

COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES
PUBLIC HEALTH PROGRAMS AND SERVICES - ENVIRONMENTAL HEALTH
CROSS-CONNECTION & WATER POLLUTION CONTROL PROGRAM
5050 Commerce Drive, Rm 116, Baldwin Park, CA 91706

A GUIDE TO SAFE RECYCLED WATER USE, PIPELINE CONSTRUCTION AND INSTALLATION

INTRODUCTION: As a result of increasing availability of recycled water and the consequent need or desire for the transmission and use thereof, this Department has found it necessary to develop the following guidelines for recycled water pipeline construction, installation and safe recycled water use for the protection of domestic water supplies and public health.

1. Recycled water shall meet requirements specified in "Water Reclamation Criteria": Title 22, Division 4, Chapter 3, Section 60301 through 60355 of the California Code of Regulations and regulations and guidelines of the regulatory agencies.
 2. Recycled water use shall be compatible with State Department of Health Services and Regional Water Quality Control Board requirements.
 3. Plans and specifications for recycled water distribution, use and operational practices shall be submitted for review and approval to the County of Los Angeles Department of Health Services prior to implementation.
 4. Prior to commencing construction the Contractor shall contact the Los Angeles County Department of Health Services to arrange for inspection of all on-site recycled and potable water work. No excavation or open trench may be backfilled without first securing Health Department approval. If any piping, recycled or potable, is installed prior to plan check approval and/or inspection, all or any portion of the system may be required to be exposed and corrected as necessary.
 5. A Los Angeles County Department of Public Health approved **temporary** water connection to a potable water supply, via a dedicated, approved reduced pressure principle backflow prevention device, shall be utilized for the purposes of flushing, pressure testing, construction uses, initial landscape use and the final cross connection pressure test.
 6. **SEPARATION** - In order to minimize construction accidents resulting in pipeline breaks, infiltration of water from leaking water lines into domestic water lines, or accidental cross-connections between recycled water and potable water systems, maximum attainable separation of recycled water lines and potable water lines shall be practiced.
 - Parallel construction: there shall be at least a ten foot (10') separation, all distances measured from pipeline outside diameter.
 - Cross-Over construction: As perpendicular as possible; one foot (1') separation, with potable above recycled; full pipe length centered over crossing.
 - Alternate Cross-Over construction (distance not maintained): Either the potable or recycled water lines may be sleeved with the same class piping for one full pipe length (minimum ten feet) centered over the cross-over.
 - The recycled water system shall be constructed in conformance with potable water system construction standards and in accordance with all other governing codes, rules and regulations.
 - Unused or abandoned potable water lines are to be severed as close to water mains as practical, capped and a ten-foot section of abandoned line removed and cemented under Health Department supervision.
- Existing On-site piping - To the extent feasible, maximum separation of recycled water and potable water lines shall be practiced upon system addition or modification.
7. **IDENTIFICATION**: - All recycled water lines (pressure/non-pressure), valve boxes, hydrants and appurtenances shall be identified to clearly distinguish between recycled water, non-potable and potable water systems.
 - **RECYCLED Water** - All buried recycled water lines (pressure/non-pressure) shall be purple colored pipe with continuous wording "**Caution Recycled Water**" printed on opposite sides of the pipe.
 - Projects utilizing extensive pipeline installation shall use purple pipe properly stenciled/labeled. For limited application, the use of continuous lettering on three inch (3") minimum width purple tape with one inch black or white contrasting lettering bearing the continuous wording "**Caution Recycled Water**" permanently affixed at five foot intervals atop all horizontal piping, laterals and mains is an acceptable alternative to purple pipe, if purple pipe is unavailable in the size required by the project design. Identification tape shall extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers.
 - **POTABLE WATER** - All potable water lines shall be installed in accordance with the California Plumbing Code and all other governing codes, rules and regulations. Buried potable water lines shall be identified by continuous lettering on three inch (3") minimum width blue or green tape with one inch white lettering bearing the continuous wording "**Potable Water**" permanently affixed at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping and hydrants.
 - Identification tape is not necessary for extruded colored PVC with continuous wording "**Potable Water**" printed in contrasting lettering on opposite sides of the pipe.
 - **NON-POTABLE WATER** - All non-potable irrigation/industrial water lines (pressure/non-pressure) shall be identified by continuous lettering on three inch (3") minimum width tape with one inch contrasting lettering bearing the continuous wording "**Non-Potable Water**" permanently affixed at ten foot intervals atop all horizontal piping, laterals

and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers. Non-potable water is water supplied from the potable water system through an appropriate backflow preventer.

- Exposed piping, valve boxes, vaults, control valves, quick coupling valves, outlets and related appurtenances shall be color coded and labeled or tagged to differentiate between recycled water, potable water and non-potable water systems, i.e.,
 - i. **"Caution Recycled Water Do Not Drink"** in black or white contrasting lettering on a purple background.
 - ii. **"Potable Water"** in white lettering on a blue background.
 - iii. **"Non-Potable Water - Do Not Drink"** in contrasting lettering from the background.

Tags shall be identified with the appropriate wording on both sides. Tags identifying recycled water shall have the appropriate wording on one side and symbol on the opposite side.



8. Aquifers shall be protected against contamination from recycled water infiltration via deteriorated or inadequately protected water well casings by correcting these physical deficiencies. Recycled water shall not be sprayed on well pump installations and appurtenances. A fifty foot buffer is required around each water well.
9. An on-site water supervisor having the responsibility for the protection of the potable water system from cross-connections, shall be appointed as provided for under Title 17, Section 7586, California Code of Regulations. The water supervisor shall be responsible for installation, operation, and maintenance of the recycled water and potable water systems, prevention of potential hazards, implementing these guidelines and coordination with the cross-connection control program of the water purveyor and this Department. Authorizations for piping changes or additions to either the potable or recycled water systems shall be subject to review and approval by the water supervisor. The name and position of this individual shall be reported to the water purveyor and the County of Los Angeles Department of Health Services.
10. As-built plans shall be prepared and updated as necessary by the user showing the location of recycled water and potable water system piping.
11. In areas of public access to recycled water systems, hose bibbs shall not be permitted in order to prevent the unauthorized use of recycled water. Quick-couplers are permissible in lieu of hose bibb outlets and shall only be connected to recycled water lines. All QC shall be of differing size from qc used on potable water fed systems. In areas not accessible to the public, hose bibbs may be permitted provided they are properly identified with permanently affixed tags, labels, or plates with the wording **"Recycled Water - Do Not Drink"** in English and symbol.
12. Exposure of drinking fountains and picnic tables to direct recycled water spray shall be minimized by a combination of selective location of such equipment and by appropriate irrigation system design.
 - Recycled water spraying shall be done in hours of least public exposure.
 - Areas where recycled water is released, used or impounded shall be posted (e.g., RECYCLED WATER - DO NOT DRINK), to inform the public that recycled water is being used.
 - Irrigation practice shall be controlled to prevent surface runoff of recycled water from lands owned or controlled by the user.
13. Dual plumbed facilities:
 - An engineering report shall be submitted to both Los Angeles County and State of California Public Health Departments for review in addition to the project plan submittal.
 - All recycled water supply lines shall be barbershop wrapped with labeling clearly marked.
 - Backup supply from a domestic source shall consist of a tank which is properly air gapped.
 - All control valves on recycled system shall be tamper proof by the use of seals.
 - Separate recycled water meters may be required; one dedicated for irrigation and the other for internal use.
14. **BACKFLOW PROTECTION**
 - There shall be no interconnection between the Potable Water System and the Recycled Water System within the user's premises. An approved backflow device is required on all domestic water and fire water systems.
 - A pressure test must be utilized to confirm the physical separation of the recycled and potable water systems. Said testing shall be performed in conjunction with the Water Purveyor and this Department and conducted before the introduction of recycled water.
 - Contact the local water purveyor regarding required backflow protection at the potable water service connection(s) to recycled water use sites.
 - In order to maintain the water quality in a recycled water distribution system a backflow prevention device(s) may be required at the recycled water meter or at specific on-site locations where said use could degrade the quality of the recycled water supply.
15. **Water Supervisor**
 - All designated recycled water supervisors shall provide proof of training in the use of recycled water, the maintenance of the site under their care and code compliance as outlined by County and State regulations for the proper use of recycled water systems.

