

## ORDINANCE NO. 75

### AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA ADOPTING RULES AND REGULATIONS FOR RECYCLED WATER SERVICE

**WHEREAS**, the Lake Arrowhead Community Services District Board of Directors desire to adopt the District's Rules and Regulations for Recycled Water Service as set forth in the attachment; and

**WHEREAS**, on June 6, 2003 the District Board of Directors adopted Ordinance No. 56, the Water Reclamation Ordinance, which provides for the planning of wastewater reclamation facilities, fostering the use of recycled water, controlling its safe distribution and permitting and regulating its use; and

**WHEREAS**, the first reading of this Ordinance occurred at the Regular Meeting of the Board of Directors on January 26, 2010, notice of the time and date of said Regular Meeting was given in accordance with the requirements of California law for the posting of the notice and agenda for such a Regular Meeting, at which time the Board of Directors provided the public with an opportunity to provide comments and testimony.

#### **THE BOARD OF DIRECTORS OF THE LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT DOES HEREBY ORDAIN AS FOLLOWS:**

1. Incorporation of Recitals The Recitals set forth above are incorporated herein and made an operative part of this Ordinance.
2. Adoption of Rules & Regulations for Recycled Water Service Ordinance No. 75, Rules and Regulations for Recycled Water Service are adopted as set forth in the attachment.
3. Rescind Ordinance No. 74 This Ordinance No. 75 supersedes Ordinance No. 74 and Ordinance No. 74 is hereby rescinded.
4. Effective Date This Ordinance shall be effective 30 days after adoption.

The foregoing Ordinance **ADOPTED** by the Board of Directors of the Lake Arrowhead Community Services District at a Regular Meeting held on February 23, 2010 by the following votes:

**AYES: Barkley, Ben-Hur, Goodwin, Goss, and Wagner**

**NOES: None**

**ABSTENTIONS: None**

**ABSENT: None**

Geoffrey K. Goss

Geoffrey K. Goss President of the Board  
of Directors of the Lake Arrowhead  
Community Services District

ATTEST:

Kathleen Fankhauser

Kathleen Fankhauser, Secretary of the Lake  
Arrowhead Community Services District and  
of the Board of Directors

ADOPTED  
FEBRUARY 23, 2010

(SEAL)

**LAKE ARROWHEAD COMMUNITY  
SERVICES DISTRICT**

**RULES AND REGULATIONS FOR  
RECYCLED WATER SERVICE  
(ORDINANCE NO. 75)**

**January 26, 2010  
FINAL VERSION**

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<b>GENERAL</b>		<b>Revision Date 1/26/10</b>

## 1.0 General

The Lake Arrowhead Community Services District (District or LACSD) is dependent upon surface water from Lake Arrowhead, groundwater and imported State Water Project water for domestic and non-domestic uses within its water service area. The reliability of these supplies may be variable. By developing and utilizing recycled water, the impact on the level of Lake Arrowhead and the need for additional imported water can be reduced. In light of these circumstances, certain uses of potable water in the District's service area may be considered unreasonable or to constitute a nuisance where recycled water is available.

On June 6, 2003 the LACSD Board adopted Ordinance No. 56, the Water Reclamation Ordinance, which provides for the planning of wastewater reclamation facilities, fostering the use of recycled water, controlling its safe distribution, and permitting and regulating its use. The basis for this ordinance is the California Water Code Section 13551, which states that the continued use of water suitable for production of potable water for turf grass irrigation and certain other non-domestic water uses is an unreasonable use of water if recycled water is available and usable for such purposes.

The use of water recycled from domestic sewage is regulated by the State Water Resources Control Board (SWRCB). California Water Code Sections 13550-13556 establishes a state policy to encourage the use of recycled water. Permission to use recycled water is based on the ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. Title 22 was promulgated by the State Department of Public Health to ensure proper health protection and specify the treatment degree to match the intended applications.

With the adoption of Ordinance No. 56, the following Rules and Regulations have been developed to govern the distribution and use of recycled water for outdoor irrigation and other non-potable uses as and when it becomes available.

## **1.2 Policy**

It is the policy of the LACSD that recycled water be used for any purpose approved for recycled water use, when it is economically, financially and technically feasible, as mandated by Ordinance No. 56. Use of potable water for non-domestic uses shall be contrary to the LACSD policy, and shall not be considered the most beneficial use of a natural resource and shall be avoided to the maximum extent possible. The distribution and use of recycled water shall be consistent with the standards and requirements of regulatory agencies for the protection of public health and welfare, and the preservation of the quality of the environment.

## **1.3 Purpose**

The Rules and Regulations set forth herein pertain to recycled water service provided by the LACSD within LACSD's service area. These Rules and Regulations establish procedures for the distribution and use of recycled water. Recycled water service from LACSD is subject to the availability of facilities and adequate capacity in these facilities. It is the general intent of the LACSD to provide recycled water to all service areas in the LACSD in compliance with these Rules and Regulations. These Rules and Regulations shall be interpreted in accordance with the purpose, policy, and intent of these Rules and Regulations and the definitions as set forth in Section 2 herein. Insofar as these Rules and Regulations support portions of the California Code of Regulations, Title 22, any amendment of the California Code of Regulations which may be pertinent to these Rules and Regulations shall be incorporated accordingly.

## **1.4 Goals**

Because recycled water is considered unsafe for human consumption, it is important that these Rules and Regulations contain provisions which minimize or eliminate the possible misuse of the recycled water.


Recycled water shall be distributed and used in a manner that meets all Federal, State, and local requirements and which shall achieve the following:

- a. Prevent direct human consumption of the recycled water through:
  - i. Adherence to all applicable rules and regulations,

- ii. Posting of warning signs by the user,
- iii. Cross connection/backflow prevention program.

- b. Control run-off and ponding of recycled water at all times by controlling the installation and operation of the systems using recycled water,
- c. Prevent contamination of potable water supplies.
- d. Isolate contamination by other sources, such as wastewater, sludge, urban run-off, or other substances which may come into contact with the recycled water. The use of gray water is expressly excluded from these Rules and Regulations.



	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT          RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>2.0</b>
<b>DEFINITIONS</b>		Revision Date <b>1/26/10</b>

The terms hereinafter set forth, unless otherwise specified, shall have the following meanings:

**AEROSOL** (see **WINDBLOWN SPRAY**)

**AIR-GAP SEPARATION** shall mean a physical break between a supply pipe and a receiving vessel. The air-gap shall be at least double the diameter of the supply pipe, measured vertically above the flood rim of the vessel, and in no case less than one inch. The design shall be to the satisfaction of the LACSD.

**AMERICAN WATER WORKS ASSOCIATION (AWWA)** shall mean the American Water Works Association California-Nevada Section.

**APPLICANT** shall mean any person, firm, corporation, association, and agency or authorized representative who applies for recycled water service under the terms of these Rules and Regulations.

**APPLICATION RATE** shall mean the rate at which recycled water is applied to an irrigation or construction area expressed in inches per hour (or cm/hr).

**APPROVED CHECK VALVE** shall mean a watertight semiautomatic device which seats readily and completely and is designed to permit flow in only one direction, as approved by California State Department of Public Health (CDPH) and the Foundation

for Cross-Connection Control and Hydraulic Research, University of Southern California, School of Engineering (USC).

**APPROVED DOUBLE CHECK VALVE ASSEMBLY (DC)** shall mean an assembly of at least two independently acting approved check valves including tightly closing shut-off valve assemblies on each side of the check valve assembly and test cocks available for testing the water tightness of each check valve as approved by CDPH and the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, School of Engineering (USC).

**APPROVED BACKFLOW PREVENTER** shall mean a device installed to protect the potable water supply from contamination by recycled water as approved by CDPH and the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, School of Engineering (USC).

**APPROVED USE** shall mean the use of recycled water in a manner, and for such purpose, designated in a user permit issued by LACSD and in compliance with any and all applicable regulatory agency requirements.

**APPROVED USE AREA** shall mean a site, with well defined boundaries, designated in a user permit issued by LACSD to receive recycled water for an approved use.

**AS-BUILT DRAWINGS** (see **RECORD DRAWINGS**).

**AUTOMATIC SYSTEM** shall mean an electronic, electrical or mechanical system which includes automatic controllers, valves, and associated equipment required for the programming of effective water application rates when using recycled water.

**BUILDING INSPECTION DEPARTMENT** shall mean the LACSD's Engineering Department.

**CAPACITY CHARGE** shall mean a one-time charge determined from the Schedule of Rates of LACSD, and payable by the customer for obtaining recycled water. The purpose of this charge is for the expansion of recycled water facilities to accommodate future growth.

**COMMERCIAL USE** shall mean the use of recycled water for toilets, urinals, decorative fountains, landscape irrigation and other related uses.

**CONNECTION FEE** shall mean a charge imposed by LACSD for establishing or reestablishing recycled water service, including construction and/or installation of offsite facilities.

**CONSTRUCTION USE** shall mean the approved use of recycled water to support construction activities such as soil compaction and dust control during grading.

**CONTRACTOR** shall mean a person, persons, or firm entering into a legal agreement with the owner, customer, or LACSD for the performance of work on all or any portion of facilities subject to these regulations.

**COUNTY** shall mean the County of San Bernardino, California.

**CROSS-CONNECTION** shall mean any unprotected connection between any part of a potable water system and recycled water system, and/or between any part of recycled water system and other sources such as sewers and sludge force mains whereby contamination may enter the potable water system.

**CUSTOMER** shall mean any person, firm, corporation, association, or agency that holds a valid user permit issued by LACSD for use of its recycled water facilities.

**DESIGN AREA** shall mean a site, with well-defined boundaries, proposed to receive recycled water for an approved use, as delineated in the Application For Recycled Water Service.

**DESIGNATED USE AREA** shall mean the area covered by the recycled water use permit.

**DEPARTMENT OF PUBLIC HEALTH** shall mean the Department of Public Health of the State of California, and Department of Public Health of San Bernardino County.

**DISTRICT** shall mean the Lake Arrowhead Community Services District, California.

**DISTRICT BOARD** shall mean the Board of Directors of the Lake Arrowhead Community Services District.

**DISTRICT ENGINEER** shall mean the District Engineer of the Lake Arrowhead Community Services District or his designee.

**DISTRICT MANAGER** shall mean the General Manager of the Lake Arrowhead Community Services District or his designee.

**DIRECT BENEFICIAL USE** shall mean the use of recycled water which has been transported from the point of production to the point of use without an intervening discharge to waters of the State.

**DISCHARGE** shall mean any release or distribution of recycled water to a sewerage system, or storm drain system.

**GPH** shall mean the rate of recycled water delivery in gallons per hour.

**GPM** shall mean the rate of recycled water delivery in gallons per minute.

**GRAY WATER** shall mean untreated wastewater other than toilet and/or urinal wastes.

**GREENBELT AREAS** shall mean parcels of recreational or unoccupied public or private lands within the service area, including but not limited to, golf courses, cemeteries, and parks and landscaping of common areas within the service area.

**HCF** shall mean the unit of water quantity measurement delivered to the user in hundreds of cubic feet.

**INDUSTRIAL PROCESS WATER** shall mean recycled water used in industrial facilities for rinsing, washing, cooling, circulating, or construction.

**INFILTRATION RATE** shall mean the rate at which water will penetrate the soil surface and enters the soil profile, expressed in inches per hour (or cm/hr).

**INSPECTOR** shall mean any person authorized by LACSD to perform inspections of either onsite or offsite facilities or areas prior to construction, during construction, after construction and during operation.

**LANDSCAPE IMPOUNDMENT** shall mean a body of recycled water which is stored or used for aesthetic enjoyment or which otherwise serves a function not intended to include bodily contact.

**NON-POTABLE WATER** shall mean water that has not been treated for, or is not acceptable for, human consumption in conformance with Federal, State and local water standards. Non-potable water includes recycled water, raw untreated water from Grass Valley Lake and raw untreated groundwater.

**NON-RESTRICTED RECREATIONAL IMPOUNDMENT** shall mean an impoundment of recycled water in which no limitations are imposed on body-contact water sport activities.

**OFFSITE FACILITIES** shall mean facilities under the control of LACSD including, but not limited to, recycled water transmission mains, recycled water pipelines, reservoirs, pumping stations, treatment plants, and other appurtenances and property. For recycled water service, offsite facilities shall be those upstream of the point of connection with the customer's onsite facilities located at and starting at the downstream end of the meter tailpiece.

**ONSITE FACILITIES** shall mean the facilities under the control of the applicant, owner, or customer including, but not limited to, landscape irrigation systems and agricultural irrigation systems. For recycled water service, the onsite facilities shall be those downstream of the recycled water service connection, which shall normally be the downstream end of the meter tailpiece.

**OPERATIONS PERSONNEL** shall mean any employee of the user, owner, or customer, whether permanent or temporary, or any contracted worker whose regular or assigned work involves the supervision, operation, or maintenance of equipment, facilities, or a system using recycled water.

**PERMIT** see **USER PERMIT**.

**PERMITTED CAPACITY OF RECYCLED WATER** shall mean the amount of recycled water that the user is entitled to have for the area and use specified in the recycled water user permit.

**POC** shall mean the point of connection of the onsite facilities to the offsite facilities of the recycled water distribution system.

**PONDING** shall mean the retention of recycled water on the surface of the ground or other man-made surfaces, other than the designated use area, for a period of time following the cessation of an approved recycled water use activity such that a hazard or potential hazard to public health results.

**POTABLE WATER** shall mean water that is pure, wholesome and suitable for human consumption, and which conforms to the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, and any other applicable standards.

**RECYCLED WATER** shall have the definition set forth in Title 22, Division 4 of the California Code of Regulations and shall mean water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or a controlled use that otherwise would not occur. Specifically excluded from this definition is gray water.

**RECYCLED WATER FACILITIES** shall mean systems, structures, etc., used in the treatment, storage, pumping, transmission and distribution of recycled water.

**RECYCLED WATER SERVICE CONNECTION** shall mean the point of connection (POC) of the customer's recycled water line with the recycled water service line of LACSD, which shall normally be the downstream end of the recycled water meter tailpiece.

**RECYCLED WATER SERVICE LINE** shall mean LACSD's pipeline between its recycled water distribution system and the recycled water service connection.

**RECYCLED WATER TRANSMISSION MAINS** shall mean major recycled water pipelines and appurtenances acquired or constructed and owned by LACSD, and used for the conveyance of recycled water between the water reclamation plant and pump station, reservoir, and/or the recycled water distribution mains.

**RECYCLED WATER DISTRIBUTION MAINS** shall mean recycled water pipelines and appurtenances acquired or constructed and owned by LACSD, and used for the conveyance of recycled water between the recycled water transmission mains and the recycled water service lines.

**RECYCLED WATER SERVICE LINES** shall mean recycled water distribution pipelines and appurtenances acquired or constructed and owned by LACSD, and used for the conveyance of recycled water between the recycled water distribution mains and the individual recycled water service areas.

**RECORD DRAWINGS** shall mean approved Mylar drawings that correctly show the completed onsite facilities and/or offsite facilities as constructed or modified. These drawings shall show all potable water, recycled water and sewer lines, and other utility lines.

**RECREATIONAL IMPOUNDMENT** shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE (RPPD)** shall mean a backflow preventer incorporating not less than two check valves, an automatically operated differential relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

**REGULATORY AGENCIES** shall mean those public entities legally constituted by Federal, State, and local statutes to protect public health and water quality.

**RESTRICTED RECREATIONAL IMPOUNDMENT** shall mean a body of recycled water in which recreation is limited to fishing, boating, and other non-body-contact water recreation activities.



**RUN-OFF** shall mean the movement of recycled water beyond the boundaries of the designated use area along the surface of the ground or other natural or man-made surfaces including, but not limited to, pedestrian walkways, streets, playground surfaces, grassy slopes and drainage courses.

**RWQCB** shall mean the California Regional Water Quality Control Board of the State of California, Lahontan Region.

**SCHEDULE OF RATES** shall mean a schedule containing fees, charges, and deposits determined and issued by LACSD for the uses and services of recycled water as shown in Appendix E.

**SEPARATION** shall mean the horizontal and/or vertical distance between a recycled water pipeline and a parallel potable water pipeline, sewer pipeline, or a sludge force main. The separation shall be the clear out-to-out distance between the pipelines in question.

**SERVICE AREA** shall mean all areas currently served by LACSD.

**SPRAY IRRIGATION** shall mean application of recycled water to land to maintain vegetation or support growth of vegetation by spraying it from sprinklers or orifices in piping.

**SSPWC** shall mean the latest edition of the Standard Specifications for Public Works Construction, including the Regional Supplement Amendments of the County of San Bernardino, commonly known as the "Green Book."

**SURFACE IRRIGATION** shall mean application of recycled water by means other than spraying.

**UNAUTHORIZED DISCHARGE** shall mean any release of recycled water that violates these Rules and Regulations or any applicable Federal, State, or local statutes, regulations, ordinances, contracts or other requirements.

**USER** shall mean any person, group, firm, partnership, corporation, association or agency approved to use recycled water by having been issued a user permit by LACSD.

**USER PERMIT** shall mean a permit issued by LACSD to a recycled water service applicant after the satisfactory completion of the service application procedures set forth in these Rules and Regulations. This permit constitutes a service agreement which legally binds the user to all conditions of these Rules and Regulations.

**USER'S RECYCLED WATER SUPERVISOR** shall mean a person designated and authorized by the user, owner, or customer and who shall operate the onsite facilities and irrigation systems and be responsible for the application of the guidelines, criteria, and standards of these Rules and Regulations. The designated supervisor shall be certified by LACSD to operate and maintain the onsite facilities and irrigation system, and to assume the responsibilities outlined in Section 5.2.2.

**WASTEWATER** shall mean a combination of water and water-carried wastes, whether treated or untreated, discharged into or permitted to enter a public sewer.

**WINDBLOWN SPRAY** shall mean dispersed, airborne particles of recycled water resulting from the discharge of recycled water and capable of being transmitted through the air to locations other than those for which the direct application of recycled water was intended.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	<b>Section 3.0</b>
		<b>Revision Date 1/26/10</b>
<b>RECYCLED WATER SERVICE REQUIREMENTS</b>		

### **3.0 GENERAL**

LACSD shall provide recycled water service in accordance with these Rules and Regulations to all areas within LACSD, as and when such recycled water becomes available.

### **3.1 SERVICE CONDITIONS**

LACSD shall control and schedule recycled water distribution to customers. The provision of recycled water service and the use of recycled water by any customer shall be subject to all the terms and conditions of these Rules and Regulations.

### **3.2 APPLICATION PROCEDURE**

#### **3.2.1 Filing Application for Recycled Water Service**

An applicant meeting the requirements for recycled water service shall file an application for recycled water with the Engineering Department of LACSD on a standard form designated by LACSD designated as Application Form for Recycled Water Service (Appendix A). The application form shall contain detailed information concerning the applicant as follows:

- a. The applicant's relationship to the property for which recycled water service is requested. In cases where the applicant is not the legal owner of the

property, the legal owner shall consent to the application on a supplemental notarized form.

b. The address and legal description of the property covered by the application shall be required.

c. The purpose for which the property will be used.

d. The proposed use of recycled water within a specifically defined designated use area on the property.

e. The estimated service requirements for recycled water.

f. The designation of a proposed User's Recycled Water Supervisor.

g. Any special condition for service pursuant to these Rules and Regulations.

h. A Recycled Water System Operations Manual, and Emergency Cross-Connection Response Plan.

i. A copy of the Requirements for Recycled Water Users, design plans for the recycled water system and potable water system, and the requirement that the Recycled Water System Operations Manual for the recycled water system be maintained at the use area. These documents must be available to operating personnel at all times.

The example of the necessary forms is presented in the Appendices section. The Application Form for Recycled Water Service is shown as Appendix A. The Checklist/Action Request Form for Obtaining Recycled Water Service is shown as Appendix B. The Status of Application for Recycled Water Service is Appendix C.

The Permit for Recycled Water Service is Appendix D. The Schedule of Rates for Recycled Water Service is Appendix E.

The application form, signed by the owner, shall be accompanied by plans and specifications per Article 4.5.1 delineating the proposed recycled water designated use area, the proposed location, size, and type of all recycled water service connections and onsite facilities, and any areas in which recycled water must be specifically excluded.

### **3.2.2 Compliance of Application with Regulatory Requirements**

The applicant for recycled water shall agree to comply with the requirements of these Rules and Regulations and any and all applicable Federal, State and local statutes, ordinances, regulations and other requirements.

### **3.2.3 Application Fees and Other Charges**

Application fees, deposits, and capacity charges shall be paid in accordance with the currently adopted schedule of rates of LACSD and shall be subject to all terms and conditions of these Rules and Regulations.

### **3.2.4 Review of Application by LACSD**

Upon receipt of an application for recycled water service, LACSD shall review the application and conduct any necessary investigation in order to determine whether LACSD shall provide recycled water service. LACSD may prescribe requirements in writing to the applicant as to the facilities necessary to be constructed including design, manner of construction, method of operation and conditions of service.

## **3.3 PERMITS**

A user permit shall be issued upon approval by LACSD and the CDPH. A user permit shall incorporate all the provisions of these Rules and Regulations by express reference, and any additional requirements prescribed by LACSD, to protect public

health and welfare. The user permit shall be effective only after all construction of recycled water facilities has been completed, tested, inspected, and final acceptance granted by LACSD. Copy of the current permit must be available for review at all times, clearly posted at the use site, and/or on file at the user's office.

The permit shall specify all allowable uses of recycled water and all restrictions thereon. The permit shall state the capacity of recycled water to be provided to the customer under the permit, and shall contain the express condition that delivery of the full capacity is subject to LACSD's supply capabilities. LACSD shall make a good faith effort to supply full permitted capacity, but shall be held harmless in the event that such a volume is not available for any reason, including, but not limited to, reduced plant production, increased demand, repairs to facilities, or regulatory compliance. A use permit shall be effective indefinitely and shall not require renewal, except that LACSD reserves the right to suspend or terminate the permit, or to modify its terms and conditions, if any of the following occurs:

- a. A change of the owner or user of the property covered by the permit.
- b. A change in the use of the property covered by the permit.
- c. A change in the qualitative characteristics of recycled water.
- d. A violation of these Rules and Regulations and other applicable regulations.
- e. A change in regulations.

### **3.4 ESTABLISHING SERVICE**

#### **3.4.1 Request for Service Connection**

Following the completion of construction and/or installation of the recycled water facilities, the customer shall request LACSD to install the service connection.

The request for service connection shall be accompanied by all required fees for installation and connection as indicated in the current schedule of rates and as appropriate for the size and type of service.

#### **3.4.2 Request for Service Start-up**

Following final acceptance of the onsite facilities by LACSD, the customer shall request service start-up. The request for start-up shall be accompanied by any outstanding cash payments as per the current schedule of rates in addition to those indicated in Article 3.2.3.

#### **3.4.3 Temporary Use of Potable Water or Alternative Water Supply**

At the discretion of LACSD, potable water or another alternative water supply may be made available on a temporary basis, until recycled water is made available. Before the customer receives temporary potable water or another alternative water supply, a recycled water permit must be obtained. Prior to commencement of recycled water service, an inspection of the onsite facilities shall be conducted by LACSD to verify that the facilities have been maintained and are in compliance with the recycled water permit. Upon verification of compliance, the customer shall request service start-up. Inspections include review of the Site Supervisor's maintenance records and visual inspection of all back-flow prevention devices, pump rooms, exposed piping, valves, pressure reducing stations, points of connection, sprinklers, controllers, surface waters, storage facilities, signs, labeling, tags, etc.

LACSD may suspend or terminate recycled water service at any time the recycled water at the terminal point of LACSD's reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements at the terminal point of the treatment plant. In addition, an approved air gap separation must be used in any connection for temporary potable water or alternative source of water.

### **3.5 CONDITIONS FOR RECYCLED WATER SERVICE**

Permits for recycled water service and any connections for service made, as provided in the permit issued under these Rules and Regulations, shall be subject to the following conditions:

#### **3.5.1 Adherence to Permit Conditions:**

Except as otherwise provided herein, all recycled water will be provided to the user in the conditions and quantity specified in the Permit For Recycled Water Service. During drought conditions use of recycled water shall be subject only to the terms of the user permit and shall not be subject to rationing restrictions which may be imposed on the use of potable water.

#### **3.5.2 Control of Facilities (Liability)**

LACSD shall have control of and shall maintain and repair off-site facilities, recycled water service lines and meters. The customer shall repair and maintain in good working condition the recycled water service connections and onsite facilities. LACSD shall be entitled to inspect and test all connections and onsite facilities in the manner specified in Section 6.

LACSD and its agents shall be indemnified and held harmless by the permit holder from and against all claims, damages, losses or expenses arising from the use of recycled water under the permit or from the use of facilities by which recycled water is conveyed, except that LACSD shall retain liability for its established sole negligence or willful misconduct.

#### **3.5.3 On-Site Retrofits**

Unless otherwise provided by written agreement between the customer and LACSD, the customer shall pay for all onsite facilities in accordance with the provisions of Article 3.2.3



### **3.5.3.1 Reimbursement Agreement:**

In cases where a customer/developer requests recycled water services in areas where LACSD does not have existing transmission and distribution mains, the customer's request for recycled water service shall be handled as follows:

Where LACSD determines it will be most practical to require extension of transmission and distribution mains to areas not covered in a permit application, or where oversized or additional facilities may be needed to accommodate future development, the permit may be conditioned upon the applicant financing and developing such extra service lines. In this event, LACSD or applicant shall undertake to provide for cost reimbursement whereby subsequent developers of benefited property will reimburse the original developer or LACSD for proportional shares of the improvements. Such reimbursement shall be accomplished pursuant to LACSD's Procedures.

### **3.5.3.2 Participation Agreement:**

In cases, where LACSD has planned capital improvement projects which are scheduled for undertaking and completion on a planned timetable, and where the customer/developer finds LACSD's plan of implementation and completion too long to wait for, and where the customer chooses to undertake and complete a specific planned capital improvement project of LACSD with the customer's own financial resources, then a participation agreement shall be concluded with the customer and LACSD agreeing on equitable sharing of the financial outlay of the project, and the project shall be completed in accordance with the design and specifications of LACSD.

### **3.5.4 Prohibition of Changes:**

The customer shall not make any changes in or additions to, the recycled water system. Any changes or alterations to existing onsite facilities, whether the result of intention or unintended damage, shall be reported immediately to LACSD.

### **3.5.5 Services to Common Areas**

LACSD reserves the right to supply recycled water to contiguous areas of a single ownership through a single recycled water service connection. Common areas owned or operated by home owners' associations or similar cooperatives should have only one service connection whenever it is practical, and will be operated as a single ownership. A recycled water service connection and water meter shall not be used to supply property not covered by the permit authorizing the connection.

### **3.5.6 Subdividing an Approved Service Area**

When a property provided with a recycled water service connection and water meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located.

Additional recycled water distribution mains and/or service lines will be required for all subdivided areas in accordance with these Rules and Regulations, unless the subdivider provides covenants, conditions, and restrictions (CC&R's) properly recorded with the County's Recorder for the operation of onsite recycled water facilities serving more than one lot, and also provides easements for recycled water distribution mains and/or service lines or shows easement locations in the CC&R's.

All recycled water used on any premise where a meter is installed must pass through the meter. Customers shall be charged for all recycled water passing through the meters.

Every recycled water service connection and meter assembly shall include a curb cock or wheel valve, as approved by LACSD, on the inlet side of the meter, which shall be used exclusively by LACSD for controlling the recycled water supply through the recycled water service line. If the curb cock or wheel valve is damaged by the customer's use, repair and/or replacement by LACSD shall be at the customer's expense.

Each customer shall restrict the use of recycled water to those uses set forth in the permit for recycled water services approved by LACSD.

### **3.5.7 Temporary Discontinuation of Recycled Water Service**

By reason of circumstances beyond the control of LACSD, or in order to protect the facilities of LACSD, or for the protection of public health, safety and welfare of the residents or property owners of LACSD, recycled water service may be terminated under the conditions set forth below:

- a. On a temporary or permanent basis in the manner provided for in Section 11.2 and 11.3.
  
- b. On a temporary basis at any time the recycled water, at the terminal point of LACSD's water reclamation plant takeoff, does not meet the requirements of the regulatory agencies, including but not limited to those prescribed by the California Code of Regulations, Title 22, Division 4. Recycled water service would, in such case, be renewed at such time that recycled water at the terminal point of the water reclamation plant would again meet the requirements of the regulatory agencies or at such time that LACSD would supplement the recycled water system from the potable water system or alternative water supply in the manner provided by Section 3.4.3.
  
- c. When LACSD determines that a water shortage exists, or is threatened that prevents further recycled water service.

### **3.5.8 Conditions of Pressure and Service**

Pressure and service shall be provided on an as available basis, at the location of the customer's meter or at a location that is deemed feasible by LACSD. All customers shall hold LACSD harmless from any and all damages and liabilities caused in whole or in part by pressure conditions, water quality variations, or interruptions in service. It

shall be the owner's responsibility to install booster pumps to increase pressure if necessary.

### **3.6 SIZE AND LOCATION OF SERVICE CONNECTIONS**

LACSD reserves the right to determine the size and location of recycled water service lines, the service connections, and the meters and shall also have the right to determine the kind and size of backflow prevention devices and any and all other appurtenances to the service. The recycled water service lines shall be extended to a curb line, or property line of the customer's property, abutting upon a public street, highway, road, or District's easement in which recycled water distribution mains are installed.

### **3.7 ILLEGAL CONNECTIONS**

No person shall make any connection to recycled water facilities of LACSD without a permit from LACSD. Penalties for violations may be assessed according to Section 11 of these Rules and Regulations.

### **3.8 METER TESTING**

Any customer may request that the meter through which the recycled water is being furnished be examined and tested by LACSD for the purpose of ascertaining whether or not it is correctly registering the amount of recycled water being delivered through it. In such an event, the customer shall make a request to the Billing Section of the Customer Services Division for a Meter Test. The meter testing shall be performed in conformance with the standards set in the Rules and Regulations of the LACSD.

### **3.9 CROSS-CONNECTION PREVENTION**

#### **3.9.1 Purpose**

The primary purpose of this Article is to protect LACSD's potable water supply from possible contamination by prohibiting and preventing cross-connections between the potable water distribution system and the recycled water distribution system, in accordance with Title 17, Chapter 5 of the California Code of Regulations. The secondary purpose is to protect the recycled water system from other contaminants. These provisions are in addition to, and not in lieu of, the controls and requirements of other regulatory agencies, such as the CDPH.

### **3.9.2 Backflow Prevention**

Regulations governing backflow prevention devices are intended to protect LACSD's potable water supplies and are not intended to protect users from potential hazards of cross-connections in the user's onsite facilities:

- a. District approved backflow prevention for LACSD's recycled water supply shall be provided by the user in accordance with the specifications and as required by LACSD.
- b. The backflow prevention devices required shall be in accordance with the requirements specified by LACSD.
- c. Provision, installation, maintenance and inspection of backflow prevention devices shall be the sole responsibility and duty of the customer, and at customer's expense. Inspection of backflow prevention devices shall be done at least once a year, or more often in those instances where successive inspections indicate repeated failures. These devices shall be inspected, repaired, overhauled or replaced at the expense of the customer whenever they are found to be defective. Records of such tests, repairs and overhauls shall be kept by LACSD, and such records shall be made available to any concerned regulatory agency on request.

The installation and inspection of backflow prevention devices shall be done by a certified inspector at the expense of the customer. The customer shall submit to LACSD original inspection certificates as proof of compliance. All inspection and testing shall be done to the satisfaction of LACSD and the regulatory agencies concerned.

### **3.9.3 Type of Protection**

The level of protection required is related to the degree of hazard that LACSD determines exists on the premises served. Listed in increasing levels of protection, the following protective devices may be required: Reduced Pressure Principle Backflow Prevention Device (RPPD), and Air Gap Separation (AG). The user may choose a higher level of protection than required by LACSD. Minimum types required, relative to various situations, are listed below. Situations not listed shall be evaluated on a case-by-case basis and the appropriate level of protection required shall be determined by LACSD in consultation with California Department of Public Health (CDPH).

#### **3.9.3.1 Degree of Hazard:**

##### **Sewage and Hazardous Substances:**

- a. On premises where LACSD's potable water system is used to supplement the recycled water supply, an air gap separation shall be provided.
- b. On premises where recycled water is used and there is no interconnection with the potable water system, an RPPD separation may be used instead of an air gap if approved by LACSD and the CDPH.
- c. On premises where hazardous materials and toxic substances are stored, handled, or produced in any manner in which the substances may enter both the potable water and the recycled water systems, an air gap separation to both systems shall be provided to avoid contamination of the potable water as

well as degradation of the recycled water system. An RPPD may be provided in lieu of an air gap if approved by LACSD and the CDPH.

d. On premises where entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist, an RPPD separation shall be used.

e. On premises where there is a repeated history of cross-connections being established or re-established, an RPPD separation shall be used.

### **3.9.3.2 Color-Coding Dual or Multiple Water Systems:**

Where any property subject to recycled water service is served by or contains dual or multiple water systems and piping, the exposed portion of recycled water pipelines, valves, and other fittings shall be painted purple, banded or marked to distinguish clearly which is used for potable water and which is used for recycled water. In addition, all new unexposed recycled water pipes installed on any such property shall be similarly painted purple, banded or marked. All recycled water outlets shall be posted with bilingual precautionary posters with the wording "CAUTION: RECYCLED WATER - DO NOT DRINK", and "PELIGRO: AGUA IMPURA - NO BEBER". Main shut-off valves shall be clearly identified to distinguish between recycled water and potable water systems.

### **3.9.4 User's Designated Recycled Water Supervisor**

The user's designated recycled water supervisor, whose qualifications and responsibilities are discussed in Article 5.2.2, shall be responsible for the prevention of any cross-connections on the property, and in the event of a cross-connection to the potable water system, the user shall immediately shutoff the main recycled water supply valve and depressurize the recycled water system to prevent further mixing with the potable supply, and shall also immediately advise LACSD of the occurrence of the cross-connection. The local and State health officers shall be immediately

advised by LACSD so that appropriate measures may be taken to control any contamination or pollution.

The user shall assume all responsibilities for the prevention of cross-connections between the on-site facilities and any potable water supply, and shall indemnify and hold LACSD harmless from and against any claim of damage or loss which is caused or is alleged to have been caused, in whole or in part, by cross-connections of on-site facilities. Notwithstanding this covenant, the user shall be subject to the rules pertaining to the use of recycled water as otherwise provided herein, including but not limited to those allowing LACSD or CDPH to inspect and approve all on-site recycled water facilities as provided in Sections 5.2 and 6.

### **3.10 CONVERSION TO/FROM RECYCLED WATER SERVICE**

#### **3.10.1 Conversion to Recycled Water Service**

When a user proposes the conversion of any existing potable water irrigation system to a recycled water irrigation system, a comprehensive investigation of the proposed recycled water system shall be performed by LACSD at the expense of the user. On a case-by-case basis, LACSD and the CDPH shall review the as-built drawings, and investigation reports, and determine the measures necessary to bring the existing system into full compliance with these Rules and Regulations. LACSD or the CDPH may deny issuance of recycled water users permit if either determines that the proposed conversion cannot be safely made.

#### **3.10.2 Conversion from Recycled Water Service**

If, due to onsite failure of the recycled water system, or use violations, LACSD determines it necessary to convert the onsite facilities from recycled water supply to a potable water system, or other water supply, it shall be the responsibility of the user to pay all costs for such conversion, unless determined otherwise by LACSD. Conversion costs shall include the following:

##### **3.10.2.1 Isolation of the recycled water supply:**



Service shall be removed and plugged by LACSD at the recycled water main, or abandoned in a manner approved by LACSD.

**3.10.2.2 Installation Of Backflow Prevention Device:**

The user shall install approved backflow devices on all potable water, or other water meter connections.

**3.10.2.3 Removal Of Existing Fittings:**

The user shall be responsible for removal and replacement of all fittings with approved fittings for potable water.

**3.10.2.4 Hydraulic Testing and Disinfection:**

The user shall be responsible for hydraulic testing and disinfection of the converted pipeline.

**3.10.2.5 Notification:**

The user shall notify all personnel involved with the operation of the abandoned recycled water service.

**3.10.2.6 Warning Labels/Signs:**

The user shall be responsible for the removal of all warning signs and labels.

**3.10.2.7 Installation of Potable Water System Or Alternative Water Supply System**

Provision and installation of all potable water lines and facilities and any capacity fees due, as provided for in these Rules and Regulations shall be the responsibility of the user.

**3.11 AUTHORIZED USES OF RECYCLED WATER**

The uses of recycled water may include, but are not limited to, landscape irrigation, agricultural irrigation, construction water, industrial process water, commercial use,

groundwater recharge, enhancement of wildlife habitat, and recreational impoundment. Each such use must be considered for approval by LACSD on a case-by-case basis in accordance with RWQCB Order No. R6V-2007-0022.

Determinations as to specific uses to be allowed shall be in accordance with the standards set forth in Title 22, Division 4 of the California Code of Regulations. LACSD may, at its discretion, set forth specific requirements as conditions to providing such services and/or require specific approval from the appropriate regulatory agencies. The use of recycled water in swimming pools is not permitted.

### **3.12 SCHEDULING RECYCLED WATER**

LACSD will control and schedule the delivery of recycled water if, in the opinion of LACSD, scheduling is necessary for purposes including, but not limited to, the maintenance of an acceptable working pressure in the recycled water system and the provision for reasonable safeguards in relation to public health.

### **3.13 TEMPORARY/EMERGENCY CONNECTIONS TO THE POTABLE WATER SYSTEM OR ALTERNATIVE WATER SYSTEM**

If, in the opinion of LACSD an emergency exists, or is threatened to occur, whereby all or a portion of the water in the recycled water system is not available, LACSD may approve a temporary connection to the potable water system or alternative water supply. Such a temporary connection shall be made in accordance with Sections 4 and 5 of these Rules and Regulations. The decision to allow temporary service to the potable water system shall be at the sole discretion of LACSD as stipulated in Section 3.4.3, and LACSD shall maintain and operate all connections.

Before such temporary connection is made, the portion where potable water or alternative water is to be supplied shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the offsite system, as determined by LACSD. An approved backflow prevention device shall be installed on the potable water lines in accordance with

Section 3 of these Rules and Regulations and all applicable regulations of the governing agencies. The emergency connection shall be removed before connection is re-established to the recycled water system. Re-establishment of recycled water service must be inspected and approved by a District inspector prior to resuming delivery of recycled water.

On a case by case basis, the Lake Arrowhead Community Services District and all related regulatory agencies may approve a temporary potable or alternative water connection for a customer's recycled water system for irrigation or other uses, without an air gap. The temporary connection shall be designed to allow only one water source to serve the customer's system at any given time. An approved backflow device and meter shall be installed on the potable water service and the recycled water service prior to the customer's connection, in accordance with Section 3. At no time shall the potable water system be connected to a system simultaneously served by a non-potable source. LACSD, at its own discretion, may provide potable water or disinfected raw water in lieu of recycled water.

### **3.14 ADDITIONAL RESTRICTIONS ON THE USES OF RECYCLED WATER**

#### **3.14.1 Run-off and Ponding**

The onsite facilities shall be designed to meet the peak moisture demand of all plant materials used within the design area and to apply irrigation water in a manner compatible with the infiltration rates of the soil types within the approved use area.

Conditions that directly or indirectly cause a run-off of recycled water outside of the approved recycled water use area; cause a ponding of recycled water; or permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, shall be eliminated or controlled to the greatest extent possible with the use of the best practicable technology or methodology.

The use of recycled water shall be limited to those uses permitted by Federal and State law, and to those uses approved by LACSD for the recycled water service area.

### **3.14.2 Protection of Drinking Fountains And Public Facilities**

Any and all drinking fountains located within an approved recycled water use area shall be protected by re-siting or isolating them with a protective structure from contact with recycled water, whether by windblown spray or by direct application through irrigation or other approved uses.

Recycled water irrigation systems shall not be installed near food establishments or public facilities such as picnic tables. Design of systems near such facilities shall require the CDPH approval.

### **3.14.3 Hose Bibs and Quick Couplers**

No customer shall use or install any hose bibs on a recycled water system regardless of style, construction or identifications. The use of quick couplers is at the sole discretion of the Lake Arrowhead Community Services District. Their intended use shall require a separate plan review from LACSD. Only quick couplers with the approved color and identification will be allowed.

### **3.14.4 Fire Hydrants**

No customer or other party shall use or install fire hydrants and other connections for fire services on any onsite system that presently operates or is designed to operate with recycled water, regardless of the construction and identification of the fire hydrant and other connections for fire services.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>4.0</b>
		Revision Date <b>1/26/10</b>
<b>FACILITIES DESIGN AND CONSTRUCTION</b>		

#### **4.1 DESIGN GUIDELINES FOR OFF/ONSITE FACILITIES**

The design of the offsite facilities, including the preparation of plans and specifications shall be under the responsibility of an engineer registered with the State of California. The design of the onsite facilities that will use recycled water and the preparation of plans and specifications, shall be under the responsibility of a landscape architect, civil engineer or mechanical engineer registered with the State of California. All offsite and onsite recycled water facilities shall comply with the Guidelines for Distribution of Non-potable Water developed by the American Water Works Association (AWWA) California-Nevada Section and the CDPH Guidelines for Use of Recycled Water and shall also comply with all the requirements, conditions and standards set forth in the current edition of the Standard Specifications for Public Works Construction including the Regional Amendments of the County and Lake Arrowhead Community Services District, and the Standard Drawings of the Lake Arrowhead Community Services District, and the provisions of these Rules and Regulations, and other related design standards and construction specification guidelines. The recycled water system including both offsite and onsite facilities, shall be separate and independent of any potable water system.

#### **4.2 OFFSITE RECYCLED WATER FACILITIES**

Offsite recycled water systems not subject to special assessments or made a condition to a private development permit shall be provided by LACSD. Where extension of recycled water distribution mains or provision of large-sized distribution

mains is required or approved by LACSD, the cost of extension or replacement shall be borne by the benefited property owners or LACSD as provided in section 3.5.3.1 or section 3.5.3.2 of these Rules and Regulations. The applicant for recycled water service shall pay a pro-rated share of the total cost of improvements based on proportionate private benefit, which shall be determined by LACSD. Such pro-rated share of cost shall be in addition to other fees, deposits, and charges.

#### **4.2.1 Pressure Requirements**

Service pressure requirements shall be determined by LACSD. The user shall design for available pressure. When a reasonable service pressure would not be available to onsite facilities not previously served from potable water systems, the user shall be responsible for correcting the situation. If available service pressure is too high, the user shall utilize pressure regulators downstream of the meter to obtain the correct pressure. If available pressure is too low, the user shall provide booster pumping to increase the pressure. Whenever possible, LACSD will operate the recycled water system at a lower pressure than the potable water systems. This will cause potable water to flow to the recycled water system in the event of a cross-connection.

##### **4.2.1.1 Booster Pumps:**

Customers who use booster pumps to increase the operating pressure shall identify the pumping systems as recycled water, avoid release of recycled water in an uncontrolled manner, and provide a proper drainage of the packing seal water. At least one sign in English and Spanish shall be posted on the premises of the booster pumps which can be readily seen by all operations personnel working in the area.

##### **4.2.1.2 Sealing Water:**

Any potable water used as seal water for recycled water pump seals shall be adequately protected against backflow.

#### **4.2.2 Depth of Pipe Cover**

The top of the pipe of transmission/distribution mains shall be a minimum of 3 feet below the finished grade unless approved otherwise. The depth of cover on service lines shall be considered on a case-by-case basis in accordance with LACSD's Standards.

### **4.2.3 Separations**

The following are separation standards for recycled water facilities.

#### **4.2.3.1 Horizontal**

A 10-foot separation of the recycled water pipeline shall be maintained at all times between a parallel potable water pipeline and/or a parallel sanitary sewer or sludge pipeline. If a 10-foot separation is not possible, the approval for special construction requirements shall be obtained from LACSD and the CDPH prior to commencement of construction. Common trench construction shall not be permitted. In any event, a horizontal separation less than 4 feet shall not be allowed.

#### **4.2.3.2 Vertical**

On new systems, potable water, recycled water, and sewer lines should be located from the ground surface in order of descending quality. Potable water shall be above recycled water which should be above sewer.

Minimum vertical separation should be one foot between top and bottom surfaces of pipes. Exceptions to this general rule are as follows:

- a. On irrigation systems where intermittently pressurized recycled water lines (laterals) serve sprinkler heads, the potable water line(s) may be placed under the recycled water laterals. No special construction requirements are necessary provided that one foot vertical separation is maintained.
  
- b. On sites using pressurized irrigation laterals with valve-in-head sprinklers, the potable water line(s) may be placed under the recycled water laterals if

additional protection is provided for the potable line. Common practices include sleeving or automatic flow control/shut off devices installed and functioning properly on each lateral that crosses a potable line.

No additional special construction requirements are necessary provided that on foot vertical separation is maintained.

#### **4.2.4 Color Identification of Recycled Water Pipes**

All new transmission/distribution mains in the recycled water system, including service pipelines, valves and other appurtenances shall either be colored purple and embossed, or be integrally stamped/marked "CAUTION: RECYCLED WATER - DO NOT DRINK", and "PELIGRO: AGUA IMPURA - NO BEBER", or be installed with a purple identification tape, or a purple polyethylene or vinyl wrap. Color coded identification (caution) tape differentiating the recycled water piping from other utility lines shall be consistent throughout the service area. The purple color shall be standardized by LACSD. When converting an existing potable water pipeline to recycled water usage the water pipeline shall be accurately located and tested in coordination with LACSD and the regulatory agencies, and the necessary actions taken to bring the water pipeline and appurtenances in compliance with these Rules and Regulations. If the existing pipeline meets approval of LACSD and the regulatory agencies, except for the pipe identification, the pipeline shall be approved for recycled water service. If verification of the existing pipeline is not possible, the pipeline shall be uncovered, inspected, and identified prior to use. However, all replacements of an offsite distribution and/or delivery system connected to a recycled water irrigation system shall be color-coded for identification in accordance with the provisions of these Rules and Regulations.

#### **4.2.5 Identification Tapes**

Identification tapes which help to trace the pipeline shall be prepared with black printing on a purple field having the words "CAUTION: RECYCLED WATER - DO



NOT DRINK" and "PELIGRO: AGUA IMPURA -NO BEBER". The overall width of the tape shall be at least three inches.

Identification tapes shall be installed over the pipe longitudinally 2 feet below the finished surface and shall be centered. The identification shall be continuous in its coverage on the pipe and shall be fastened to each pipe length. Taping attached to sections of pipe before they are placed in the trench shall have overlaps sufficient for continuous coverage. Other satisfactory means of securing the tape during backfill of the trench may be used if suitable for the work, as determined by LACSD.

#### **4.2.6 Recycled Water Valve Casings**

Valve casings shall be the standard steel casing with a special triangular, heavy-duty cover. All valve covers on offsite recycled water transmission lines shall be of non-interchangeable shape with potable water covers and with a recognizable inscription cast on the top surface.

#### **4.2.7 Valve Box Identification**

Valve boxes shall be the standard concrete or fiberglass box with a special triangular, heavy-duty cover. All valve covers on offsite recycled water transmission mains shall be of non-interchangeable shape with potable water covers and with a recognizable inscription cast on the top surface.

#### **4.2.8 Color-Coding Exposed Recycled Water Facilities**

All above ground, exposed facilities shall be consistently color-coded (purple) and marked to differentiate recycled water facilities from potable water and/or wastewater facilities.

#### **4.2.9 Blow-off Assemblies**

Either in-line type or end-of-line type blow-off or drain assembly shall be installed for removing water or sediment from the pipe. The line tap for the assembly shall be no closer than 18 inches to a valve, coupling, joint, or fitting unless it is at the end of the

line. If there are restrictions on discharge or runoff, the regulatory agencies shall be consulted to find an acceptable alternative.

### **4.3 ONSITE RECYCLED WATER FACILITIES**

All onsite recycled water facilities which specifically benefit the approved use area shall be provided by the applicant, owner or customer at his/her expense. The customer shall make, at his/her expense, any modification to the potable water system on the premises which is required by LACSD, in order to permit recycled water service, including but not limited to the installation by the customer of approved backflow preventer. Onsite recycled water facilities shall be designed to accommodate the use of recycled water in those areas where LACSD has determined that recycled water will be supplied in the future, even though recycled water service is not immediately available when the design area is ready for construction. Provisions shall be made for connection to the recycled water system when it becomes available. In the interim, potable water will be supplied to the onsite facilities through an approved temporary potable water connection. Such temporary connection to the potable water system shall be provided with an approved reduced pressure backflow prevention device installed by the user to the satisfaction of LACSD and the CDPH. Plans and specifications for customer recycled water facilities shall be submitted to LACSD as specified in Articles 3.2.1 and 4.5.1 of these Rules and Regulations.

#### **4.3.1 Identification of Onsite Pipes and Fittings**

New on-site pipelines shall be identified as recycled water pipes by using a purple color code differentiating them from potable water piping. All piping and valves must also be appropriately labeled or continuously taped with appropriate identification. Approved use areas for recycled water service shall also be posted with precautionary notices to warn the public as per Article 5.3.

When converting an existing potable water line to recycled water usage the water line shall be accurately located and tested in coordination with LACSD and the regulatory agencies, and the necessary actions taken to bring the water line and appurtenances in compliance with these Rules and Regulations. If the existing line meets approval of LACSD and the regulatory agencies, except for the pipe identification, the line shall be approved for recycled water service. If verification of the existing line is not possible, the line shall be uncovered, inspected, and identified prior to use. However, all replacements of an existing recycled water irrigation system shall be color-coded for identification in accordance with the provisions of these Rules and Regulations.

#### **4.3.2 Warning Tapes**

A warning tape or tag with metallic backing shall be installed on all recycled water pressure and/or non-pressure service pipelines. A purple tape with black lettering stating "CAUTION: RECYCLED WATER - DO NOT DRINK" and "PELIGRO: AGUA IMPURA - NO BEBER" shall be fastened to the top of the pipe. The tape shall run continuously the entire length of the pipe and shall be at least 3 inches in width (see Article 4.2.5 for tape samples and colors).

#### **4.3.3 Color-Code for Recycled Water Pipes**

The use of purple colored pipe, with the words "CAUTION: RECYCLED WATER - DO NOT DRINK" and "PELIGRO: AGUA IMPURA - NO BEBER" embossed or integrally stamped/marked on the pipe as an acceptable alternative to the tape mentioned in Article 4.3.2.

The warning should be stamped on opposite sides of the pipe, repeated every three feet.

All connections, temporary and permanent to a recycled water system shall be identified in such a manner as to differentiate them from connections to a potable water system.

When potable water is being supplied to an area which is also being supplied with recycled water, the potable water main shall also be identified. A color-coded tape, as determined by District, with the words "CAUTION-DRINKING WATER LINE" and "CUIDADO: TUBERIA DE AGUA POTABLE" shall be fastened directly to the top of the potable water pipe and run continuously the entire length of the pipe. This tape shall be at least 3 inches in width. The color code for potable water shall be determined by District to differentiate it from recycled water.

#### **4.3.4 Separation**

Refer to section 4.2.3 for horizontal and vertical separations.

#### **4.3.5.1 Storage Facilities**

All recycled water storage facilities owned and/or operated by recycled water users shall be protected against peak stream flows, erosion, overland runoff, and other impacts resulting from 100-year frequency 24-hour-duration storms as defined by the San Bernardino County flood control agency.

### **4.4 RECYCLED WATER FOR CONSTRUCTION USE**

#### **4.4.1 Permits**

The use of recycled water for construction purposes requires approval of LACSD and the appropriate regulatory agencies. The permit shall be obtained prior to beginning construction.

#### **4.4.2 Uses**

Recycled water used for construction purposes may only be used for soil compaction during grading operations, dust control and consolidation and compaction of backfill in trenches for non-potable water, sanitary sewer, storm drain, gas and electric

pipelines. Recycled water shall not be used for water jetting and consolidation or compaction of backfill in trenches for potable water pipelines.

#### **4.4.3 Equipment**

Equipment operators shall be instructed about the requirements contained herein and the potential health hazards involved with the use of recycled water. Water trucks, hoses, drop tanks, etc. shall be identified as containing recycled water and not suitable for drinking water.

Recycled water shall not be introduced into any domestic water piping system. No unprotected connection shall be made between equipment containing recycled water and any part of a domestic water system.

#### **4.4.4 Ponds**

Ponds used for storage of construction recycled water shall be fenced and posted to limit public access. Fences shall be in accordance to District Standards.

#### **4.4.5 Equipment and Facilities Cleaning**

Any equipment or facilities such as tanks, temporary piping or valves, and portable pumps which have been used with recycled water shall be cleaned and disinfected before removal from the approved use area for use at another job site. This disinfection and cleaning shall ensure the protection of public health in the event of any subsequent use as approved by LACSD supervisor or inspector and the disinfection process shall be performed in his or her presence.

Service connections, equipped with recycled water meters, for the construction use of recycled water shall be provided by LACSD at locations convenient to the user but at the discretion of LACSD.

## **4.5 SUBMITTALS**

The following information shall be submitted to and approved by LACSD prior to commencing any construction.

### **4.5.1 Customer's Plans and Specifications**

Plans and specifications prepared by a civil engineer, a mechanical engineer or a landscape architect registered with the State of California, for the construction of onsite recycled water facilities shall be submitted to LACSD for review and approval per Articles 3.2.1 and 4.3 The plans shall delineate the proposed recycled water service area, the proposed location, size and type of all recycled water service connections and onsite facilities. The plans shall include the layout of existing potable water pipelines and facilities including any areas in which recycled water must be specifically excluded.

### **4.5.2 Information on Customer's Plans**

The following information shall be provided on the plans for every customer applying for any recycled water service meter:

- a. Application information specified in Article 3.2.1
- b. Meter size (inches).
- c. Irrigated area to be served through the recycled water meter (square feet or acres).
- d. Peak flow through the meter (gpm).
- e. Estimate of the yearly recycled water requirement (acre-feet or HCF).
- f. Service pressure at the meter as provided by LACSD (psi).

- g. Topographic contours of the site, or if not available sufficient information to determine elevation differences within the site.
- h. Direction of drainage.
- i. Location of wells (if applicable).
- j. Location of 100 Year Flood Plain (if applicable).
- k. Location of potable water lines and sanitary sewers.
- 1. Location of storm drains.

#### **4.5.3 Information Required for Recycled Water Irrigation Systems**

If the onsite facilities include a landscape irrigation system the following data for the materials used in the irrigation system shall be included on the plans:

- a. A pipe schedule listing pipe sizes and materials of construction,
- b. Valve types/sizes.
- c. The following information for each type of sprinkler head:
  - i. Sprinkler radius (feet),
  - ii. Operating pressure (psi).
  - iii. Flow (gpm or gph).
  - iv. Sprinkler pattern.
  - v. Manufacturer, model number and all pertinent information,

d. Drip irrigation information and all pertinent equipment.

e. Estimates of application rate, acres to be irrigated, soil texture and soil infiltration rate, and information on pressure requirement, hourly delivery rate, and the wetting pattern of sprinklers.

#### **4.5.4 Information to Be Called Out on Customer's Plans**

Exterior drinking fountains and potable water hose bibs and other public facilities shall be shown and called out on the plans. If no exterior drinking fountains or other public facilities are present in the design area, then it shall be specifically stated on the plans that none exist.

#### **4.5.5 Standard Notes for Inclusion on Customer's Plans**

Provide the following notes as applicable, on the recycled water improvement and irrigation plans under the heading "Recycled Water General Notes:"

1. All public facilities such as comfort stations, drinking fountains, etc., shall be protected from spray by recycled water.
2. Conditions that directly or indirectly cause a run-off of recycled water outside the approved recycled water use area, or cause a ponding of recycled water or permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, shall be eliminated or controlled to the greatest extent possible with the use of the best practicable technology and methodology.
3. Contractor shall adjust heads to prevent over-spraying onto sidewalks, streets and offsite.



4. Hose bibs are strictly prohibited.
  
5. Identification, by means of purple color coding, stenciling and warning tapes, as well as coverage of all wiring and irrigation piping shall conform to all applicable requirements of the Landscape Technical Manual and the Rules and Regulations for Recycled Water Use and Distribution within the Lake Arrowhead Community Services District.
  
6. All potable water and recycled water piping shall be installed with the stenciling oriented toward the top of the trench.
  
7. A minimum 10 foot out-to-out horizontal separation between recycled water mains and potable water or sanitary sewer mains must be maintained at all times, or as shown on these approved plans.
  
8. For new systems, constant pressure recycled water lines shall cross at least 12 inches below potable water lines and maintain a minimum 12 inch crossing separation between other utilities.
  
9. For new systems, if a constant pressure recycled water line must be installed above a potable water line or less than 12 inches below a potable water line, then the recycled water line shall be installed within a protective sleeve. The sleeve shall extend 10 feet from each side of the centerline of the potable line, for a total of 20 feet.
  
10. Developer/contractor shall conduct a cross-connection test and coverage test as directed by the Lake Arrowhead Community Services District and/or the CDPH prior to any use of recycled water.


11. An annual cross-connection inspection will be done by either the Lake Arrowhead Community Services District and/or the CDPH. Copies of inspection reports will be forwarded to the non-inspecting party.
12. Prior to the conversion to recycled water, a signage plan showing the locations and design of recycled water "Do Not Drink" signs shall be forwarded to the CDPH for approval.
13. Prior to the conversion to recycled water, an on-site user/supervisor shall be designated in writing. This individual shall be familiar with plumbing systems within the property, with the basic concepts of backflow/cross-connection protection, and the specific requirements of a recycled water system. Copies of the designation, with contact phone numbers shall be provided to the Lake Arrowhead Community Services District and the CDPH.
14. The recycled waterline(s) and irrigations system(s) shown herein shall be charged with potable water until such time when recycled water is available. Prior to the conversion of recycled water, all temporary connections shall be minimized and acceptable to the Lake Arrowhead Community Services District.
15. The irrigation system shall operate between the hours of 9:00 PM to 6:00 AM the following morning, or as allowed by the Lake Arrowhead Community Services District.

#### **4.6 RECORD (AS-BUILT) DRAWINGS**

The applicant, customer, or owner shall submit as-built record drawings to LACSD before a request for service start-up is made.

All changes in the work constituting departures from the original design drawings shall be accurately recorded on one set of drawings and submitted to LACSD for

agreement and approval prior to construction. Such changes shall be approved by LACSD before any changes, modifications, or additions are made.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>5.0</b>
<b>FACILITIES OPERATION</b>		Revision Date <b>1/26/10</b>

### **5.1 OFFSITE RECYCLED WATER FACILITIES**

Operation, maintenance and monitoring of all of LACSD's offsite recycled water systems including, but not limited to, recycled water transmission and distribution mains, service lines, valves, connections, storage facilities, and other appurtenances and properties up to and including LACSD's meter, shall be under the management and control of LACSD. No other persons except authorized representatives of LACSD shall have any right to enter any portion of the foregoing. No other persons except authorized representatives of LACSD shall have any right to operate, adjust, repair, change, alter, move or relocate any portion of the offsite recycled water system.

### **5.2 ONSITE RECYCLED WATER FACILITIES**

#### **5.2.1 Customer's Responsibilities**

The customer or owner shall be responsible for the safe and efficient operation, maintenance and upkeep of his onsite facilities. However, LACSD shall also have the right to monitor and inspect the onsite operation of the customer's facilities. Pursuant to Section 6 of these Rules and Regulations, LACSD or authorized representatives of LACSD shall monitor and inspect the entire recycled water distribution facility, including customer facilities and for these purposes shall have the right to enter upon the customer's premises during reasonable hours. Reasonable hours shall include hours when irrigation is being performed. Except in emergencies LACSD and other

parties authorized by LACSD shall be entitled to enter upon the customer's premises with reasonable notice to the user for onsite inspection during reasonable hours to verify that the customer's facilities are in conformance with the provisions of these Rules and Regulations and all applicable permits. The customer shall notify LACSD of any and all updates or proposed changes, modifications or additions to the onsite facilities. Changes shall be approved by LACSD and shall be designed and constructed according to the requirements, conditions and standards set forth in these Rules and Regulations and other District requirements. The customer shall comply with any and all applicable Federal, State, and local statutes, ordinances, regulations, contracts and requirements prescribed by LACSD. In the event of violation, any charges and penalties shall be applied by LACSD in accordance with Section 11 of these Rules and Regulations. It shall be the responsibility of the customer to notify LACSD of any and all failures in a recycled water system whether or not in the user's opinion the failures resulted in violations. It shall also be the responsibility of the customer to notify LACSD of any and all violations which occur as a result of the user's action or the action of his operations personnel. The user shall keep a written log of all system failures and violations including corrective action taken. The log shall be reviewed by LACSD regularly.

Inspections by LACSD generally include review of the Site Supervisor's maintenance records and visual inspection of all back-flow prevention devices, pump rooms, exposed piping, valves, pressure reducing stations, points of connection, sprinklers, controllers, surface waters, storage facilities, signs, labeling, tags, etc.

A Recycled Water System Operations Manual, and Emergency Cross-Connection Response Plan shall be maintained at the use site which includes a copy of the Requirements for Recycled Water Users, design plans for the recycled water system and potable water system, and the requirement that the Recycled Water System Operations Manual for the recycled water system be maintained at the use area. These documents must be available to operating personnel at all times.

## **5.2.2 Designation/Responsibility of the Recycled Water Supervisor**

Each recycled water customer shall designate a User's Recycled Water Supervisor. In the case of recycled water service to a single family residential property, the home owner shall be the designated User Recycled Water Supervisor or the individual who is responsible for the maintenance of the irrigations system as identified by the Owner on the Recycled Water Use Permit. The User's Recycled Water Supervisor shall be a person accepted and approved by LACSD to operate and maintain the onsite facilities and irrigation systems, and to assume the responsibilities outlined here below. LACSD shall require that the designated User's Recycled Water Supervisor obtain instruction in the use of recycled water, such instruction being provided or approved by LACSD. He/she shall be the contact person for the user in all matters between the user and LACSD concerning the operation of the onsite system and the use of recycled water (see Article 3.9.4). It shall be the responsibility of the customer to notify LACSD whenever a change of the Recycled Water Supervisor occurs. Subsequently the customer shall be responsible to obtain LACSD's acceptance and approval of his newly designated supervisor. The Recycled Water Supervisor will have the following responsibilities:

- a. To oversee recycled water service and maintain onsite facilities.
  
- b. To ensure that all operations personnel are trained and familiarized with the use of recycled water, including all pertinent information contained in these Rules and Regulations and those applicable portions of the California Code of Regulations. This information shall be supplied by LACSD upon request by the user, customer, owner or applicant. The applicant for a user's permit shall attest that training will be provided.
  
- c. To furnish operations personnel with operating instructions, maintenance instructions, controller charts, and record drawings to ensure proper operation in accordance with the facilities design and these Rules and Regulations and

all applicable permits. At least one complete set of this information shall be kept onsite or in the nearest field office or maintenance building.

d. To operate and control the customer recycled water system in order to prevent direct human consumption of recycled water and to control and prevent run-off.

e. To provide a preventative maintenance program and carry out ongoing regular maintenance and upkeep to ensure the continued operation of all system elements within the requirements of these Rules and Regulations.

f. The Site Supervisor must provide immediate verbal notification followed by written notification within 10 business days to the District, Lahontan Water Board, CDPH if any of the following events occur:

- i. There is a complaint (or other source of information) concerning recycled water use that may involve illness;
- ii. An unauthorized discharge of more than 50,000 gallons of tertiary treated recycled water (or 1,000 gallons for any lesser quality recycled water); or
- iii. Contamination of the potable water system due to a cross-connection.

g. To prevent cross-connections to potable water systems, and also to protect the recycled water system from contamination from cross-connections to other sources. To ensure that maintenance and inspection of backflow prevention assemblies is done regularly on an annual basis as per requirements of regulatory agencies, or more often in those instances where successive inspections indicate repeated failures. The Site Supervisor must immediately invoke the Emergency Cross-Connection Response Plan in case of contamination of the potable water system due to a cross-connection.

h. To report to LACSD any and all failures in the onsite facilities whether or not such failures may result in violations.

### **5.2.3 Operation and Control of Onsite Recycled Water System**

To the extent possible, the operation of the irrigation system shall be during periods of minimal public use of the approved area. Such periods of operation shall remain within any general period of recycled water irrigation operation specified by LACSD. Operation and control measures of onsite recycled water systems shall include, but not be limited to, the following:

a. Onsite recycled water facilities shall be operated in such manner to prevent or control surface flows or windblown sprays of recycled water across boundary lines, or into areas not approved for recycled water use. The system design shall avoid spray patterns that tend to accumulate recycled water to produce ponding and/or run-off on public rights-of-way or adjoining areas not approved for recycled water use.

b. Recycled water shall be applied at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate anticipated or designed appropriately for the soil type to prevent run-off,

c. No sprinkler system shall be allowed to operate for a time longer than the landscape's water requirements. The intent is to control and limit run-off and ponding,


d. The user shall enforce the following prohibitions as per Article 3.14 of these Rules and Regulations:



- Cross-connections,
- Disposal of recycled water in unapproved areas,
- Use of recycled water for fire hydrants,
- The use of hose bibs,
- Ponding and run-off,
- Windblown sprays,
- Unapproved uses of recycled

### **5.3 POSTING APPROVED USE AREAS**


Posting the use areas of recycled water is required to inform the public that recycled water is being used. Posting shall be required at any customer field office, maintenance building, or yard within the approved use area, except as required by the regulatory agencies on a case-by-case basis. Warning notices and labels shall be posted on designated facilities such as controller panels, wash downs, or blow off valves on trucks, and temporary construction facilities. The labels shall indicate that the system contains recycled water that is unsafe to drink or whatever other restrictions may apply. It shall be the responsibility of the Recycled Water Supervisor to ensure the required bilingual postings in English and Spanish are installed and maintained, and so placed that they can be readily seen by all personnel or public utilizing the facilities. Where recycled water is used for recreational impoundments, warning signs shall be installed to notify that the water in the impoundment is unsafe to drink. The agency responsible for the impoundment shall prepare a detailed plan showing placement and spacing of proposed signs. The signs shall include the international warning sign of "do not drink" for all recycled water systems. A signage plan shall be prepared and forwarded to the CDPH and the Lake Arrowhead Community Services District, for approval prior to the use of recycled water.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>6.0</b>
<b>MONITORING AND INSPECTION</b>		Revision Date <b>1/26/10</b>

LACSD, the CDPH, and/or the Regional Water Quality Control Board, or authorized representatives of any of these agencies shall have authority to monitor and inspect the entire recycled water system including both onsite and offsite facilities. LACSD shall conduct monitoring programs, as it deems necessary, to ensure that customer's recycled water facilities are being operated in accordance with these Rules and Regulations, including the provision that cross-connections between potable water facilities and the recycled water facilities do not exist. In carrying out these functions LACSD, the CDPH, and/or the Regional Water Quality Control Board, or authorized representatives of any of these agencies shall have the right to enter any customer's premises during reasonable hours upon presentation of proper credentials. Reasonable hours shall include hours when irrigation is being performed to ascertain whether the user is complying with LACSD's Rules and Regulations for Recycled Water. The customer shall indemnify and hold LACSD harmless for any damage, loss, or injury alleged to have been caused by District personnel while inspecting on-site facilities, except where LACSD's sole negligence is duly established. Each time there is a change of either owner or customer on any commercial or industrial premises, the owner or customer shall notify LACSD immediately. LACSD will then reassess the level of protection required. Also, any alterations to existing onsite facilities that may affect required protection levels must be reported immediately to LACSD.

At their discretion, LACSD or representatives of any health agency having jurisdiction may conduct surveys of any property where recycled water service is provided by LACSD. These surveys are to determine if any actual or potential cross-connection exists. The applicant, owner, or customer shall provide full cooperation to facilitate these surveys. In situations where potable water lines are on the same property and located in the same area as recycled water lines, an annual cross-connection control site inspection will be required. The annual cross-connection inspection will be performed by the Lake Arrowhead Community Services District, the CDPH, or an authorized and certified cross-connection specialist. At the discretion of LACSD, cross-connection inspections may occur more frequently, especially on potable irrigation systems which have been converted to a recycled water irrigation system in conformance with Section 3.10.1. A copy of the inspection report will be forwarded to the non-inspecting agency.

Inspections may include but are not limited to review of the Site Supervisor's maintenance records and visual inspection of all back-flow prevention devices, pump rooms, exposed piping, valves, pressure reducing stations, points of connection, sprinklers, controllers, surface waters, storage facilities, signs, labeling, tags, etc.


	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>7.0</b>
<b>RECYCLED WATER CONNECTION, METER, AND SERVICE LINE CHARGES</b>		Revision Date <b>1/26/10</b>

LACSD shall make charges for the installation, and perpetual maintenance of all recycled water services, meters, and appurtenances thereto, and these shall remain the property of LACSD. Said charges, in addition to all other usual and regular charges of LACSD must be paid before work will be performed. Any backflow prevention devices on potable water services and flow or pressure control devices required due to application for recycled water service shall be downstream of the meter and shall be provided by the applicant, owner, or customer at his/her expense.

The amount of said charges shall be established by resolution of LACSD Board and shall be determined and computed in order to fully reimburse LACSD for the cost of materials, labor, equipment, and any other costs incidental to the performance of said services.

Whenever an installation is required by a customer that is not covered by the schedule of rates established from time to time by LACSD, such work will be done with charges based upon a statement of costs made by LACSD. If the required installation, for any valid reason, cannot be installed for the amount stated in the appropriate schedule of rates established by LACSD, owing to the peculiarity of the proposed service, LACSD reserves the right to make said installation on the basis of a statement of cost.

Whenever recycled water service lines, meters or other appurtenances are requested to be removed by the customer for any reason whatsoever, the charges shall be made on the basis of a statement of costs by LACSD.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>8.0</b> Revision Date <b>1/26/10</b>
<b>RECYCLED WATER SERVICE RATES</b>		

### **8.1 ESTABLISHMENT OF RATES**

Recycled water service rates within LACSD shall be established by an ordinance and/or resolution of LACSD Board of Directors.

### **8.2 CHANGE OF RATES**

LACSD reserves the right to change its rates for recycled water service. However, prior to considering any change in said recycled water service charge, a notice of the proposed change shall be posted by LACSD Clerk at least ten (10) days prior to consideration of such a resolution by LACSD Board.

### **8.3 CAPACITY CHARGE**

A minimum capacity charge shall be established by resolution of LACSD Board; provided, however, that prior to considering any change in said capacity charge by resolution as aforesaid, a notice of the proposed change shall be posted by LACSD at least ten (10) days prior to consideration of such a resolution by LACSD Board. Said charge shall be paid when any person, firm, corporation or other entity requests a new recycled water connection or in any way causes an increase in the recycled water usage.

### **8.4 RECYCLED WATER**

#### **METER 8.4.1**

## Meter Reading Period

Recycled water meters shall be read at the same time as the potable water meter in accordance with Section 67.24 of the Municipal Code. If a recycled water meter fails to register during any period or is known to register inaccurately, the customer shall be charged for that period pursuant to an average daily consumption rate based upon a reading of the meter when in use and registering accurately during the same season or as close to the same season as is reasonably possible. Any customer may request that the meter through which the recycled water is being furnished be examined and tested per Section 3.8 of these Rules and Regulations.

### **8.4.2 Meter Protection**

The customer shall, at all times, keep the meter assembly and the area around the meter, or other facilities free from deposits of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or substances, objects, or obstructions. The customer shall not allow or permit meter boxes, or other facilities to become obstructed or obscured by trees, shrubs, plants or in any manner impede their use or access to them. If such substances, objects, or obstructions are not cleaned and removed by the customer, the cleaning and removal shall be done by LACSD at the expense of the customer after a reasonable time of notification.

## **8.5 BILLING**

### **8.5.1 Permanent Service**

Recycled water bills will be rendered by LACSD with the potable water bills per the rates to be set by District Board.


### **8.5.2 Temporary Service**

The recycled water rate for all recycled water sold through temporary meters shall be the same as the construction recycled water rate. The charges for recycled water sold through temporary meters shall be billed and paid on a monthly basis.


#### **8.6 PAYMENT OF RECYCLED WATER BILLS**

Recycled water bills are due and payable upon presentation. Payment shall be in accordance with Section 67.25 of the Municipal Code for payment of potable water bills.



	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>9.0</b> Revision Date <b>1/26/10</b>
<b>SEVERABILITY</b>		

If any section, subsection, sentence, clause, phrase, part or portion of these Rules and Regulations is for any reason held to be invalid or unconstitutional, such invalidity shall not affect any of the remaining portions of these Rules and Regulations. LACSD declares that each section, subsection, sentence, clause, phrase or part of these Rules and Regulations would have been adopted irrespective of the invalidity of any part. These Rules and Regulations shall be interpreted so as to comply with applicable Federal and State laws and regulations.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	Section <b>10.0</b>
<b>ENFORCEMENT AND PENALTIES</b>		Revision Date <b>1/26/10</b>

### **10.1 GENERAL**

Inspections by LACSD generally include review of the Site Supervisor's maintenance records and visual inspection of all back-flow prevention devices, pump rooms, exposed piping, valves, pressure reducing stations, points of connection, sprinklers, controllers, surface waters, storage facilities, signs, labeling, tags, etc.

A Recycled Water System Operations Manual, and Emergency Cross-Connection Response Plan shall be maintained at the use site which includes a copy of the Requirements for Recycled Water Users, design plans for the recycled water system and potable water system, and the requirement that the Recycled Water System Operations Manual for the recycled water system be maintained at the use area. These documents must be available to operating personnel at all times.

Any person, firm, corporation, association, or agency found to be violating any provision of these Rules and Regulations or the terms and conditions of the customer's service agreement, permit or any applicable Federal, State or local statute, regulation, resolution, ordinance or other requirement shall be served by LACSD with written notice, stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations. This provision is in addition to, and not by way of, derogation of any other remedies or procedures available to LACSD by law, regulation, or pursuant to any of the provisions of these Rules and Regulations.

Failure to permanently cease all violations within the time stated shall result in revocation of the permit by LACSD and termination of recycled water service. Any person, firm, corporation, association, or agency who violates any penal provision of these Rules and Regulations and who fails to comply with the requirements of the written notice by LACSD shall, for each day of violation beyond the reasonable time limit set by LACSD, be subject to a fine not exceeding \$1000 in addition to costs resulting from the discontinuation of service.

## **10.2 INTERIM DISCONTINUATION OF RECYCLED WATER SERVICE**

In cases where the serious nature of the violations described above requires immediate action, LACSD, the CDPH, and/or the Regional Board may exercise discretion to immediately order discontinuance of recycled water service, subject to timely decision on permanent revocation or temporary suspension of a permit pursuant to a public hearing as provided herein. Conditions or uses that create a basis for termination include, but are not limited to:

- a. Refusal to install a required backflow prevention device,
- b. Refusal to test a backflow prevention device, c. Refusal to repair or replace a faulty backflow prevention device.
- c. Direct or indirect connection between LACSD's potable water system and the recycled water system,
- d. Direct or indirect connection between LACSD's recycled water system and a system or equipment containing contaminants.

e. A situation which presents an immediate health hazard to LACSD's potable and/or recycled water system, as determined by LACSD or regulatory agency.

f. Operations contrary to the aforementioned restrictions resulting in overspray into unapproved areas, excessive application rates or times, or improper fine grading of the soil, or improperly maintained drainage systems resulting in run-offs, or ponding due to run-offs on public rights-of-way or adjoining areas not approved for recycled water use.

g. Any discharge of recycled water in violation of any applicable discharge prohibitions prescribed by the RWQCB, or in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in California Water Code Section 13050. 10.2.1 Enforcement Action by the Regional Board

The Regional Board may also initiate enforcement action against LACSD, which may result in the termination of the recycled water supply, if any person uses, transports, or stores recycled water in violation of LACSD's Rules and Regulations, or in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in the California Water Code Section 13050.

### **10.3 PERMANENT REVOCATION**


LACSD may temporarily or permanently revoke any permit or contract. However, unless an emergency exists, as determined by LACSD, no permit or contract may be revoked until after the customer has been given an opportunity for a public hearing as hereinafter provided.

#### **10.3.1 Serving Notice of Revocation.**

Where LACSD determines that a permit should be revoked, LACSD shall prepare a written notice of revocation which includes a statement of the proposed action, a concise explanation of the reasons for the proposed action, and an explanation of the customer's right to a public hearing. Such notice shall be sent by certified mail to the customer's last billing address or be personally served on the customer at least ten (10) days before the effective date of the proposed permanent revocation. If, within five (5) days after receipt of such notice, the customer or authorized representative requests in writing a public hearing from LACSD, LACSD shall immediately set a hearing and give the customer written notice of the item, date and place of such hearing, either by personal service or First Class mail. The hearing shall be held not more than thirty (30) days from the date of receipt of said request for hearing. The hearing shall be conducted by a hearing officer designated by LACSD. The person designated as hearing officer shall not have been connected in any way with the decision to revoke the subject permit or contract. No hearing shall be continued except upon showing of a good cause.

#### **10.4 RE-ESTABLISHMENT OF RECYCLED WATER SERVICE**

Any request to re-establish service subsequent to revocation of the permit and the termination of recycled water service shall be in the manner described for initially obtaining recycled water service from LACSD, which may include the collection of a customer guarantee deposit. LACSD may, at its discretion, deny re-establishment of service or require that an agreement of financial security conditioned upon compliance with these Rules and Regulations be provided. The foregoing provisions of these Rules and Regulations are requirements of any permit for recycled water service, and application for service and the permit thereof shall be subject to such provisions.

	<b>LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RULES &amp; REGULATIONS FOR RECYCLED WATER SERVICE</b>	<b>Section 11.0</b>
<b>APPLICABILITY OF GENERAL WATER SYSTEM ORDINANCES</b>		<b>Revision Date 1/26/10</b>

To the extent that the provisions of Title 3, Division 3 of the San Bernardino County Code do not conflict with these Rules and Regulations for the use of recycled water, said provisions shall be and hereby are incorporated herein by reference and shall be applicable to recycled water facilities and use.

**APPENDIX A**  
**Lake Arrowhead Community Services District**  
**PERMIT SERVICES APPLICATION FOR RECYCLED WATER SERVICE**

The user completes the following: (Please print or type)

User Name \_\_\_\_\_

Relationship to property: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Telephone number: \_\_\_\_\_ Office \_\_\_\_\_

Residence Project/site name: \_\_\_\_\_

Project/site address: \_\_\_\_\_

Property owner(s): \_\_\_\_\_

Mailing address: \_\_\_\_\_

Telephone number: \_\_\_\_\_ Office \_\_\_\_\_

Residence Recycled Water Supervisor:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

24-hour contact telephone number: \_\_\_\_\_

Legal description of property: \_\_\_\_\_

(Check each use)

1. Type of use: (check each use)

Landscape irrigation     Construction use     Impoundments

Commercial use     Groundwater recharge     Other

Industrial use     Wildlife habitat     Agricultural use

Recreational

2. Brief description of use(s): \_\_\_\_\_

3. Total irrigated area: \_\_\_\_\_ acres Types of plant material: \_\_\_\_\_

4. Estimated demand:

Total quantity: \_\_\_\_\_ HCF/yr

Max. at POC: \_\_\_\_\_ GPM (Total) .

Min. pressure: \_\_\_\_\_ psi

Hours/Day: \_\_\_\_\_

Days/Week: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Number of service connections: \_\_\_\_\_ Number of meters requested: \_\_\_\_\_

Size of meters: \_\_\_\_\_

6. This is a: \_\_\_ NEW \_\_\_ CONVERTED system.

7. If a new system, how are pipes to be identified?

\_\_\_ Color-coded \_\_\_ Stenciled \_\_\_ Tape wrap \_\_\_ Other

8. Are there special construction requirements? \_\_\_ Yes \_\_\_ No

If yes,

explain: \_\_\_\_\_

9. Date desired to initiate service: \_\_\_\_\_

10. Duration of service (temporary, interim, construction use, permanent): \_\_\_\_\_

11. Additional information: (Include special conditions affecting service): \_\_\_\_\_

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Please include the following items:

a) Items to Be Submitted with the Initial Application:

i) Location and vicinity map showing the demarcation of the recycled water use area

ii) Attachment of a properly notarized affidavit

iii) Check or money order for required fees made out to:

*Lake Arrowhead Community Services District*

b) Items to Be Submitted Subsequent to the approval of the application:

i) Drawing of the project area on one, 8 1/2 X 11 sheet of paper which shall include and show:

- Location and vicinity map

- Demarcation of the recycled water use area

- Specific potable water use areas- Location of service connections

- Size of service connection

- Main line locations

- Gate valve locations

- Specific recycled water use areas

- Specific potable water use areas

**ii. A Recycled Water System Operations Manual, and Emergency Cross-Connection Response Plan.**

**iii. A copy of the Requirements for Recycled Water Users, design plans for the recycled water system and potable water system, and the requirement that the Recycled Water System Operations Manual for the recycled water system be maintained at the use area. These documents must be available to operating personnel at all times.**



I, the user, have read and understand LACSD's Rules and Regulations for Recycled Water Use and Distribution and agree to restrict recycled water use for the purposes described in this application. I agree to use recycled water in accordance with these Rules and Regulations and all other applicable documents. I understand that recycled water may not be compatible with certain types of vegetation because of its chemical composition. I agree that LACSD will not be liable for damages that may occur to vegetation or for damages which may occur due to uses of recycled water for purposes not included in this application.

User's signature: \_\_\_\_\_ Date: \_\_\_\_\_

(LACSD completes the following)

STATUS OF APPLICATION:

- Approved
- Sent to CDPH for approval
- The user needs to submit required fees
- The user needs to supply additional information
- The user denied recycled water service
- Returned to the applicant

Comments: \_\_\_\_\_

12. Service connection(s) size approved?  Yes  No If not, why?

\_\_\_\_\_

Service location approved?  Yes  No

If not, why? \_\_\_\_\_

13. Use(s) approved?  Yes  No Comments:

14. Can LACSD provide requested recycled water service with existing facilities?  Yes  No

If not, what are the constraints? \_\_\_\_\_

15. Is recycled water main extension required?  Yes  No

Comments: \_\_\_\_\_

16. Will this system be initially connected to the potable water system?  Yes  No

17. Describe level and method of backflow protection: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

## APPENDIX B

### LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT CHECKLIST/ACTION REQUEST FORM FOR OBTAINING RECYCLED WATER SERVICE

To: \_\_\_\_\_

Requested by user: \_\_\_\_\_ Signed: \_\_\_\_\_

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Specific Action Requested: \_\_\_\_\_

Date Completed: \_\_\_\_\_

1. The user and LACSD determine if area in question is currently, or will be, served with recycled water.
2. The user submits a completed application to LACSD.
3. LACSD reviews the application.
4. If approved, LACSD sends the application to the CDPH
5. If approved by CDPH, the user then submits to LACSD.
  - Completed irrigation plans
  - Construction schedule
  - Required review fees
6. LACSD reviews plans.
7. LACSD approves the plans & construction schedule prior to construction.
8. The CDPH approves the detailed irrigation plans for recycled water service.
9. The user constructs facilities.
10. The user submits as-built drawings to LACSD.
11. Upon customer's request LACSD performs final inspection and operational testing (see \* **below**).
12. If final inspection passes, LACSD requests the CDPH for approval to begin service.
13. The CDPH grants final approval for service.
14. LACSD issues a Recycled Water Service Permit.
15. The user initiates recycled water service.
16. LACSD confirms service to the CDPH.

#### **HOW TO USE THIS FORM:**

This form is to be used by the user, purveyor and the CDPH to request specific action or items needed to complete the process for obtaining recycled water service. Complete each step in the sequence shown. Make sure the form is dated and signed. This checklist keeps all entities informed of the application process progress and the steps remaining to provide recycled water service.

**\* In situations where potable water lines are on the same property and located in the same area as recycled water lines, an initial and an annual cross-connection control site inspection may be required, as determined by the CDPH and the appropriate department of the Lake Arrowhead Community Services District.**

**APPENDIX C**

**LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT STATUS OF APPLICATION FOR RECYCLED WATER SERVICE**

To:

Date:

We received your application for recycled water service for the project(s) listed below. The application has been reviewed by our engineers in accordance with LACSD's Rules and Regulations for Recycled Water Use and Distribution and the ability of our system to supply you with the quantity of recycled water you have requested. The status of application is shown below. If you have any questions please contact \_\_\_\_\_ (review engineer) at \_\_\_\_\_ (phone #).

Project name: \_\_\_\_\_ Application reviewed on: \_\_\_\_\_

Status:  Your application has been approved by LACSD.

Your application has been sent to the California Department of Public Health for further review.

Your application is incomplete, and we request additional information. (See comments).  We require payment of fees before review can be completed.  Your application has been returned. (See comments)  Your application for recycled water service has been denied. (See comments)

**APPENDIX D**

**LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT PERMIT FOR RECYCLED WATER SERVICE**

User Account #: \_\_\_\_\_ User: \_\_\_\_\_

Contact: Relationship to property: \_\_\_\_\_

Mailing address: \_\_\_\_\_

Project/site name: \_\_\_\_\_

Project/site address: Property owner(s): \_\_\_\_\_

Mailing address: \_\_\_\_\_

Telephone number: \_\_\_\_\_ Office \_\_\_\_\_ Residence \_\_\_\_\_

Recycled Water Supervisor: \_\_\_\_\_

24-hour contact telephone number: \_\_\_\_\_

Approved use(s): 1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

Approved use area(s): 1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

1. Total irrigated area: \_\_\_\_\_ acres

2. Recycled water demand:

Meter Account No.	Meter Size	Min. Press. (psi)	Max. Flow GPM)	Area Served (Acres)	Yearly Consump. (HCF/Yr)
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Totals: 3. This is a: \_\_\_ NEW \_\_\_ CONVERTED system.

4. Method of recycled water pipe identification:

\_\_\_ Color-coded \_\_\_ Stenciled \_\_\_ None (converted) \_\_\_ Colored tape wrap \_\_\_ Other

5. Recycled water service initiated on: \_\_\_\_\_

6. This is a: \_\_\_ Permanent \_\_\_ Temporary\* \_\_\_ Interim\* \_\_\_ Construction\* \*Recycled water service to stop on: \_\_\_\_\_

7. Rate charged for service: \_\_\_\_\_\$/HCF plus additional base charges as shown in Appendix 5.

8. Special requirements/conditions: \_\_\_\_\_

Final Inspection By LACSD:

I have inspected the recycled water system governed by this permit and attest that the construction and operation of this system are in accordance with LACSD's Rules and Regulations for Recycled Water Use and Distribution.

Inspector: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

User Agreement:

I have reviewed LACSD's Rules and Regulations for Recycled Water Use and Distribution, and agree to operate this recycled water service in accordance with all provisions of this permit and all applicable documents. I agree to be responsible for training and supervising all personnel under my control who will be involved in operating the recycled water system. I agree that no changes to the recycled water system will be made without issuance of an amended permit. I am aware of any/all fines and penalties to be assessed for any/all violations of these Rules and Regulations for Recycled Water Use and Distribution.

User's signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Qualifications of User's Recycled Water Supervisor:**

The User shall attach the qualifications of the designated Recycled Water supervisor.

California Department of Public Health Approval:

I have reviewed the application package and approve of providing recycled water service in accordance with the provisions contained in this recycled water use permit.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

California Department of Public Health Approval:

I have reviewed the application package and approve of providing recycled water service in accordance with the provisions contained in this recycled water use permit.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

## APPENDIX E

### LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT RECYCLED WATER GUIDELINES AND BEST MANAGEMENT PRACTICES

#### INTRODUCTION:

As a supplier of recycled water, Lake Arrowhead Community Services District must ensure that the District's customers are aware of their responsibilities regarding recycled water use. These guidelines are consistent with those promulgated by the County of San Bernardino Department of Environmental Health Services, and the State of California Department of Public Health, and in Title 22 of the California Administrative Code.

The implementation of "Best Management Practices" (BMP) is essential in controlling soil erosion, over spray, ponding and efficient irrigation practices.

#### GENERAL OPERATIONAL CONTROLS:

- A. The use of recycled water must be limited to the areas designated and approved.
- B. All recycled water valves and outlets shall be properly tagged to warn the public and employees that the water is not safe for drinking.
- C. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Chapter 7.9, section 4049.54 of the California Health and Safety Code.
- D. Where feasible, different piping materials should be used to assist in water system identification.
- E. All recycled water valves, outlets and sprinkler heads should be of a type that can only be operated by designated personnel.
- F. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.
- G. The recycled water piping system shall not include any hose bibs. The use or installation of hose bibbs on any on-site water system that presently operates or is designed to operate with recycled water, regardless of the hose bibb style, construction or identification is strictly prohibited.
- H. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.
- I. The use of recycled water shall at no time create odors, slime, deposits, become a public or private nuisance or create a trespass of any kind.
- J. The use area shall be maintained to prevent the breeding of flies, mosquitoes or other vectors.
- K. Reclaimed water facilities shall be operated in accordance with best management practices (BMP's) to prevent direct human consumption of reclaimed water and to minimize misting, ponding, and runoff. BMP's shall be implemented that will minimize both public contact and discharge onto areas not under customer control.
- L. Customers shall ensure that all recycled water facilities are maintained, operated and repaired at all times in a manner that does not cause illness or injury to any person and in a manner that does not cause damage or injury to the real or personal property of any person or entity, including the District.
- M. ***A Recycled Water System Operations Manual, and Emergency Cross-Connection Response Plan*** shall be

maintained at the use site which includes a **copy of the Requirements for Recycled Water Users, design plans for the recycled water system and potable water system, and the requirement that the Recycled Water System Operations Manual for the recycled water system be maintained at the use area. These documents must be available to operating personnel at all times.**

**POSTING OF ON-SITE NOTICES:**

All use areas where recycled water is used and that are accessible to the public shall be posted with conspicuous signs, in a size no less than 4 inches by 8 inches, that include the following wording and picture in a size no less than 4 inches high by 8 inches wide: "RECYCLED WATER - DO NOT DRINK". See Figure BMP 1 for the acceptable symbol. The sign(s) shall be of a size easily readable by the public. The prescribed wording should also be translated into Spanish and other appropriate languages and included in the required signs.

Figure BMP 1



All water outlets shall be posted as "potable" or "non-potable", as appropriate **WORKER/PUBLIC PROTECTION:**

Workers, residents, and the public shall be made aware of the potential health hazards associated with contact  
**RULES AND REGULATIONS FOR RECYCLED WATER SERVICE** **PAGE 2**

or ingestion of recycled water, and should be educated about proper hygienic practices to protect themselves and their families.

A. Workers and others must be notified that recycled water is in use, through the posting of signs, etc.

B. The following measures should be taken to minimize contact with recycled water:

1. Workers/public should not be subjected to recycled water sprays.

2. Workers should be provided with the appropriate clothing during prolonged contact with recycled water.

C. Potable drinking water should be provided for workers.

D. Toilet and washing facilities should be provided.

E. Precautions should be taken to avoid contact with food and food should not be taken into areas that are still wet with recycled water.

F. A first aid kit should be available on site, to prevent cuts and other injuries to contact recycled water.

#### GENERAL IRRIGATION USES:

All windblown spray and surface runoff of reclaimed water applied for irrigation onto property not owned or controlled by the discharger or reclaimed water user shall be prevented by implementation of BMP's.

Irrigation with reclaimed water shall be during periods of minimal human use of the service area. Consideration shall be given to allow an adequate dry-out time before the irrigated area will be used by the public.

All drinking fountains located within the approved use area shall be protected by location and/or structure from contact with recycled water spray, mist, or runoff. Protection shall be by design, construction practice, or system operation. Facilities that may be used by the public, including but not limited to eating surfaces and playground equipment and located within the approved use areas, shall be protected to the maximum extent possible by siting and/or structure from contact by irrigation with recycled water spray, mist, or runoff. Protection shall be by design, construction practice or system operation.

Spray irrigation with recycled water, other than disinfected tertiary recycled water, shall not take place within 100 feet of the property line of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.

#### EFFICIENT IRRIGATION:

The following methods of irrigation management should be applied to reduce run off, ponding and over spray. When followed, these methods will result in uniform irrigation and efficient operation.

A. Hardware

All irrigation systems must have the appropriate equipment/hardware for the application.

1. Install irrigation system according to the design.

2. Make sure all sprinkler heads are uniform in brand, model and nozzle size. Where different arcs are needed at the same station, match precipitation rates by changing nozzles.

3. Measure spacing between sprinkler heads. Place heads per manufacturer's recommendations.



4. Where lower precipitation rates are required, such as on slopes, reduce nozzle size and spray angle per manufacturer's recommendations.
5. Install booster pumps to increase pressure where needed.
6. Install pressure reducers to decrease pressure where needed, often on steep hillsides where main lines run downhill.
7. Make sure piping is sized to transmit water in the quantity demanded by the system
8. Use check valves either in-line or built into the sprinkler head assembly to virtually eliminate low head drainage after the valve has closed. **THESE DEVICES SUBSTANTIALLY REDUCE RUN OFF AND PONDING FROM INDIVIDUAL SPRINKLER HEADS.**
9. Use automatic flow control devices that shut down a system if a break or other similar high flow/low pressure situation develops during irrigation. **THESE DEVICES CAN SAVE SIGNIFICANT AMOUNTS OF WATER AND ELIMINATE RUN OFF OR PONDING IF A BREAK SHOULD OCCUR.**
10. The use of centralized control systems or controllers that measure or can be programmed to use evaporation rates or systems that use controls such as moisture sensors is recommended.

#### B. Maintenance

Maintenance is often the most overlooked irrigation system component. Perform the following routinely, and to fix a problem with the irrigation system.

1. Adjust sprinkler heads so they achieve 80% head to head coverage though out their intended arc. There should be no obstruction that would interfere with the free rotation and smooth operation of any sprinkler, such as trees, tall grass, shrubs, signs, etc. The system should be tested during the daytime so adjustments can be made.
2. Adjust valves or pressure regulators so that the systems are operating at the pressure required by the sprinkler heads or emitters. Test pressures periodically with a pressure gauge to maintain appropriate pressure levels.
3. Routinely test the accuracy of time clocks. Have the time clock recalibrated or repaired as necessary.
4. Repair or replace broken risers, sprinklers, valves, etc. as soon as they are discovered. Replace with appropriate make and model of equipment to maintain uniformity through out the system.
5. Routinely check backflow devices, pumps, etc. for leaks and repair or replace as necessary.
6. Routinely clean screens and backwash filters to keep systems operating optimally.

#### C. Management:

System management determines; 1) the appropriate duration of the irrigation cycle, and 2) the frequency at which irrigation occurs.

1. **Duration:** The duration or length of an irrigation cycle (run time) should be long enough to fill up the root zone reservoir. If total run times are longer than required, then deep percolation losses occur. Run times are also dependent on distribution uniformity (DU). DU is a measurement of how evenly water is applied to the irrigated area. Run times are reduced by higher levels of DU.
2. **Frequency:** The frequency of an irrigation cycle should be as often as necessary to meet the water requirements of the vegetation. This is determined by measuring the amount of moisture remaining in the root zone reservoir between irrigation cycles. When an appropriate moisture level is determined, the irrigation cycles should be scheduled to ensure watering frequency is such to maintain that level.
3. Practices for optimizing management of an irrigation system:

- a) Use tensiometers, gypsum blocks, soil probes, the "feel method", and or the California Irrigation Management Information System to estimate soil moisture levels. Inspect and maintain regularly to ensure accuracy and reliability.
- b) Use automatic rain shut-off devices to reduce irrigation if significant rainfall occurs.
- c) Use multiple rain shut-off devices to reduce ponding if precipitation rate is higher than the infiltration rate of the soil.
- d) Irrigate in the evening or early morning to avoid the heat and/or windy parts of the day. This will reduce evaporation losses and minimize windblown spray from entering unintended areas.
- e) Group irrigated areas into zones of similar water use. For example, irrigate grass areas separately from shrub areas, sunny areas separately from shady areas. As needed, aerate the soil to improve infiltration of air and water into the soil.
- g) Provide as much flexibility as possible into the design of the irrigation system. Built in ability to make changes as necessary can add to the efficiency of the system.
- h) Perform good horticultural practices; fertilization, mowing, de-thatching, aeration, and pest control, as necessary to create the best growing environment for landscape vegetation.

Because irrigation systems have constant wear and tear, periodic checks and adjustments are all part of good landscape water management programs.

#### USE OF RECYCLED WATER ADJACENT TO POTABLE WELLS

A. Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

- 1. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.
- 2. The well contains an annular seal that extends from the surface into the aquitard.
- 3. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
- 4. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
- 5. The owner of the well approves of the elimination of the buffer zone requirement.

B. Impoundment of disinfected tertiary recycled water shall not occur within 100 feet of any domestic water supply well.

C. Irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall not take place within 100 feet of any domestic water supply well.

D. Irrigation with, or impoundment of, undisinfected secondary recycled water shall not take place within 150 feet of any domestic water supply well.