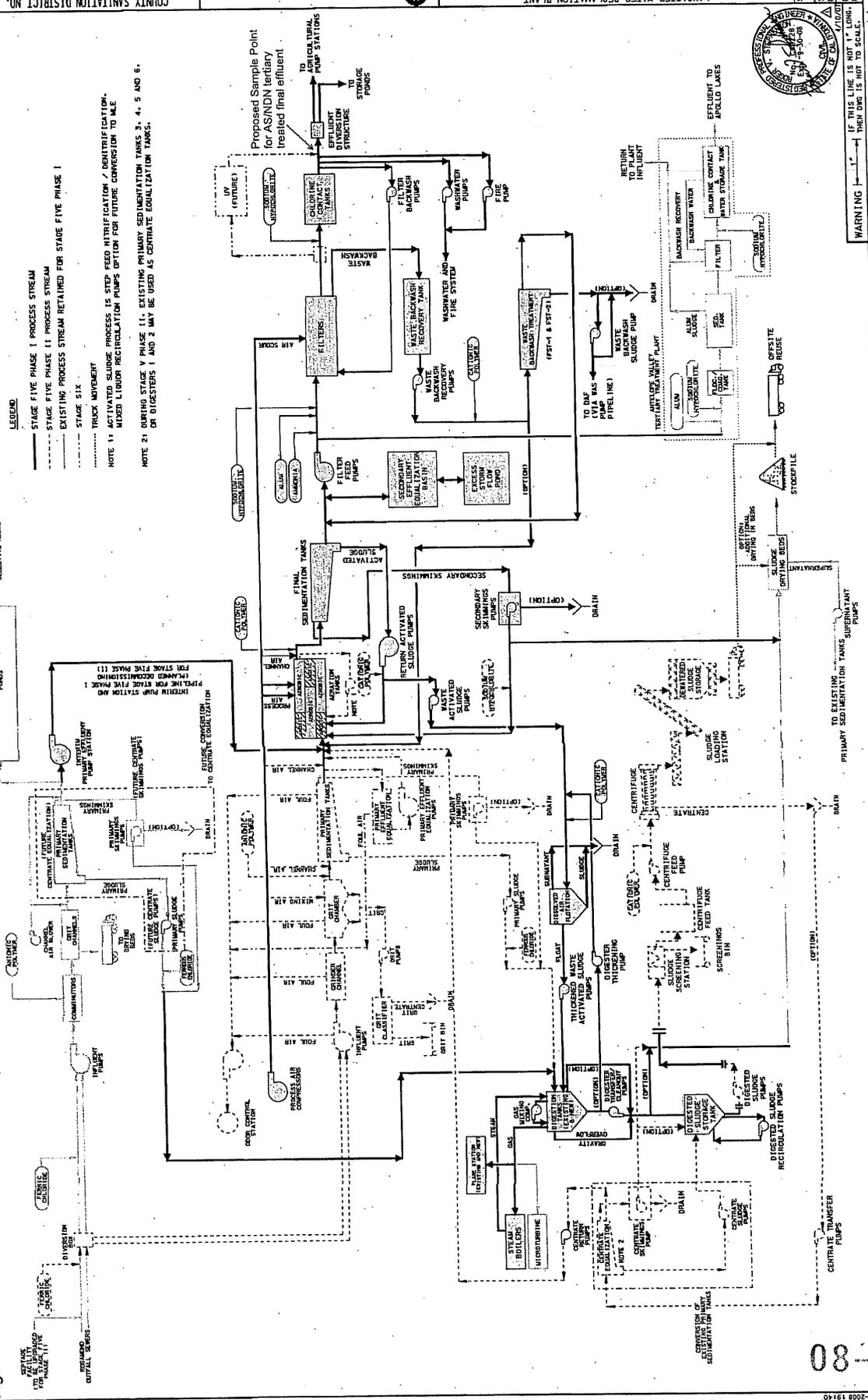
R:\Planning\GIS-Team\Monitoring\projects\Figure\_1\_12212006\_LWRP.mxd

**FIGURE 2  
LANCASTER  
WATER RECLAMATION PLANT  
PROCESS SCHEMATIC  
AND RECYCLED WATER SAMPLING LOCATIONS**



08-0148

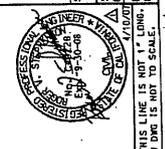
Figure 3. AS/NDN Plant Design Process Schematic and Recycled Water Sampling Location



NO.	REVISIONS	DATE	BY	CHKD.
1	REVISED PER ADDENDUM NOS. 1 THRU 6	JUL 95	JUL 95	
2				
3				
4				
5				
6				

DESIGNED BY: J. C. LOM  
 CHECKED BY: J. C. LOM  
 DRAWN BY: J. F. N.  
 DATE: APR 2007

LANCASTER WATER RECLAMATION PLANT  
 STAGE FIVE  
 PLANT EXPANSION - PHASE I  
 PROCESS FLOW DIAGRAM



SCALE: NONE  
 SHEET NO. G-12  
 DRAWING NO. 14-0-66  
 WARNING: IF THIS LINE IS NOT 1" LONG, THEN DIM IS NOT TO SCALE.

08-0149

## Lancaster Water Reclamation Plant Standard Operating Procedure for Daily Sample Collection (Without Custody Transfer)

---

### Introduction

This procedure is to be used when there is no custody transfer and the analyses are performed by the same person(s) responsible for collection of the sample(s). Typically, this type of operation is associated with water reclamation plant site laboratories, which are defined as Treatment Plant Laboratories. Samples collected in this manner are securely maintained on site until analyses have been completed, after which the same person(s) discard the sample(s).

### Equipment, Materials and Supplies

- Automated samplers with programmable controls to allow for flow weighted compositing (SIGMA 900 Max or similar samplers).
- Paddle made of polypropylene for mixing collected sample.
- Large mouth glass sample container for sampler.
- Sample bottles which have been pre-cleaned and are compatible with constituents to be analyzed.
- Ice to be used in sampler if it is not refrigerated.
- Sample logbook.

### Setting & Initiating Sampling

1. Position the sampler at a location representative of effluent being discharged from the WRP after completion of all treatment processes, or before treatment processes if influent untreated wastewater is desired.
2. Obtain typical plant flow data for influent or effluent streams covering a 24-hour period.
3. Establish numerical values that correspond to sample volumes to be collected at intervals that result in a flow weighted composite sample.
4. Enter sampling parameters along with numerical values into the sampler programming unit using the manufacturer's guidelines.
5. Install a clean sample collection container in the sampler and ice if it is not refrigerated.
6. Initiate the start of the sampler program (confirm the first sample in the sequence is collected).
7. Let sampler run.

### Retrieval & Collection

1. At the end of the sample collection period, check the sampler to confirm that there was no malfunction and that the appropriate volume of sample was collected.
2. Visually inspect the area around the sample collection point to determine if any conditions exist that may lead to unusual analytical results. If the sampler malfunctioned or other conditions prevail that may contribute to unusual results, then record these observations in the sample logbook.
3. Pre-label clean bottles designated for specific constituent analyses. Sample dates, times, location, and type are to be recorded along with the name of the individual collecting the sample.
4. Take out sample container from sampler, and in a mix-pour manner, pour aliquots of the sample into pre-labeled bottles that are compatible with constituents to be analyzed.

5. Bottles are to be iced from this point until arrival at the laboratory.
6. Upon arrival at the laboratory, immediately commence with analysis of the sample(s) or proper preservation if the sample(s) is to be held.

**Sampler Maintenance**

- The sampler and its container are to be cleaned with water, detergent, acid and a solvent as necessary for its next use.
- If batteries are used, they are to be re-charged.

08-0151

## Lancaster Water Reclamation Plant Standard Operation Procedure for Collection of Samples for Priority Pollutant Analysis

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### Introduction

For compliance purposes, samples must be collected and analyzed for priority pollutants. Effluent samples are collected downstream of all treatment. 24-hour composite samples are generally representative of a Lancaster Water Reclamation Plant's (LWRP's) average discharge; however, there are times when a grab sample is more appropriate or specified by standard procedures (e.g., hexavalent chromium, volatile organic contaminants).

### Time-Weighted Composite Sample Collection

A composite sample is composed of eight sub-samples (aliquots) collected over a 24-hour period. The volume of each aliquot is fixed, but sampling times are staggered to achieve flow-weighted proportions. Sampling is accomplished with automated equipment – a hard plumbed SIGMA 900 Max Refrigerated Sampler with 2.5 gal glass bottle reservoir, a Teflon-lined sample in-take line with stainless steel strainer probe, and silicone tubing for the peristaltic pump. Equipment is routinely maintained according to manufacturer's instructions, and specially cleaned according to a strict protocol using non-phosphate detergent, 1:1 nitric acid, methanol, and reagent-grade water.

SIGMA samplers are programmed and set up at the specific sampling location with the 2.5 gal glass reservoir set in an environmental chamber. After 24 hours of sampling, the site is physically inspected to check for any disturbance to the samplers. The SIGMA display is also reviewed for any inconsistencies, and any observations are recorded in a field notebook. The resulting composite sample is mixed and poured on-site into the appropriate sample bottles along with the required preservation method as noted in Table 2 of the Sample and Analysis Plan (pages 4-5).

### Grab Sample Collection

To collect a representative grab sample, containers are directly lowered beneath the surface of the wastewater stream. For some samples, a small headspace allows better mixing and pouring of the sample (e.g., hexavalent chromium), but to minimize volatilization of organic compounds, septum vials are filled with zero headspace. Again, appropriate bottles and exact preservation methods are listed in Table 2 of the Sample and Analysis Plan.

### Processing of Samples

After all grab and composite samples are collected and preserved, they are transported in ice chests back to Sample Receiving Group for processing. Each sample is given a unique ID number and all relevant information from the chain-of-custody form is entered into the laboratory's electronic data system. The samples are then ready for distribution to the laboratory for analysis.

08-0152

## County Sanitation District of Los Angeles County Sample Request Form / Chain of Custody

LAB JOB NOS.:	1) SJ	2) SJ	3) SJ	4) SJ
CHARGE NOS.:	1: _____ B _____	2: _____ B _____	3: _____ B _____	
REQUESTED BY:	_____		SAMPLED BY: _____	
REPORT TO:	1) _____	2) _____	3) _____	
DATE AND TIME - GRAB SAMPLES:	1) / / : :	2) / / : :	3) / / : :	4) / / : :
COMPOSITE SAMPLES:	1) FROM: / / : :	TO: / / : :	2) FROM: / / : :	TO: / / : :
	3) FROM: / / : :	TO: / / : :	4) FROM: / / : :	TO: / / : :
SAMPLE LOCATION:	1) - -	TYPE:	VOLUME	LITER
	2) - -	TYPE:	VOLUME	LITER
	3) - -	TYPE:	VOLUME	LITER
	4) - -	TYPE:	VOLUME	LITER
DESCRIPTION:	1) _____			
	2) _____			
	3) _____			
	4) _____			
PROJ. NO.:	NO. OF SAMPLES:	LOCATIONS: 1) 2) 3) 4)		
PROJECT TITLE: _____				
TESTS REQUIRED:				
	CODE:	TEST NAME:	CODE:	TEST NAME:
1)	_____ - _____		16)	_____ - _____
2)	_____ - _____		17)	_____ - _____
3)	_____ - _____		18)	_____ - _____
4)	_____ - _____		19)	_____ - _____
5)	_____ - _____		20)	_____ - _____
6)	_____ - _____		21)	_____ - _____
7)	_____ - _____		22)	_____ - _____
8)	_____ - _____		23)	_____ - _____
9)	_____ - _____		24)	_____ - _____
10)	_____ - _____		25)	_____ - _____
11)	_____ - _____		26)	_____ - _____
12)	_____ - _____		27)	_____ - _____
13)	_____ - _____		28)	_____ - _____
14)	_____ - _____		29)	_____ - _____
15)	_____ - _____		30)	_____ - _____
NOTES TO ANALYST: _____ _____				
CUSTODY RECORD				
Relinquished by: (Signature)		Date/Time	Received by: (Signature)	
		/ / AM/PM		

**Sanitation Districts of Los Angeles County  
Laboratory Detection and Reporting Limits for Individual Constituents**

Name of Constituent	Approved Method	ML	MDL	RL	Units
pH	SM 4500-HB	*	*	1	pH
Conductivity	SM 2510B	*	*	*	µs/cm
Turbidity	SM 2130B	*	0.1	0.1	NTU
Temperature	SM 2550B	*	*	*	F
Dissolved Oxygen	SM 4500-OG	*	*	1.0	mg/L
Total Dissolved Solids	SM 2540C	*	2.69 - 7	7 - 10	mg/L
Ammonia Nitrogen	SM 4500-NH3G	*	0.02	0.1	mg/L
Organic Nitrogen	By Calculation	*	0.05	0.2	mg/L
Total Kjeldahl Nitrogen (TKN)	EPA 351.2	*	0.135	0.2	mg/L
Nitrate Nitrogen	SM 4500-NO3-F / EPA 300.0	*	0.03 / 0.027	0.2 / 0.05	mg/L
Nitrite Nitrogen	SM 4500-NO2B	*	0.003	0.03	mg/L
Total Cyanide	SM4500-CNE	5	1	5	µg/L
Total Nitrogen	By Calculation	*	*	0.2	mg/L
Sulfate	EPA 300.0	*	0.09	0.5	mg/L
Chloride	EPA 300.0	*	0.11	2.0	mg/L
Chlorine Residual	SM 4500-CLC	*	0.05	0.05	mg/L
Total Hardness	SM 2340C / EPA 200.8	*	0.66 / 0.039	5 / 0.26	mg/L
Phenols	EPA 420.1	*	0.002	0.006	mg/L
Total Coliform (MF)	SM 9222B	*	*	1	CFU/0.1L
Total Coliform (MTF)	SM 9221B	*	*	1.8	MPN/0.1L
Fecal Coliform (MTF)	SM 9221E	*	*	1.8	MPN/0.1L
Fecal Coliform (MF)	SM 9222D	*	*	1	CFU/0.1L
4,4'-DDE	EPA 608	0.005	0.001 - 0.002	0.01	µg/L
4,4'-DDD	EPA 608	0.005	0.002	0.01	µg/L
4,4'-DDT	EPA 608	0.005	0.001	0.01	µg/L
Alpha-BHC	EPA 608	0.005	0.001	0.01	µg/L
gamma-BHC	EPA 608	0.005	0.001	0.01	µg/L
Heptachlor	EPA 608	0.005	0.0009 - 0.001	0.01	µg/L
Heptachlor Epoxide	EPA 608	0.005	0.001	0.01	µg/L
Aldrin	EPA 608	0.005	0.002	0.01	µg/L
Dieldrin	EPA 608	0.005	0.001	0.01	µg/L
Endrin	EPA 608	0.005	0.001 - 0.002	0.01	µg/L
Toxaphene	EPA 608	0.2	0.04 - 0.05	0.5	µg/L
Methoxychlor	EPA 608	0.005	0.001 - 0.002	0.01	µg/L
2,4-D	EPA 8151A	0.5	0.21	0.50	µg/L
2,4,5 -TP (Silvex)	EPA 8151A	0.25	0.11	0.25	µg/L
PCB 1242	EPA 608	0.08	0.04 - 0.08	0.1	µg/L
PCB 1254	EPA 608	0.05	0.02 - 0.03	0.05	µg/L
beta-BHC	EPA 608	0.005	0.003 - 0.004	0.01	µg/L
delta-BHC	EPA 608	0.005	0.001 - 0.003	0.01	µg/L
Alpha-Endosulfan	EPA 608	0.005	0.001	0.01	µg/L
Beta-Endosulfan	EPA 608	0.005	0.003	0.01	µg/L
Endosulfan Sulfate	EPA 608	0.005	0.002	0.01	µg/L
Endrin Aldehyde	EPA 608	0.005	0.001	0.01	µg/L

Name of Constituent	Approved Method	ML	MDL	RL	Units
PCB 1016	EPA 608	0.1	0.03 - 0.04	0.1	µg/L
PCB 1221	EPA 608	0.5	0.2	0.5	µg/L
PCB 1232	EPA 608	0.3	0.1 - 0.2	0.3	µg/L
PCB 1248	EPA 608	0.1	0.03 - 0.04	0.1	µg/L
PCB 1260	EPA 608	0.1	0.02 - 0.05	0.1	µg/L
Chlordane	EPA 608	0.04	0.02 - 0.03	0.05	µg/L
Methylene Chloride	EPA 624	0.5	0.13 - 0.20	0.5	µg/L
Chloroform	EPA 624	0.5	0.09 - 0.13	0.5	µg/L
1,1,1 Trichloroethane	EPA 624	0.5	0.07 - 0.18	0.5	µg/L
Carbon Tetrachloride	EPA 624	0.5	0.09 - 0.2	0.5	µg/L
1,1 Dichloroethylene	EPA 624	0.5	0.10 - 0.22	0.5	µg/L
Trichloroethylene	EPA 624	0.5	0.12 - 0.17	0.5	µg/L
Tetrachloroethylene	EPA 624	0.5	0.14 - 0.5	0.5	µg/L
Dichlorobromomethane	EPA 624	0.5	0.09 - 0.12	0.5	µg/L
Chlorodibromomethane	EPA 624	0.5	0.08 - 0.11	0.5	µg/L
Bromoform	EPA 624	0.5	0.07 - 0.19	0.5	µg/L
Chlorobenzene	EPA 624	0.5	0.08 - 0.12	0.5	µg/L
Vinyl Chloride	EPA 624	0.5	0.17 - 0.37	0.5	µg/L
1,2 Dichlorobenzene	EPA 624	0.5	0.07 - 0.23	0.5	µg/L
1,3 Dichlorobenzene	EPA 624	0.5	0.07 - 0.26	0.5	µg/L
1,4 Dichlorobenzene	EPA 624	0.5	0.07 - 0.32	0.5	µg/L
1,1 Dichloroethane	EPA 624	0.5	0.07 - 0.14	0.5	µg/L
1,1,2 Trichloroethane	EPA 624	0.5	0.09 - 0.10	0.5	µg/L
1,2 Dichloroethane	EPA 624	0.5	0.09 - 0.12	0.5	µg/L
Benzene	EPA 624	0.5	0.10 - 0.15	0.5	µg/L
Toluene	EPA 624	0.5	0.06 - 0.18	0.5	µg/L
Ethylbenzene	EPA 624	0.5	0.12 - 0.19	0.5	µg/L
O-Xylene	EPA 624	0.5	0.10 - 0.16	0.5	µg/L
Trans 1,2-Dichloroethylene	EPA 624	0.5	0.09 - 0.17	0.5	µg/L
Methyl Bromide	EPA 624	0.5	0.07 - 0.34	0.5	µg/L
Chloroethane	EPA 624	0.5	0.16 - 0.32	0.5	µg/L
2-Chloroethyl vinyl ether	EPA 624	0.5	0.07 - 0.18	0.5	µg/L
Chloromethane	EPA 624	0.5	0.06 - 0.20	0.5	µg/L
1,2 Dichloropropane	EPA 624	0.5	0.09 - 0.17	0.5	µg/L
Cis-1,3 Dichloropropene	EPA 624	0.5	0.11 - 0.13	0.5	µg/L
Trans-1,3-Dichloropropene	EPA 624	0.5	0.07 - 0.11	0.5	µg/L
1,1,2,2 Tetrachloroethane	EPA 624	0.5	0.08 - 0.16	0.5	µg/L
Acrolein	EPA 624	2.0	0.49 - 0.52	2.0	µg/L
Acrylonitrile	EPA 624	2.0	0.2 - 0.54	2.0	µg/L
Methyl-t-butyl ether (MTBE)	EPA 624	0.5	0.11 - 0.21	0.5	µg/L
M+P-Xylene	EPA 624	1.0	0.21 - 0.51	1.0	µg/L
1,4-Dioxane	EPA 8270 M	0.5	0.13	0.5	µg/L
1,2,3-Trichloropropane	EPA 524.2 M (SIM)	0.005	0.0012	0.005	µg/L
Total Arsenic	EPA 200.8	1	0.04	1	µg/L
Barium	EPA 200.8	0.5	0.02 - 0.1	0.5	µg/L
Cadmium	EPA 200.8	0.2	0.01 - 0.03	0.2	µg/L

## Lancaster Water Reclamation Plant Master Water Recycling Monitoring and Reporting Program

Name of Constituent	Approved Method	MI	MDL	RI	Units
Total Chromium	EPA 200.8	0.5	0.02 - 0.05	0.5	µg/L
Hexavalent Chromium	SM 3500 CrB / EPA 218.6	10 / 0.1	0.30 - 2.94 / 0.047	10 / 0.1	µg/L
Copper	EPA 200.8	0.5	0.04 - 0.22	0.5	µg/L
Iron	EPA 200.8	20	5.8 - 8	20	µg/L
Lead	EPA 200.8	0.25	0.02 - 0.17	0.25	µg/L
Mercury	EPA 245.1 / EPA 1631	0.025 / 0.0005	0.01 / 0.000157	0.04 / 0.0005	µg/L
Nickel	EPA 200.8	1.0	0.02 - 0.13	1.0	µg/L
Selenium	EPA 200.8	1.0	0.09 - 0.18	1.0	µg/L
Silver	EPA 200.8	0.2	0.01 - 0.07	0.2	µg/L
Sodium	EPA 200.8	0.2	0.0052 - 0.026	0.2	mg/L
Zinc	EPA 200.8	1.0	0.38 - 0.48	1	µg/L
Antimony	EPA 200.8	0.5	0.14 - 0.16	0.5	µg/L
Beryllium	EPA 200.8	0.25	0.05 - 0.07	0.25	µg/L
Thallium	EPA 200.8	0.25	0.05 - 0.06	0.25	µg/L
Acenaphthene	EPA 625	1	0.15	1	µg/L
Acenaphthylene	EPA 625	10	0.14	10	µg/L
Anthracene	EPA 625	10	0.18	10	µg/L
Benzidine	EPA 625	5	1.67	5	µg/L
Benzo (a) Anthracene	EPA 625	5	0.19	5	µg/L
Benzo (a) Pyrene	EPA 625 / EPA 610	10 / 0.02	0.15 / 0.0089	10 / 0.02	µg/L
Benzo (b) Fluoranthene	EPA 625 / EPA 610	10 / 0.02	0.13 / 0.0082	10 / 0.02	µg/L
Benzo (g,h,i) Perylene	EPA 625 / EPA 610	5 / 0.02	0.19 / 0.009	5 / 0.02	µg/L
Benzo (k) Fluoranthene	EPA 625 / EPA 610	10 / 0.02	0.23 / 0.0084	10 / 0.02	µg/L
Bis (2-Chloroethoxyl) methane	EPA 625	5	0.13	5	µg/L
Bis(2-Chloroethyl) ether	EPA 625	1	0.19	1	µg/L
Bis(2-Chloroisopropyl) ether	EPA 625	2	0.16	2	µg/L
Bis(2-Ethylhexyl) phthalate	EPA 625	2	0.25	5	µg/L
4-Bromophenyl phenyl ether	EPA 625	5	0.21	5	µg/L
Butyl benzyl phthalate	EPA 625	10	0.16	10	µg/L
2-Chloronaphthalene	EPA 625	10	0.16	10	µg/L
4-Chlorophenyl phenyl ether	EPA 625	5	0.17	5	µg/L
Chrysene	EPA 625 / EPA 610	10 / 0.02	0.17 / 0.0093	10 / 0.02	µg/L
Dibenzo(a,h)-anthracene	EPA 625 / EPA 610	10 / 0.02	0.15 / 0.0089	10 / 0.02	µg/L
3,3' Dichlorobenzidine	EPA 625	5	1.16	5	µg/L
Diethyl phthalate	EPA 625	2	0.21	2	µg/L
Dimethyl phthalate	EPA 625	2	0.19	2	µg/L
di-n-Butyl phthalate	EPA 625	10	0.16	10	µg/L
2,4 Dinitrotoluene	EPA 625	5	0.20	5	µg/L
2,6 Dinitrotoluene	EPA 625	5	0.22	5	µg/L
di-n-Octyl phthalate	EPA 625	10	0.16	10	µg/L
1,2 Diphenylhydrazine	EPA 625	1	0.13	1	µg/L
Fluoranthene	EPA 625	1	0.19	1	µg/L
Fluorene	EPA 625	10	0.18	10	µg/L
Hexachlorobenzene	EPA 625	1	0.18	1	µg/L

Name of Constituent	Approved Method	ML	MDL	RL	Units
Hexachlorobutadiene	EPA 625	1	0.14	1	µg/L
Hexachloro-cyclopentadiene	EPA 625	5	0.75	5	µg/L
Hexachloroethane	EPA 625	1	0.14	1	µg/L
Indeno(1,2,3,cd)-pyrene	EPA 625 / EPA 610	10 / 0.02	0.14 / 0.0084	10 / 0.02	µg/L
Isophorone	EPA 625	1	0.13	1	µg/L
Naphthalene	EPA 625	1	0.18	1	µg/L
Nitrobenzene	EPA 625	1	0.22	1	µg/L
N-Nitrosodimethyl amine	EPA 625 / EPA 1625M	5 / 0.002	0.14 / 0.0005	5 / 0.002	µg/L
N-Nitroso-di-n-propyl amine	EPA 625	5	0.12	5	µg/L
Phenanthrene	EPA 625	5	0.19	5	µg/L
Pyrene	EPA 625	10	0.19	10	µg/L
2,3,7,8-TCDD (Dioxin b)	EPA 1613B	*	*	*	pg/L
2 Chlorophenol	EPA 625	5	0.15	5	µg/L
1,2,4 Trichlorobenzene	EPA 625	5	0.17	5	µg/L
2,4 Dichlorophenol	EPA 625	5	0.15	5	µg/L
2,4 Dimethylphenol	EPA 625	2	0.11	2	µg/L
2,4 Dinitrophenol	EPA 625	5	1.73	5	µg/L
2-Methyl-4,6-Dinitrophenol	EPA 625	5	1.31	5	µg/L
2-Nitrophenol	EPA 625	10	0.20	10	µg/L
4-Nitrophenol	EPA 625	10	1.37	10	µg/L
3-Methyl-4-Chlorophenol	EPA 625	1	0.13	1	µg/L
Pentachlorophenol	EPA 625 / 625-SIM	5 / 1	0.38	5 / 1	µg/L
Phenol	EPA 625	1	0.14	1	µg/L
2,4,6 Trichlorophenol	EPA 625	10	0.12	10	µg/L
N-Nitrosodiphenyl amine	EPA 625	1	0.15	1	µg/L
Nitrite-N + Nitrate-N	By Calculation	*	*	0.04	mg/L

\* Not applicable or sample specific.

08-0157