

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

**BOARD ORDER NO. R6V-2012-(PROPOSED)  
WDID NO. 6B190107069**

**MASTER WATER RECYCLING REQUIREMENTS AND  
WASTE DISCHARGE REQUIREMENTS  
COUNTY SANITATION DISTRICT NO. 20 OF LOS ANGELES COUNTY  
(PALMDALE)  
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 purposes 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]

- 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. 20 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 21, 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 includes parts of the City of Palmdale and nearby unincorporated areas of northern Los Angeles County.

The District currently provides disinfected secondary treatment for up to 15 million gallons per day (mgd) of wastewater at its Palmdale Water Reclamation Plant. The disinfected secondary recycled water is discharged to an Agricultural Site (formerly referred to as the Effluent Management Site) located on Los Angeles World Airports' property for agricultural reuse. Excess recycled water is discharged to the Storage Reservoir Site for eventual use at the Agricultural Site during summer months.

The District recently completed construction for Phase I of a new tertiary treatment facility (Stage V Plant Expansion). The Stage V Plant Expansion consists of activated sludge treatment, nitrogen removal using nitrification and denitrification processes, and disinfection. Phase I of the Stage V Plant Expansion provides treatment for up to 12 mgd. This is in addition to the existing disinfected secondary treatment. Phase II of the Stage V Plant Expansion will add an additional 3 mgd for a total treatment capacity of 15 mgd for the Stage V Plant Expansion.

Flows from the Stage V Plant expansion are currently discharged to the Storage Reservoir Site and to the Agricultural Site. However, the District anticipates using disinfected tertiary recycled water from the Stage V Plant Expansion for municipal and industrial reuse projects. The discharge of recycled water to the Agricultural Site is not considered in this master recycling permit since it is covered under Board Order No. R6V-2011-0012.

4. Current Board Orders

Board Order No. R6V-2011-0012 establishes waste discharge requirements and water recycling requirements for the discharge of disinfected secondary treated wastewater and for disinfected tertiary treated wastewater. Board Order No. R6V-2011-0012 was adopted on March 9, 2011 pursuant to Water Code section 13263.

On December 9, 2009, the Lahontan Water Board adopted Board Order No. R6V-2009-0141 establishing master recycling requirements for the County Sanitation District No. 14 of Los Angeles County (Lancaster). The requirements allow the use of disinfected tertiary recycled water from the Lancaster Water Reclamation Plant 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-2009-0141 authorized the distribution of up to 22.6 mgd (annual average) of disinfected tertiary recycled water from the Lancaster Water Reclamation Plant through the proposed North Los Angeles/Kern County Regional Recycled Water Project distribution system. This Order will also authorize the distribution of disinfected tertiary recycled water from the Palmdale Water Reclamation Plant through the same distribution system.

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).

- 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. These 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.

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 37.6 mgd annual average recycled water flow permitted to be produced (22.6 mgd from the

Lancaster Water Reclamation Plant and 15 mgd from the Stage V Expansion at the Palmdale Water Reclamation Plant). 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 disinfected secondary treated water at its Palmdale Water Reclamation Plant. The District recently completed construction of a new tertiary treatment facility, the Stage V Plant Expansion, which has an average 24-hour design capacity of 12 mgd and a planned expansion to 15 mgd.

The Lancaster Water Reclamation Plant (operated by County Sanitation District No. 14 of Los Angeles County) currently provides recycled water to the North Los Angeles/Kern County Regional Recycled Water Project. Water recycling requirements have been issued to authorize this use (Board Order No. R6V-2009-0141).

The Rosamond Waste Water Treatment Plant (operated by the Rosamond Community Services District) also plans 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 Rosamond Community Services District will be necessary prior to this district providing recycled water from its facility.

7. Producer, Distributors and Users

Under this Order, the District is the producer of recycled water. Currently, the City of Palmdale, 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 County Sanitation District No. 14'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 vary.

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 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. 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 No. 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. 23 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 will submit 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
Tertiary Treatment Facilities (Stage V Plant Expansion), report expected to be submitted to CDPH prior to project 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-2012-PROPOSED, Sections I.D 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 staff accepted 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-2012-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. Both the Lancaster Water Reclamation Plant and the Palmdale Water Reclamation Plant will be simultaneously providing recycled water to the North Los Angeles/Kern County Regional Recycled Water Project distribution system. When this occurs, the District will use the highest nutrient levels provided from either reclamation plant at any given time when communicating nutrient levels to recycled water users.

### 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, 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 Plant Expansion includes a nitrification/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 secondary treated recycled water for 2010 is 524 mg/l, and the expected average TDS concentration in the tertiary treated effluent from the Stage V Plant Expansion is 550 mg/l.

The District provided an analysis (2009) 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 a ten-year period. 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 subdivision (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.

Furthermore, the use of recycled water for those uses 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 use of recycled water for 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).

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 Activated Sludge/Nitrification-Denitrification Plant (Stage V Plant Expansion) must not exceed 12 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-2011-0012, recycled water production at the Stage V Plant Expansion must not exceed 15 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. 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.15 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 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. Both the Lancaster Water Reclamation Plant and the Palmdale Water Reclamation Plant will be simultaneously providing recycled water to the North Los Angeles/Kern County Regional Recycled Water Project distribution system. When this occurs, the District shall use the highest nutrient levels provided from either reclamation plant at any given time when communicating nutrient levels to recycled water users.
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 existing secondary treatment reclamation plant to the Agricultural Site.
- B. The District must:
  1. prior to supplying recycled water under this Order from the Stage V Plant Expansion, submit to the Lahontan Water Board a copy of the final engineering report for the Stage V Plant Expansion 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 Plant Expansion 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. 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-2012-PROPOSED (Attachment E 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.

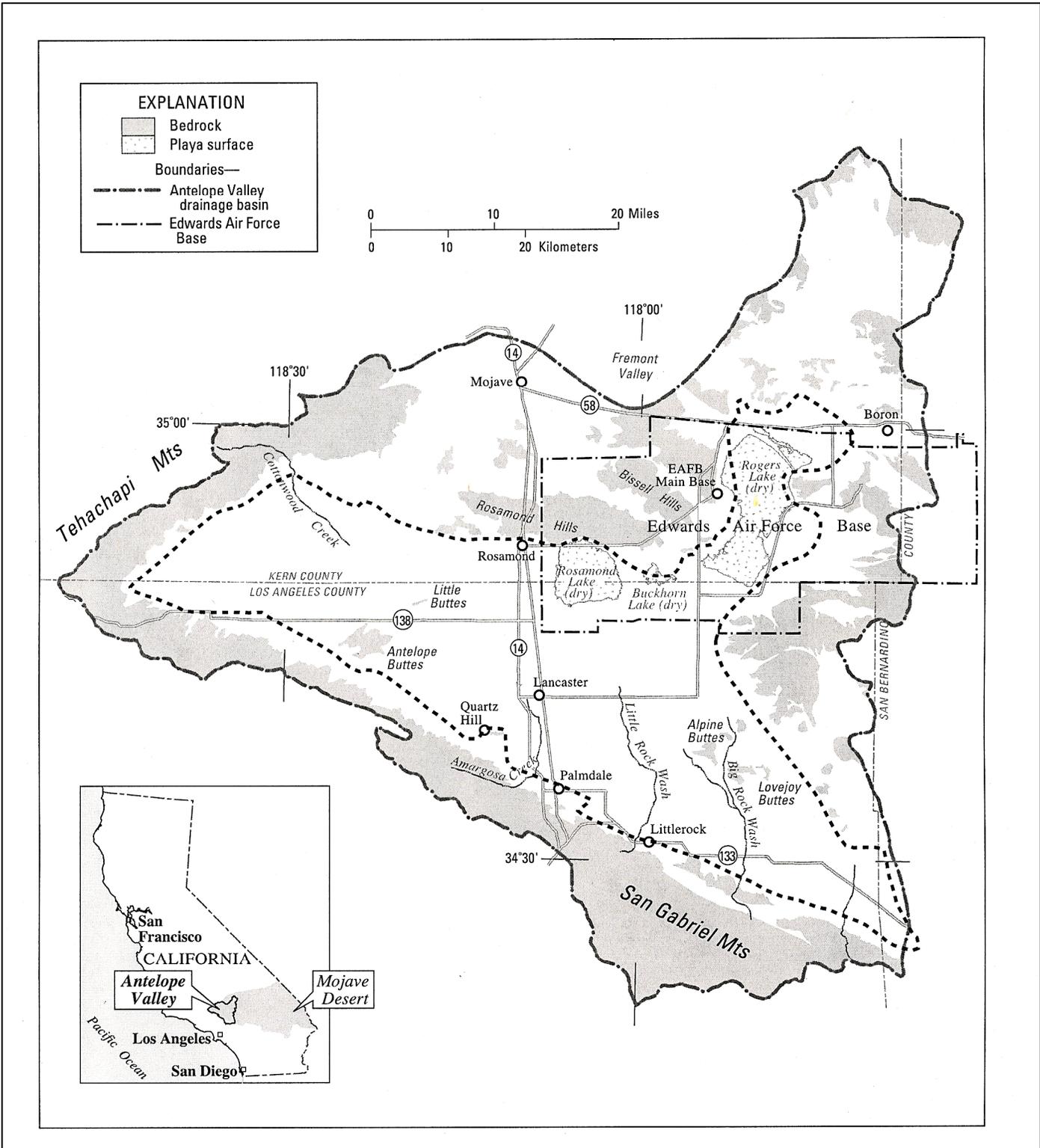
I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on January 11, 2012.

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HAROLD J. SINGER  
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. [Monitoring and Reporting Program No. R6V-2012-PROPOSED](#)

# 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

PROPOSED

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

PROPOSED

REQUIREMENTS FOR RECYCLED WATER USERS

PROPOSED

RECYCLED WATER USE SITE INSPECTION PROGRAM

PROPOSED

REUSE SITE INSPECTION REPORT

PROPOSED

ENFORCEMENT RESPONSE PLAN

PROPOSED

ATTACHMENT D  
Standard Provisions for Waste Discharge Requirements

PROPOSED