RECYCLED WATER

SITE SUPERVISOR-EMPLOYEE TRAINING

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WHAT IS RECYCLED WATER

- ★ Recycled water is tertiary treated wastewater that meets California's Title 22 drinking water standards.
- ★ Recycled water is supplied to Cucamonga Valley Municipal Water District by Inland Empire Utilities Agency.
- ★ Some of it uses are in cooling towers, landscape irrigation, fire fighting, carpet dying, toilets and urinals in commercial buildings, soil control and dust compaction at construction sites, recreational lakes, ponds and ornamental fountains.

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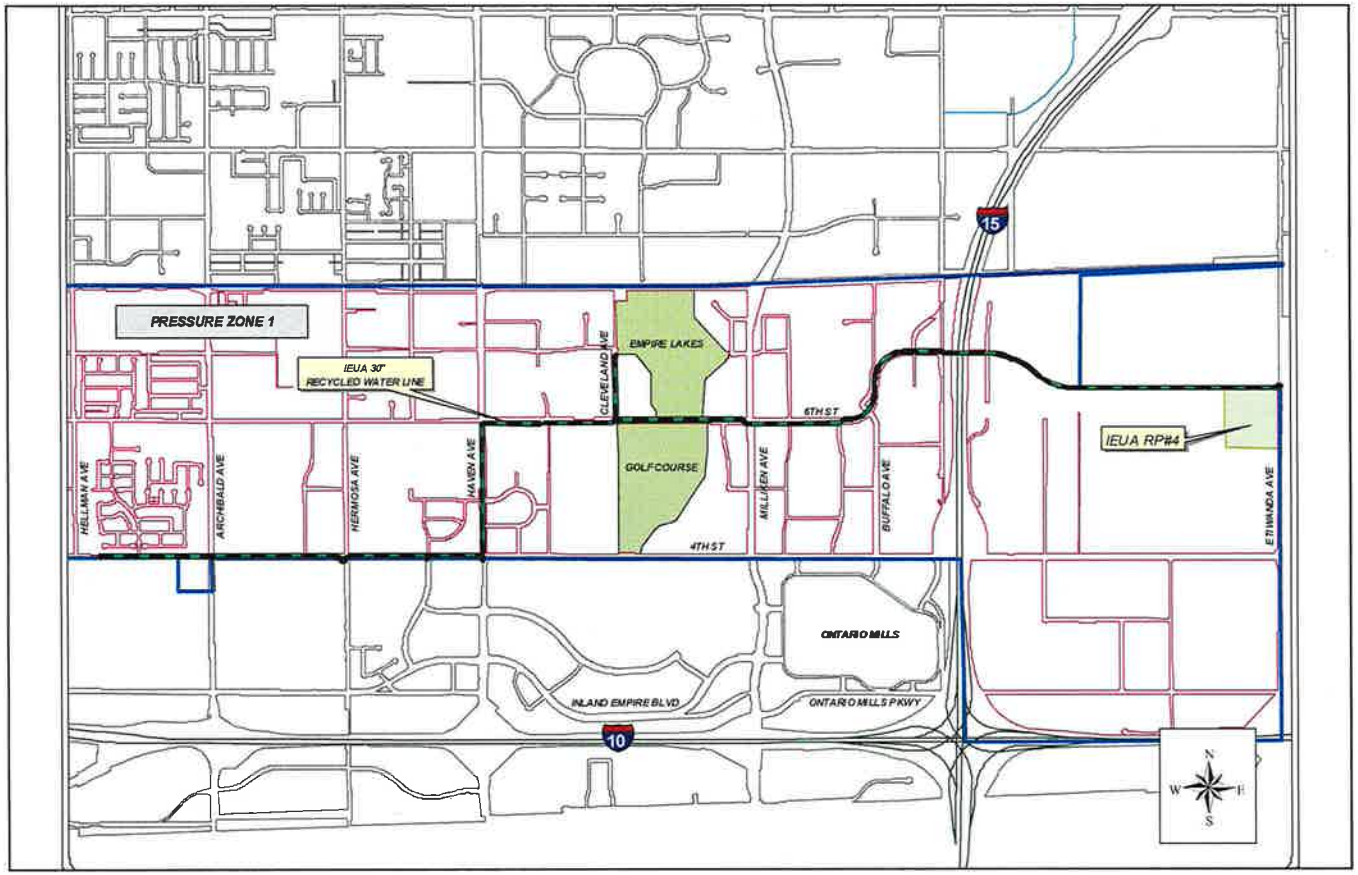
HOW DOES RECYCLED WATER GET TO THE USE SITE



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RECYCLED WATER TREATMENT

- ★ **PRIMARY TREATMENT**
  - ★ Sedimentation
    - ★ Chemicals are added to remove a large portion of the wastewater solids. Treated water may be used for surface irrigation on fiber, fodder and seed crops not consumed by humans.

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RECYCLED WATER TREATMENT

- **SECONDARY TREATMENT**
  - Biological process involving oxidation and further sedimentation
  - May or may not include disinfection depending on levels of bacteria
  - Effluent can be used on orchards, vineyards, trees and under restrictive conditions to golf courses and landscaping
  - The Federal Clean Water Act requires secondary treatment of wastewater before it is allowed to be discharged into waterways

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RECYCLED WATER TREATMENT

- **TERTIARY TREATMENT**
  - Tertiary treated water is delivered to Cucamonga Valley Water District from Inland Empire Utilities Agency
  - Process involves coagulation, flocculation, clarification, filtration and disinfection.
  - Can be applied by spray irrigation to landscaping at parks, playgrounds, school yards and golf courses.
  - Can be used in recreational lakes, for industrial uses in cooling towers and carpet dying, and on numerous edible food crops.

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DUTIES OF THE SITE SUPERVISOR

- ★ Is responsible for the recycled water system at this site.
- ★ Is responsible for the operation, maintenance, and prevention of potential violations on the recycled water system.
- ★ Must ensure that there are no cross-connections made between the potable and recycled water systems.
- ★ Must be present at all cross-connection tests.
- ★ Must be knowledgeable of the Cucamonga Valley Water District Recycled Water Rules and Regulations for recycled water service as well as Title 17 and Title 22 of the California Code of Regulations.
- ★ Must inform Cucamonga Valley Water District of all failures, violations and/or emergencies that occur involving the recycled or potable water systems.
- ★ Must inform Cucamonga Valley Water District of any changes in the recycled or potable water systems including a change in the designated site supervisor or 24-hour phone number.
- ★ Must be the 24-hour contact person responsible for the usage and efficient use of recycled water at the use site.
- ★ Educate all maintenance personnel on a continuous basis of the presence and use of recycled water.
- ★ Be knowledgeable of what recycled water is and the best management practices or BMP's, specific equipment, and principles relating to the intended use of recycled water.
- ★ Be responsible for maintaining up to date appropriate records of all onsite recycled and potable water systems. Requirements are site specific and are intended to document major changes made to on site plumbing.

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GUIDELINES FOR RECYCLED WATER USE

DO's:

- ★ Take preventative measures to insure no cross-connections can occur.
- ★ Maintain and submit as-built drawings of any and all changes or additions to the recycled water system.
- ★ When performing repairs or modifications to the recycled water system, use only materials approved for recycled water use.
- ★ If your system has quick couplers, the supervisor assumes sole responsibility of the quick connects for these couplers. Closely monitor the use of these connectors.
- ★ Closely monitor the recycled water system operation. Prevent and minimize overspray, runoff, and ponding. If these occur, make necessary corrections and notify the appropriate agencies.
- ★ Keep all systems functioning properly. Repair all damages to the recycled water system immediately. Reports breaks or spills directly to the Cucamonga Valley Water District.
- ★ Educate all workers on the proper uses, and restrictions of recycled water.
- ★ Be aware of the types of vegetation within your site boundaries. Understand the plant material response to irrigation with recycled water. It may be necessary to alter water management practices based on soil and water characteristics.
- ★ Keep all records and references, such as schedules, controller charts and special conditions, up to date and accessible.
- ★ Keep others informed of all activities involving the recycled water system.

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GUIDELINES FOR RECYCLED WATER USE

DONT'S:

- ★ Do not drink recycled water.
- ★ Recycled water should not be used to wash hands or other parts of the body.
- ★ Equipment (i.e. tanks, valves, hoses, pipes, and pumps) that has been in contact with recycled water should not be used in conjunction with any potable water system unless it has been adequately disinfected.
- ★ Do not attempt to modify or change the recycled water system without authorization from the recycled water user site supervisor.
- ★ Do not remove or tamper with recycled water warning signs.

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GUIDELINES FOR RECYCLED WATER USE

- ★ Discharge should be confined to the area designated and approved for recycled water use.
- ★ Minimum separation between recycled water lines and Use area facilities must comply with the "Regulations Relating to Cross Connections, title 17 of the California Code of Regulations.
- ★ Minimum separation of recycled water lines and domestic lines should be observed. The minimum depth of a recycled water mainline should be 48" below the finished street grade. Recycled water lines that are parallel to potable water lines should be installed at least ten feet horizontally from and one foot lower than the potable water lines.
- ★ Plans and specifications and the Engineer's Report of the existing and proposed recycled water system shall be submitted to the State and local health agencies for review and approval prior to service.

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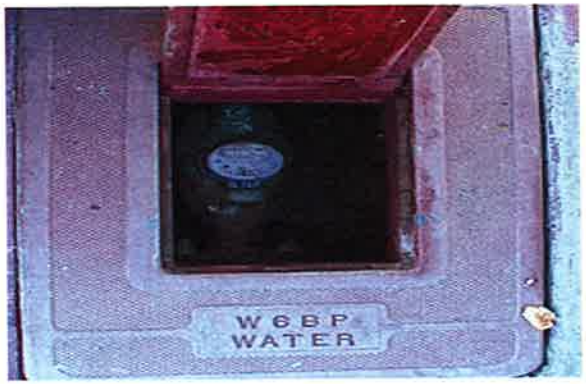
USING RECYCLED WATER IS DIFFERENT FROM POTABLE WATER

★ Recycled water user is required to post signs, color code meters and all valves and outlets should be tagged to inform the public and employees that the water is not suitable for drinking. NEVER use purple pipe or fixtures for the potable water system.



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USING RECYCLED WATER IS DIFFERENT FROM POTABLE WATER

- ★ All piping, valves and outlets should be installed so that only authorized personnel have access.
- ★ Locked enclosures and bolt-down valve lids should be used.

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USING RECYCLED WATER IS DIFFERENT FROM POTABLE WATER

- ★ The recycled water user is required to ensure there are no cross-connections between the potable and recycled water systems.
- ★ An annual inspection by Cucamonga Valley Water District staff is required. The State Department of Health Services representative will conduct an initial inspection and may also attend the annual inspection.

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GUIDELINES FOR IRRIGATION

- ★ Irrigation should be performed to minimize public contact by water spray.
- ★ Precautions should be taken to ensure that recycled water will not be sprayed on sidewalks, passing vehicles, buildings, picnic tables, domestic water facilities or play areas within the use area.
- ★ Drinking fountains should be protected from direct or windblown spray form irrigation.

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GUIDELINES FOR IRRIGATION

- ★ Windblown spray from the irrigation system should not drift to areas off site.
- ★ Irrigation should not cause runoff or ponding.

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GUIDELINES FOR IRRIGATION

- ★ Irrigation should be performed during periods when the ground will have the maximum opportunity to dry before use by the public.
- ★ Hours of irrigation should be between 9:00 p.m. and 6:00 a.m. **Daytime watering is prohibited.**
- ★ Measures should be taken to prevent the breeding of flies, mosquitoes, and other insects where water, whether recycled or potable is being used.
- ★ Areas irrigated with recycled water must be kept separated from domestic water wells and reservoirs.

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GOLF COURSE GUIDELINES

- ★ Water hazards with recycled water should be posted with conspicuous signs.
- ★ Golf courses using recycled water should have score cards stating that recycled water is being used.
- ★ Tank trucks used for carrying or spraying recycled water should be appropriately identified.

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CROSS-CONNECTION

- ★ A cross-connection is any connection between a potable water system and any other source or system.
- ★ The main concern when recycled water is used is the possibility of contamination of the drinking water supply because of a cross-connection.
- ★ Contamination can be prevented by using careful plumbing and an appropriate backflow prevention assembly on the potable water system.

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HEALTH RISKS

- ★ No health-related problems have been traced to any of the recycled water projects operating in California.
- ★ Any potential health risks of recycled water is monitored by the local representative of the State Department of Health Services.
- ★ California recycled water standards are among the strictest.
- ★ Recycled water goes through a treatment process to make it safe for certain uses such as landscape irrigation.
- ★ It is not safe to drink, or to inhale the mist created by irrigation spray.

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ADVANTAGES OF USING RECYCLED WATER

- ★ Using recycled water for irrigation provides more drinkable water for human consumption.
- ★ Recycled water is a drought-proof supply of water.
- ★ Recycled water contains nutrients that may reduce the need for fertilizers.
- ★ Typically the salt content is slightly higher in recycled water. Soil conditions will be monitored by Dr. Mitra of California Polytechnic University in Pomona.
- ★ Recycled water is provided at a discounted rate. Empire Lakes would have saved almost $69,000 in 2005 if recycled water would have been used in place of potable water.

- ★ Any questions, call Cucamonga Valley Water District, (909) 987-2591.

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