Los Angeles County Department of Public Health Forms and Guidelines

COUNTY OF LOS ANGELES - DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ENVIRONMENTAL PROTECTION
CROSS-CONNECTION AND WATER POLLUTION CONTROL PROGRAM
5050 Commerce Drive, Rm 116, Baldwin Park, CA. 91706-1423
(626) 430-5290 Fax # (626) 813-3025

CROSS-CONNECTION PLAN APPROVAL APPLICATION

| Plan Approvals invalid after one year from the date of application | |
|--|----|
| Fill in all appropriate blanks (incomplete applications will delay the application | n) |

| Date | Amount paid | | (Rev. 07/2007) |
|---|--|---|-----------------------------|
| | FOR OF | FICE USE ONLY | |
| PLANS ARE APPROVED IN THE ORDER 1 PROCESS. | | FORMATION OR IMPROPERLY PREPARED PLA | INS WILL DELAY THE APPROVAL |
| Checks and money orders must Personal checks must bear a na This fee is not refundable nor is t Your plans will not be reviewed c You will be contacted when your | sh not accepted) payable to: be made out for the exact am me, address, and telephone r the application transferable. or approved until a fee is paid plans are ready. | LOS ANGELES COUNTY TREASURI nount of the fee. number. | |
| INSTRUCTIONS FOR SUBMISSI | | | |
| Recycled Water Plan Checkii All other project proposal pla | | | |
| A letter of approval/denial is iss | sued to the persons submi | tting the plans, owner, water purve | yor and State DPH. |
| Number of copies being submit | tted (minimum 2 copies re | quired) | |
| , , , , , | , , , | | , |
| Project Description/Type: (Recyc | cled , Gray and/or Cistern Wa | iter System, Industrial, Dental, Dialysis | , Manufacturing, etc.) |
| Email: | | | |
| Address & Phone #: | | | |
| Company Name: | | | |
| Plans submitted by (Name) | | | |
| | | | |
| Recycled Water Purveyor: | | | |
| Domestic Water Purveyor: | | | |
| | | | |
| Email: | | | |
| Address: | | City: | Zip: |
| Owner: | | Phone: | |
| Address: | | City: | Zip: |
| Contractor: | | Phone: | |
| Job Address: | | City: | Zip: |
| Date | Project Name: | | |
| Fili ili ali appropriate biariks (ili | complete applications will | ueiay irie application). | |

July 1, 2008 1 DOC# 1015159

Your Plans need to include the following Information

(The following information, if applicable, may be shown on Civil, Plumbing and/or Landscape Development Plans)

- All water meters
- All irrigation connections, i.e. quick couplers, valve boxes, controllers, sprinklers, backflow devices, etc.
- Connection of the potable water in the street to the meter (up to the curb)
- Connection from the potable water meter to the building and the RPPD with make, model and serial number (if applicable).
- Fire service connection(s), location, and backflow device information.
- Internal backflow devices, i.e. feeding industrial or other non-potable uses
- All water lines must be identified (UPC, 601.2, Appendix G & J)

Potable (blue or green background):

"Caution - Potable Water Line"

Recycled (CCR Title 22 water, purple background)

"Caution - Recycled/Reclaimed Water Line"

Non-potable (Irrigation, from a potable source, yellow background)

"Caution - Non-potable Water Line"

Industrial/Non-potable (Industrial application, yellow with direction of flow)

"Caution - Industrial Water Line"

Cistern Water:

"Caution - Cistern Water Irrigation System Sub-surface only, Danger - Unsafe Water"

Gray Water:

"Gray Water Irrigation System Sub-surface only, Danger - Unsafe Water"

- Recycled, Gray and Cistern projects require an approved backflow prevention device on the potable service(s), installed as close to the meter(s) as possible.
- Signs Install signs at all entrances stating the use of either recycled, cistern or gray water for landscape irrigation.
- On recycled water projects, the Los Angeles County DPH "Guidelines for Proposed Recycled Water Systems" shall be included in the contractors working plans as an addendum to the General Notes. State DPH has authorized this department to conduct recycled water project reviews within Los Angeles County.
- On cistern water projects, the Los Angeles County DPH "Guidelines to safe storm water/Cistern water reuse, pipline construction and installation" shall be included in the plan proposal.
- Gray water and cistern water projects shall obtain approvals from the administrative authority as per UPC, i.e. Building & Safety Department. Include approval documentation with application. Joint approval is required due to cross-connection requirements regulated by this department.



COUNTY OF LOS ANGELES-DEPARTMENT OF HEALTH SERVICES PUBLIC HEALTH PROGRAMS AND SERVICES - ENVIRONMENTAL HEALTH CROSS-CONNECTION & WATER POLLUTION CONTROL PROGRAM 5050 Commerce Drive, Baldwin Park, CA 91706 (626) 430-5290



Recycled Water System Inspection Report

| | | | | , | | |
|--|-------------|---------|------------------------|-----------------|-------------|-----|
| SITE NAME | | | PC# | DATE | | |
| SITE ADDRESS | | | | | | |
| | | | | | | |
| OWNER'S NAME | | | | TELEPHONE # | | |
| ' | | | * | | | |
| OWNER'S ADDRESS | | | | <u> </u> | | |
| OWNER'S ADDRESS | | | | | | |
| | | | | | | |
| WATER PURVEYOR | | | | | | |
| HALLAFURE | | | | | | |
| WATER PURVEYOR'S REPRESENTATIVE | | | | TELEPHONE # | | |
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| WATER SUPERVISOR | | | , | TELEPHONE # | | |
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| | | | | | | |
| TYPE OF INSPECTION | | | BACKFLO | OW PROTECTION | VES | |
| | _ | | | S PROTECTION | YES | NO |
| CONVERSION | | | APPROVED METER SERVICE | | | α. |
| NEW CONSTRUCTION | • . | | APPROVED INTERNAL PRO | DTECTION | | |
| ANNUAL REINSPECTION | | | BACKFLOW PREVENTION | DEVICES ON TEST | | |
| 4 YEAR REINSPECTION | | | CURRENT TEST RESULTS | ON FILE | σ. | |
| T PEAR REING ESTION | | | OUNKERT TEST KESSETS | 0 | _ | _ |
| IDENTIFICATION - MODIFICATION | ١ | | RECYCLED WA | TER WARNING SIG | NS . | |
| RECYCLED AND POTABLE WATER SYS | | | | , | | |
| MEDIOLED AND I DIABLE WATER OF | YES | NO. | | | VEC | NO |
| | 163 | NO. | | | YES | NO |
| PIPING, VALVES, TANKS, PUMPS, | | | | | | |
| HYDRANTS, AND OTHER APPURTENANCES | | | SIGNS IN PLACE | | | |
| PROPERLY MARKED | | • | SIGNS LEGIBLE | | | |
| VALVE TAGS VISIBLE & LEGIBLE | | | | | | |
| PIPING MODIFIED | | • | | | | |
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| PIPING MODIFICATIONS APPROVED | | 0 | | | | - 1 |
| IS RECYCLED WATER BEING UTILIZED FOR ITS | APPRO | OVED US | E(S): | | | |
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| | | | YES NO | | | 1 |
| COMMEDICIAL | | | | | | |
| COMMERCIAL | | | | | | } |
| INDUSTRIAL | | | | | | - 1 |
| IRRIGATION | | | | | | |
| OTHER | | | EXPLAIN: | | | 1 |
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| PRESSURE TESTS PERFORMED: | • | YES | <u>NO</u> | |
|---------------------------------------|----------------------------------|---------------|---------------------------------------|----|
| RESULTS OF PRESSURE TESTS: _ | | | | |
| 1. Recycled water system off, potable | le water system on. No flow to r | cycled water | r irrigation system. | |
| Potable water system off, recycled | d water system on. No flow to po | table water (| usaqe. | |
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| | | YES | NO | |
| RECYCLED WATER SYSTEM APPRO | VED. | | <u>NO</u> | |
| | VED. | <u> </u> | | |
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| NED | TITLE Program Dire | tor | DATE | |
| WATER SUPERVISOR | | | | |
| WATER SUPERVISOR WATER PURVEYOR | | | | |
| COUNTY HEALTH DEPARTMENT | | | | |

July 1, 2008 4 DOC# 1015159

COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES PUBLIC HEALTH PROGRAMS AND SERVICES - ENVIRONMENTAL HEALTH

CROSS-CONNECTION & WATER POLLUTION CONTROL PROGRAM 5050 Commerce Drive, Baldwin Park, CA 91706 (626) 430-5290

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

INTRODUCTION: As a result of increasing availability of recycled wastewater 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 wastewater pipeline construction, installation and safe recycled wastewater use for the protection of domestic water supplies and public health.

- Recycled wastewater shall meet requirements specified in "Wastewater 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.
- Recycled wastewater use shall be compatible with State Department of Health Services and Regional Water Quality Control Board requirements.
- Plans and specifications for recycled wastewater 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.
- SEPARATION In order to minimize construction accidents resulting in pipeline breaks, infiltration of
 wastewater from leaking wastewater lines into domestic water lines, or accidental cross-connections between
 recycled wastewater and potable water systems, maximum attainable separation of recycled wastewater lines
 and potable water lines shall be practiced.
 - a. <u>Parallel construction:</u> there shall be at least a ten foot (10') separation, all distances measured from pipeline outside diameter.
 - b. <u>Cross-Over construction:</u> As perpendicular as possible; one foot (1') separation, with potable above recycled; full pipe length centered over crossing.
 - c. <u>Alternate Cross-Over construction</u> (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.
 - d. The recycled wastewater 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 wastewater and potable water lines shall be practiced upon system addition or modification.

- IDENTIFICATION: All recycled wastewater lines (pressure/non-pressure), valve boxes, hydrants and appurtenances shall be identified to clearly distinguish between recycled wastewater, non-potable and potable water systems.
 - a. RECYCLED WASTEWATER All buried recycled wastewater lines (pressure/non-pressure) shall be purple colored pipe with continuous wording "Caution Recycled Water" printed on opposite sides of the pipe.
 - For <u>limited</u> 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 permitted. Identification tape shall extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers. Recycled water piping, purple in color with respective markings, shall be used for any future recycled water use projects.
 - b. POTABLE WATER All potable water lines shall be installed in accordance with the Uniform 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 tape with one inch white lettering bearing the continuous wording "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 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.

RECLAIMED WATER GUIDELINES - Page 2

- c. 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.
- d. 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 wastewater, potable water and non-potable water systems, i.e.,
 - "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.



- Aquifers shall be protected against contamination by recycled wastewater via deteriorated or inadequately protected waterwell casings by correcting these physical deficiencies. Recycled wastewater shall not be sprayed on well pump installations and appurtenances.
- 8. An <u>on-site water supervisor</u> 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 wastewater 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 wastewater 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.
- As-built plans shall be prepared and updated as necessary by the user showing the location of recycled wastewater and potable water system piping.
- 10. In areas of public access to recycled wastewater systems, <u>hose bibbs</u> shall not be permitted in order to prevent the unauthorized use of recycled wastewater. <u>Quick-couplers</u> are permissible in lieu of hose bibb outlets and shall only be connected to recycled wastewater lines.

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.



- Exposure of drinking fountains and picnic tables to direct recycled wastewater spray shall be minimized by a combination of selective location of such equipment and by appropriate irrigation system design.
 - a. Recycled wastewater spraying shall be done in hours of least public exposure.
 - Areas where recycled wastewater 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 wastewater from lands owned or controlled by the user.

12. BACKFLOW PROTECTION

- There shall be no interconnection between the Potable Water System and the Recycled Water System within the user's premises.
- b. A dye or 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 wastewater.
- Contact the local water purveyor regarding required backflow protection at the potable water service connection(s) to recycled water use sites.
- d. In order to maintain the water quality in a recycled wastewater distribution system a backflow prevention device(s) may be required at the recycled wastewater meter or at specific on-site locations where said use could degrade the quality of the recycled wastewater supply.
 RecycledWaterGuidelines Rev. (3/7/06)

COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES

PUBLIC HEALTH PROGRAMS AND SERVICES - ENVIRONMENTAL HEALTH CROSS-CONNECTION & WATER POLLUTION CONTROL PROGRAM 5050 Commerce Drive, Baldwin Park, CA 91706 (626) 430-5290

3030 Commerce Drive, Baldwill Faik, OA 91700 (020) 430-3290

Guidelines for Proposed Recycled Water Systems Supplied with Domestic Water

Any irrigation system that will be converted to recycled water should be installed in accordance with appropriate regulations and guidance related to recycled water including requirements for color coding and labeling, separation from domestic water lines and sewers, and installation of appropriate backflow protection. A connection between a domestic water supply and a future recycled water main should be designed in accordance with the following:

- Prior to being supplied with recycled water, all proposed recycled water irrigation systems shall be temporarily supplied from a domestic water system through an approved reduced pressure principle backflow preventer until the system has been checked for crossconnections.
- Detailed plans and specifications for the distribution system and connections shall be submitted to this Department prior to construction.
- A reduced pressure principle backflow prevention device must be installed between the connection
 of the recycled water main and the domestic water supply main and the tie between the two mains
 must be above ground.
- This Department must be notified prior to the conversion from domestic water use in the recycled irrigation system to recycled water.

Pressure Test on New R W Systems and/or at Conversion of Potable to R W Systems

On sites where proposed recycled water and potable water systems are present, before connecting the user's recycled water system to the supplier's recycled water system, a separation test shall be performed. This test is to ensure the absolute separation of the proposed recycled and potable water systems. The separation test shall be done under the supervision of this Department using the following procedure:

- Potable water shall be used during the initial testing of the proposed on-site recycled water system, with the potable water system separated from the proposed recycled water system by an approved reduced pressure principle backflow preventer in the manner as described above. The proposed recycled water system shall be completely drained and remain deactivated for an adequate period of time to be specified by this Department.
- At the end of the shutdown period, all of the proposed recycled water uses (eg, devices or stations) shall be tested, throughout the entire site, for cross-connections by checking for flow.
- The proposed recycled water inlet shall then be checked to determine if there is any back pressure or significant backflow of water. If there is no flow detected at the inlet or in any of the uses that would suggest a cross-connection, the proposed recycled water connection shall be reactivated.
- 4. The potable water to the use site will be shut off at the potable water meter. The potable system shall be completely drained and the system will remain deactivated for an adequate period of time to be specified by this Department.
- At the end of the shutdown period, all of the potable water fixtures shall be tested, throughout the use site, for cross-connections by operating each fixture and checking for flow.
- 6. The potable water inlet shall then be checked to detect if there is back pressure or significant backflow of water. If no flow is detected at the inlet or in any of the fixtures that would suggest a cross-connection, the potable water connection shall be reactivated.

Upon successful completion of the pressure test, ensuring no cross-connections between the potable and recycled water systems, the potable water supply to the proposed recycled irrigation system shall then be

severed, the reduced pressure principle backflow preventer removed and the user's recycled water system connected to the water utility's recycled water system.

Four Year Pressure Test of System

On sites where both recycled water and potable water are present, a periodic separation test shall be performed. This test is to ensure the absolute separation of the recycled and potable water systems. The separation test shall be done under the supervision of this Department using the following procedure:

- The recycled water system shall be completely drained and remain deactivated for an adequate period of time to be specified by this Department.
- 2. At the end of the shutdown period, all of the recycled water uses (e.g., devices or stations) shall be tested, throughout the entire site, for cross-connections by checking for flow.
- 3. The recycled water inlet shall then be checked to determine if there is any back pressure or significant backflow of water. If there is no flow detected at the inlet or in any of the uses that would suggest a cross-connection, the recycled water connection shall be reactivated.
- 4. The potable water to the use site will be shut off at the potable water meter. The potable system shall be completely drained and the system will remain deactivated for an adequate period of time to be specified by this Department.
- At the end of the shutdown period, all of the potable water fixtures shall be tested, throughout the use site, for cross-connections by operating each fixture and checking for flow.
- 6. The potable water inlet shall then be checked to detect if there is back pressure or significant backflow of water. If no flow is detected at the inlet or in any of the fixtures that would suggest a cross-connection, the potable water connection shall be reactivated.

Emergency Cross-Connection Response Plan

In the event a backflow incident is suspected or occurs the following procedures shall be implemented immediately.

- Keep potable water system pressurized and post "Do Not Drink" signs at all potable water fixtures and outlets.
- Immediately shut down the recycled water system to the facility at the meter.
- The water purveyor shall collect water samples and perform a 24-hour bacteriological analysis.
 Water samples should be collected from the closest acceptable point to the cross-connection.
- Identify the cause and location of backflow and eliminate the cross-connection.
- 5. Conduct a cross-connection pressure test to verify that all cross-connections were eliminated.
- 6. If the bacteriological analysis conducted in Step 3 is positive, chlorinate the potable water system maintaining a chlorine residual of at least 50 mg/l for 24 hours. Otherwise proceed to Step 9.
- Flush the potable water system after 24 hours and perform standard bacteriological analysis.
- 8. If the results from Step 7 are acceptable, proceed to Step 9. Otherwise, repeat Step 6-7.
- Remove warning signs and reactivate systems.

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