



CUSTOMER GUIDELINES FOR RECYCLED WATER USE



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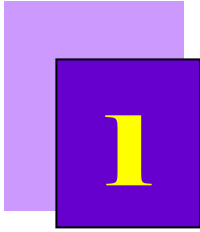
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INTRODUCTION

What is recycled water?

Recycled water is an alternative water source that can safely replace potable water in a variety of uses. Recycled water has been used globally for decades for: landscape irrigation, irrigation of food crops, and various commercial and industrial uses. Using recycled water significantly reduces demands on the potable water supply, conserving this valuable resource.

Recycled water has a number of uses that have been approved by the California State Department of Public Health (DPH), but it is not approved for drinking. As such, the City works closely with recycled water customers to ensure that a customer's recycled water system is designed, constructed, operated and maintained for safe use.

Recycled water is produced from wastewater that undergoes a high level of additional treatment, including disinfection, transforming it to a quality approved for the uses noted below. In this set of Guidelines, "Recycled Water" is wastewater that has been treated to the highest classification of recycled water as defined by the State Department of Public Health—disinfected tertiary recycled water.

Redwood City's recycled water will be of a quality approved by DPH for use in:

- Landscape irrigation
- Flushing toilets and urinals
- Water Features (fountains, running streams, etc.)
- Wash-down
- Cooling and air conditioning
- Commercial laundry
- Car washing
- Construction
- Dust control on streets, sidewalks and walkways
- Backfill consolidation
- Soil compaction
- Mixing concrete
- Fire fighting (installed fire control systems and/or fire hydrants)

Prior to signing up to receive recycled water, prospective customers should discuss their intended recycled water applications with the City and understand the physical (piping changes) and possible chemical changes (processes adjustments) to be made to a retrofit system. Additionally, for certain applications Customers may want to consider the need for on-site storage or a back-up supply if processes demand a high volume of water in a short duration of time. These cases should be thoroughly discussed with the City prior to signing up for recycled water.

How is recycled water produced?

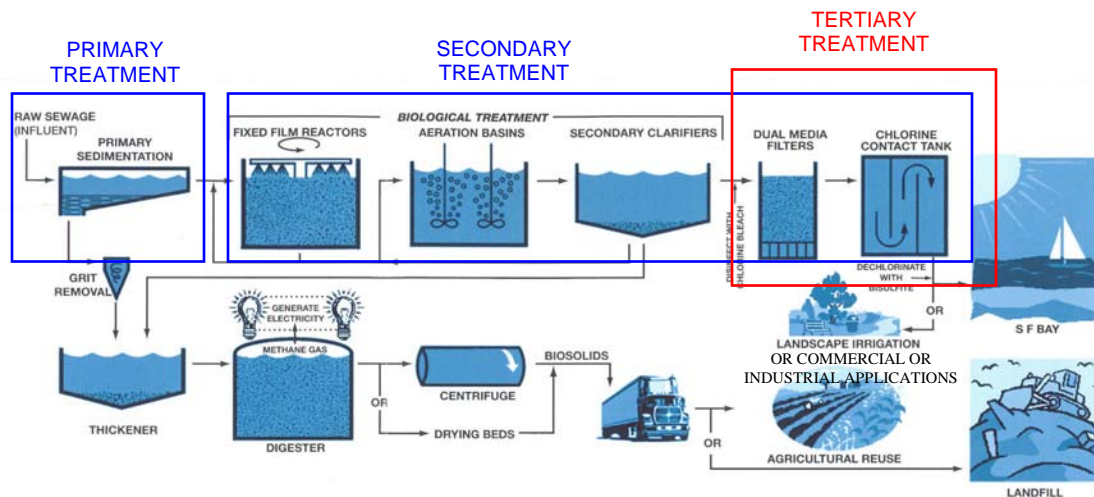
In Redwood City, recycled water originates at the South Bayside System Authority (SBSA) wastewater treatment plant in Redwood City. Treated wastewater effluent, otherwise discharged into the San Francisco Bay, undergoes additional filtration and disinfection to become disinfected tertiary recycled water.

The treatment process generally consists of:

Primary Treatment: Removal of organic and inorganic solids by settling or flotation. Primary treatment separates suspended solids and greases from the wastewater.

Secondary Treatment: Biological process utilizing bacteria to remove dissolved organic matter from wastewater. The microorganisms use organic matter from sewage as their food supply. After the biological treatment, the wastewater is clarified, filtered and disinfected before discharge to the Bay.

Tertiary Treatment: Polishing process utilizing additional filtration and more chemicals for disinfection to kill viruses, bacteria, and other organisms.



Source: "How Your Wastewater Treatment Plant Protects Our Environment, Our Health, & Our Water Quality", South Bayside System Authority

How can I get recycled water?

It's simple; the first step is to file an application for recycled water service with the City. Representatives from eligible sites will be contacted by the City. Additionally, interested parties may contact the City to receive Project information and indicate their interest in receiving recycled water. The City will set up initial meeting(s) with the interested party to familiarize the potential customer with recycled water, answer any questions, and collect site information. City representatives will leave Project information and a service application with the potential customer to begin the process.

Customers using recycled water for commercial and industrial uses will be responsible for design and construction of the retrofit. City staff will work closely with the Customer throughout design and construction periods. And as with any public utility, experienced City staff will continue to be available to assist customers after connection to the recycled water system.

What assistance can I expect from the City?

From the time that a potential recycled water customer is first contacted by the City about recycled water service, through connection, and continuing for as long as he or she is a customer, the City will provide high-quality information, training, and technical assistance. The City and its team are happy to address any questions associated with the use of recycled water. The City is fully committed to working closely with customers and supporting them in the successful and beneficial use of recycled water.

What are My Responsibilities as a Customer?

As a recycled water customer, your overall number one responsibility is to use recycled water *responsibly*! As a recycled water customer, you are responsible for the safe and proper use of recycled water on the site, and are accountable for operating and maintaining the distribution pipelines and appurtenances from the downstream end of the meter box. These Customer Guidelines provide the necessary information for the safe use and maintenance of your recycled water system.

What are the City's Responsibilities?

In addition to the City's commitment to working closely with the Customer during conversion of a site to recycled water, the City has a responsibility to enforce the safe and proper use of recycled water for protection of the public water supply and public health. If there is a violation of the Guidelines, whether accidental or intentional, the City will work with the Customer to ensure that the problem is promptly rectified.

The City maintains records of all warnings, violations, and correspondence. The City reserves the right to take all action necessary to ensure compliance with these Guidelines as noted in the Terms & Conditions of the Customer's Application for Recycled Water Service.

What's in these Guidelines?

The intent of these Guidelines is to provide the Customer and Site Supervisor with guidance for proper design, construction and operation of their on-site recycled water facilities for their intended recycled water application.

These Customer Guidelines provide Customers with information on:

- Understanding what is recycled water and how it is produced
- Customer responsibilities
- City responsibilities
- Design, installation, and operation requirements

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- Site Supervisor roles and responsibilities
 - Cross Connection Test Overview
 - Emergency Response Plan

Why is there such a complicated set of Guidelines?

When used properly and for its intended uses, recycled water is safe. These Guidelines provide the requirements for design, construction, and operation of a recycled water system for the safe use of recycled water. The Guidelines incorporate the State requirements for recycled water use (California Code of Regulations (CCR), Titles 17 and 22) intended to minimize any potential risk associated with recycled water. Regulatory guidelines are enforced by the State Department of Public Health and the Regional Water Quality Control Board (RWQCB). These Customer Guidelines provide the Customer with an overview of the regulatory requirements for proper design and operation of a safe recycled water system.



SITE RETROFIT PROCESS OVERVIEW

Site Retrofit

Landscape irrigation retrofit customers will work with the City as the City develops the site retrofit plans in accordance with these Guidelines and applicable requirements of Titles 22 and 17. Commercial and industrial customers are responsible for designing and retrofitting their site to conform to the design requirements described in these Guidelines, and with the applicable requirements of Titles 22 and 17.

These procedures provide direction for landscape irrigation, commercial and industrial retrofit sites. Newly designed or redesigned sites that require a building permit fall under separate City permitting requirements and procedures.

Off-Site Facilities

The City is responsible for all facilities associated with the delivery of recycled water to a site and to the Recycled Water Customer meter. These facilities are owned, operated and maintained by the City and include all recycled water transmission lines and related appurtenances.

On-Site Facilities

On-site facilities are owned, operated and maintained by the Recycled Water Customer. On-site facilities include all piping and related appurtenances downstream of the Recycled Water meter. These Guidelines pertain to the on-site facilities.

Dual Plumbed System

A dual plumbed system refers to a building that utilizes both potable and recycled water systems to serve interior fixtures.

Landscape Irrigation Conversion Process

Retrofit design at landscape irrigation sites will be completed by the City. The design must be in compliance with Titles 17 and 22 and with these Guidelines. All designs must be reviewed and approved by the City and DPH prior to construction. Once the City has approved the plans and specifications, the City will expedite DPH review and approval of plans.

Understanding the challenges at a site will require that the City conduct a preliminary site evaluation, review design drawings and conduct the final cross connection test by certified personnel. Before construction begins the City and DPH must approve all

plans, standard details and specifications for each site. Below are the detailed steps necessary for performing site retrofit work.

The steps required to complete the retrofit process are:

- ☑ The Customer's designate Site Supervisor must attend the Site Supervisor Training workshop before connection to the recycled water system.
- ☑ The City (with the assistance of the Customer) develops Site Retrofit Plans and submits them to DPH for review and approval. Plans shall include scope of work, points-of-connection (existing meter or new meter locations), standard details, and cost estimates.
- ☑ City and DPH review the plans for conformance with state regulations and City standards.
- ☑ City gives final approval to Retrofit Plan.
- ☑ An AWWA-certified cross-connection control specialist performs a cross connection test on the site.
- ☑ The City issues a call for bids and selects lowest responsible bidder.
- ☑ The Contractor begins constructing the piping necessary to convert the existing irrigation system to recycled water per approved plans.
- ☑ City inspectors review system during and after construction to determine compliance with the plan. Outstanding items and issues are compiled into a close-out checklist.
- ☑ The Contractor submits a completed copy of the close-out checklist to City.
- ☑ The City re-inspects as necessary and signs off satisfactorily completed work. This inspection will observe the system in operation in its final configuration looking for overspray, ponding and coverage.
- ☑ Contractor submits one set of 11" x 17" "as-built" drawings and one electronic copy in AutoCad format to City.
- ☑ City coordinates meter installation with Customer.
- ☑ The City converts the site from potable to recycled water. The City coordinates and inspects this switchover including a cross-connection test by AWWA-certified personnel.

Commercial and Industrial Systems Conversion Process

For commercial and industrial applications, the Customer is responsible for design and construction of the retrofit. The design must be in compliance with Titles 17 and 22 and with these Guidelines. All designs must be reviewed and approved by the City and DPH prior to construction. Once the City has approved the plans and specifications, the City will expedite DPH review and approval of plans.

Understanding the challenges at a site will require that the City conduct a preliminary site evaluation, review design drawings and conduct the final cross connection test by certified personnel. Below are the detailed steps necessary for performing site retrofit work in commercial and industrial areas interested in utilizing recycled water.

Before construction begins the City and DPH must approve all plans, standard details and specifications for each site. To receive approval, designs must meet all applicable requirements for recycled water systems and be capable of operating in accordance with these Customer Guidelines. Customers are responsible for meeting all operating requirements including those not shown on approved plans.

The steps required to complete the retrofit process are:

- Submit to the City a proposed written description of the intended recycled water use.
- Hire appropriate professionals to prepare retrofit plans.
- Obtain a plumbing permit from the City.
- Submit retrofit plans to City for review and approval.
- The Site Supervisor must attend workshop before connection to the recycled water system.
- Revise plans as noted by City and re-submit plans to the City for final review and approval.
- Coordinate for either qualified in-house staff or an outside contractor to retrofit site per the approved plans.
- Notify City of planned construction schedule at least two (2) weeks prior to the start of construction. The City will arrange to have an inspector periodically inspect the construction. City inspectors review system during and after construction to confirm compliance with the plans. Outstanding items and issues are compiled into a close-out checklist.
- Coordinate meter installation with the City.
- Submit completed close-out checklist to the City.
- City conducts final inspection and test. The City re-inspects as necessary and signs off satisfactorily completed work. This inspection will observe the system in operation in its final configuration looking for overspray, ponding and coverage and the location of signage and tags.
- City coordinates test of any new backflow prevention device that is installed.
- City coordinates final cross connection shut-down test. The test must be performed by a certified Cross-Connection Control Specialist. The City will work

closely with the Customer to schedule a time for the shut-down test so as to minimize disruption to the occupants of the facility.

- Submit one set of 11" x 17" "As-Built" drawings and one electronic copy in AutoCad format to City.



DESIGN, CONSTRUCTION & SYSTEM IDENTIFICATION

Purpose

For protection of public health, recycled water systems must be completely separated from the potable water system. A cross connection is an illegal connection between a potable water system with a recycled water system. Cross connections are never allowed. The following design, construction and system identification requirements are intended to minimize the potential for cross connections.

Design Requirements

Off-Site Facilities

All recycled water facilities upstream of the recycled water meter are the property and responsibility of the City. These facilities include all recycled water transmission line and appurtenances required to deliver recycled water up to the location of the meter (normally at the edge of public rights-of-way).

On-Site Facilities

On-Site Facilities are all piping and appurtenances located downstream of the recycled water meter. All on-site facilities are owned, operated, and maintained by the Customer. The following design and identification requirements are for on-site facilities.

Existing Pipe Systems

Existing buried pipe in irrigation systems converted from potable to recycled water is exempt from meeting the pipe identification and separation requirements specified below. However, any new pipe added to the existing buried pipe must meet the identification and separation requirements. Any existing buried pipe that is uncovered during the retrofit process must be marked in accordance with these guidelines to the extent feasible.

Pipe Depth and Separation Requirements for New Buried Pipe

Pipe Depth

The minimum depth of cover from finished grade to top of pipe for on-site recycled water pipeline shall be 24 inches.

Horizontal Pipe Separation

For new construction, a horizontal separation maintained at 10 feet between buried recycled and potable water lines is preferred. Where this separation is not feasible, either the potable pipe or the recycled water pipe must be sleeved. A horizontal separation of less than four feet is not permitted.

Vertical Pipe Separation for Retrofit Sites

Recycled water pipes must be at least one foot below potable water pipelines. Recycled water pipe less than one foot below or less than one foot above a potable water pipeline is not permitted. Recycled water lines installed above a potable water line must be at least one foot above the potable water line, and the recycled water line must be sleeved a minimum of 10 feet on either side of the potable water pipe.

Pressure

Pressure requirements vary from site to site. The Customer should consult with the City to determine the recycled water pressure that will be delivered to the specific site. The Customer should be familiar with the site's pressure requirements when designing the on-site facilities. The design should include the appropriate appurtenances to provide adequate pressure to the site. For instance, if a site requires less pressure than that being delivered, the Customer should include a pressure reducing valve downstream of the recycled water meter. If a higher pressure than that being delivered is required, the Customer should provide booster pumping downstream of the recycled water meter. Booster pressure applied on-site must first be approved by the City.

Hose Bibs

Hose bibs are not permitted on recycled water systems. Instead of hose bibs, quick couplers approved for recycled water should be used. Quick couplers must be tagged with the appropriate recycled water signage.

Appurtenances

The recycled water system and the potable water system within the building must be provided with the required appurtenances (valves, air vacuum relief valves etc.) to allow for deactivation or drainage as required for cross connection testing.

Valves

Quick Coupling Valves

New quick coupling valves, made specifically for recycled water use, shall be 3/4-inch or 1-inch nominal size and of brass construction with a normal working pressure of 150 PSI. The covers on all new quick coupling valves must be permanently attached and made of purple rubber or vinyl with the words "RECYCLED WATER" imprinted on the cover, and must be provided with a lock. To prevent unauthorized use, the valve must be operated only with a special coupler key for opening and closing the valve. New quick coupling valves must be installed approximately 12 inches from walks, curbs, headboards or paved areas. All new and existing quick coupling valves must be identified with an identification tag and installed in a marked valve box.

Gate Valves

New gate valves must be installed in a marked valve box with crushed rock in the base and a notification tag on the valve operator.

Backflow Prevention

Recycled water shall not enter into the potable water system under any circumstances. The purpose of a backflow prevention device is to prevent water from flowing back into

the distribution system. To protect the quality of the recycled water in the distribution system, the City may require a backflow prevention device be installed downstream of the recycled water meter, or at a specific location on the site where a specific activity occurs that could impact the quality of the recycled water in the distribution system. For example, a backflow prevention device is required where chemical use or pipe configurations may affect recycled water quality.

The Customer should consult with the City during the design phase to identify the necessity of a backflow prevention device. The location of backflow prevention devices should be indicated on the plans, along with the size, make and model. All backflow prevention devices must be of a make and model approved by DPH. Backflow prevention devices must be checked annually by a certified backflow prevention assembly tester. Refer to Chapter 4 of these Guidelines for additional information on backflow device testing.

On-Site Back-up Potable Water Source

Some recycled water applications may require an on-site back-up water source. Consult with the City if a back-up water source is required. All potable water back-up sources must be approved by the City and must be equipped with an air gap.

Requirements for Use in Cooling Systems

Where recycled water is used for industrial or commercial cooling and a cooling tower or other facility that creates a mist that could come into contact with employees or members of the public, a drift eliminator must be used whenever the cooling system is in operation. Additionally, a chlorine or biocide must be used.

Runoff, Ponding and Overspray

Design and operate systems to minimize runoff outside of the approved use area, ponding outside of or within the approved use area, and overspray outside of the use area.

Protection of Drinking Water Fountains and Designated

Outdoor Eating Areas

Drinking water fountains and designated outdoor eating areas should be protected from recycled water overspray and runoff. These facilities should be shown on the retrofit plans.

System Identification

It is important that all recycled water equipment and appurtenances be identified as conveying recycled water and that the water is not for drinking. Clearly identifying recycled water pipes and appurtenances, as well as other pipelines located near recycled water lines, will reduce the risk of mistakenly connecting a recycled water pipe to a non-recycled water pipe.

Potable Water Piping Identification

Potable Water Piping Identification

Above Grade Potable Water Piping

Above-grade potable water pipelines must be labeled and color-coded blue to differentiate potable water pipelines from recycled and non-potable water pipelines. Potable water pipelines may be wrapped with blue identification tape having the words "POTABLE WATER" visible in contrasting white letters. Above-grade non-potable water pipelines must be appropriately labeled and color coded yellow to differentiate non-potable water lines from recycled water and potable water lines. Non-potable water lines may be wrapped with yellow identification tape having the words "NON-POTABLE WATER -- DO NOT DRINK" visible in contrasting letters.

Exposed valve boxes, vaults, quick coupling valves, outlets and related appurtenance must be color-coded, labeled or tagged, to differentiate recycled water from potable water (that is, "CAUTION – RECYCLED WATER -- DO NOT DRINK" in black or white contrasting lettering on a purple background, or "POTABLE WATER" in white lettering on a blue background or "NON-POTABLE WATER -- DO NOT DRINK" in contrasting lettering on a yellow background). Tags must be identified with the appropriate wording on both sides. Tags identifying recycled water must have both the appropriate wording and the "Do Not Drink" symbol.

Buried Potable Water Piping

New Pipes: All new buried potable lines must be identified by continuous lettering on 3-inch minimum width blue tape with 1-inch white lettering bearing the wording "POTABLE WATER" permanently affixed at 10 foot intervals atop all horizontal piping, laterals and mains. Identification tape must extend to all valve boxes, vaults and exposed piping.

Identification tape is not necessary for extruded blue-colored PVC with continuous wording "POTABLE WATER" printed in contrasting lettering on opposite sides of the pipe.

Existing Pipes: Existing piping need not be marked unless exposed during construction or maintenance. The exposed section of pipe should be appropriately marked as "POTABLE WATER" to the extent feasible.

Recycled Water Piping Identification

Above-Grade Recycled Water Piping

All above-grade recycled water pipelines must be appropriately labeled and color coded purple to differentiate recycled water pipelines from potable and non-potable water pipelines. If purple pipe is not used, recycled water pipelines may be wrapped with purple warning tape having the words "CAUTION -- RECYCLED WATER" visible in contrasting black letters.

Flexible conduits or hoses must be clearly labeled “CAUTION -- RECYCLED WATER” with each adapter or fitting painted purple.

Recycled water piping and fittings, newly installed or existing, must be identified by the application of Mylar tape with wording identifying the pipe as recycled-water piping.

Buried Recycled Water Piping

New Pipes: All new recycled water piping must be purple colored and continuously marked with the wording “RECYCLED WATER – DO NOT DRINK” on opposite sides of the pipe. Tape that is at least 3-inches in width and runs continuously along the length of the pipe containing the words “RECYCLED WATER – DO NOT DRINK” is an acceptable alternative to printed pipe. The letters must be at least 1-inch in height and either black or white contrasting lettering. The tape must be permanently secured to the top of all pipes, mains and laterals.

Existing Pipes: Existing piping need not be marked unless exposed during construction or maintenance. The exposed section of pipe should be marked as “RECYCLED WATER – DO NOT DRINK” to the extent feasible.

Purple Wrapping Tape Specifications

Where it is not feasible to use purple pipe, exposed recycled water pipes should be wrapped with purple tape. Wrapping should be as follows:

- Tape shall be fabricated of polyvinyl chloride with a synthetic rubber adhesive and a clear polypropylene protective coating or approved equal.
- Wrapping tape shall have a minimum nominal thickness of five ten-thousandths (0.0005) inch and a minimum width of two 2 inches.
- Tape must be purple in color and shall be imprinted in nominal 1/2 inch high black, uppercase letters, with the words “CAUTION: RECYCLED WATER, DO NOT DRINK”.
- The lettering shall be imprinted in two 2 parallel lines, such that after wrapping the pipe with 1/2 width overlap, 1 full line of text shall be visible.
- Wrapping tape is not required for buried PVC pipe manufactured with purple color integral to the plastic and marked on opposite sides to read “CAUTION: RECYCLED WATER, DO NOT DRINK” in intervals not to exceed three 3 feet.

Appurtenances Identification

All recycled water appurtenances must be identified with tags or labels as belonging to the recycled water system. Recycled water tags or labels must have a purple background with black lettering stating “RECYCLED WATER -- DO NOT DRINK,” and a “Do Not Drink” symbol.

Where a potable water appurtenance is located near a recycled water appurtenance, the potable water appurtenance should be tagged or labeled as part of the potable water

system. Labels must have a blue background with “POTABLE WATER” in white lettering.

Examples of appurtenances that must be identified are:

- Valves (including air/vacuum relief valves, pressure reducing valves, pump control valves, etc.) See below for specific valve identification requirements
- Pumps
- Pressure regulators
- Flow meters
- Quick couplers
- Strainers
- Other related components (i.e. trap primers, shock arresters)

Valves

All valves must have an identification tag on the valve operator. Additionally quick coupling valves must also be installed in a valve box with the valve box cover imprinted with the words “RECYCLED WATER”.

Valves and Mechanical Equipment

- All valves, except fixture supply control valves, shall be equipped with a locking feature.
- All mechanical equipment, which is appurtenant to the recycled water system, shall be painted purple to match the wrapping tape.

Valve Seals

Seal each valve or appurtenance after the reclaimed system has been approved, and placed into operation. These seals shall either be a crimped lead wire seal, or a plastic break-away seal which, if broken after system approval, shall be deemed conclusive evidence that the reclaimed water system has been accessed. The seals should be purple with the words “RECYCLED WATER”.

Storage Tanks and Impoundments

All storage tanks, either stationary or portable, must be structurally sound and free from leaks. Each tank must be conspicuously marked with signs with the words “RECYCLED WATER -- DO NOT DRINK” in black letters 2-inches high on a purple background. The “Do Not Drink” symbol should be present on all recycled water storage tanks.

Impoundments (lakes) that receive recycled water are classified as “unrestricted” (swimming and body contact allowed), “restricted” (no swimming or body contact, but non-contact activities such as fishing and boating allowed) or “ornamental” (no recreational activities allowed). All of these impoundments must have the recycled water valves and outlets marked or tagged with the words “RECYCLED WATER -- DO NOT DRINK.” At restricted and ornamental impoundments, adequate measures must be

taken to prevent body contact. All recycled water impoundments must be kept separate from potable water wells and reservoirs.

If any storage tank or impoundment receives both recycled and potable water, the potable water supply must be properly equipped with an air-gap.

Use Area Signage

It is important that individuals in recycled water use areas are aware that the recycled water is not for drinking, therefore signage at locations where recycled water is being used is imperative. Place recycled water signs at obvious locations in areas where recycled water is used. Where recycled water is used on landscape, place signs at obvious locations such as entrance points, specific work areas, and areas where recycled water equipment is housed or stored. When used in decorative fountains, signage should be included at or near the fountain. Where recycled water is used indoors, such as in industrial processes and for toilet flushing, the room or area must contain a clearly visible sign indicating that recycled water is being used and identify what the water is being used for. Design plans should indicate the location of signs planned for the site.

Signs to be used at a site must be approved by the City.

Decorative Fountains

Signs to be placed at decorative fountains will be provided by the City and will contain the wording:

THIS WATER FEATURES USES RECYCLED WATER

Signage around the fountain must be located on or near the fountain and clearly visible to passer-bys.

Room Entrance Signs

Signs in water closets and/or urinals using recycled water shall contain 1/2-inch letters of a highly visible color on a contrasting background. Room entrance signs should contain text similar to the following:

TO CONSERVE WATER, THIS BUILDING USES RECYCLED WATER TO FLUSH
TOILETS AND URINALS.

Equipment Room Signs

Signs in equipment rooms containing recycled water equipment shall contain 1-inch letters on a purple background with text similar to the following:

CAUTION
RECYCLED WATER, DO NOT DRINK.
DO NOT CONNECT TO DRINKING WATER SYSTEM.

NOTICE
CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS
WATER SYSTEM.

Additionally, the signs shall contain an international symbol that conveys that the water is not intended for drinking. The symbol shall be similar to Figure 60310-A, Section 60310, Title 22, California Code of Regulations or similar to the symbol found on the Project recycled water sign.

Tank-type Water Closet Signs

Tank-type water closets that are flushed with recycled water should be labeled:

RECYCLED WATER – DO NOT DRINK

Additionally, the signs shall contain an international symbol that conveys that the water is not intended for drinking. The symbol shall be similar to Figure 60310-A, Section 60310, Title 22, California Code of Regulations or similar to the symbol found on the Project recycled water sign.

Valve Access Door Signs

Each recycled water valve within a wall should have its access door into the wall equipped with a warning sign approximately 6 x 6 inches with wording in 1 and 1/2 inch letters on a purple background. Attach signs inside the access door-frame and hang in the center of the access door frame.



OPERATION & MAINTENANCE

Purpose

This section provides the guidelines for operation and maintenance of the on-site recycled water facilities.

Operation

At all times, the recycled water system must be operated in accordance with these Guidelines. A Site Supervisor must be designated to operate and maintain the recycled water system.

Training

Proper training on the use of recycled water will minimize the potential for cross connections and will educate employees on the benefits of recycled water use, as well as hygienic practices that should be observed when working with or in areas of recycled water. The Customer's designated Site Supervisor must attend the City's Site Supervisor Training workshop.

Additionally, the Customer should provide training to all employees working with or in areas of recycled water use. These employees should be familiar with these Guidelines, and have the following understanding:

- Recycled water is not intended for drinking.
- The use of recycled water is safe for its intended uses.
- Recycled water should be used only in applications approved by the State Department of Public Health and only on areas of a site that have been approved by the City.
- Good hygiene should be practiced when working in areas using recycled water. Wash hands with soap and potable water before eating, touching eyes, nose or mouth, and smoking.
- Who to contact if there is a problem with the facilities using recycled water.
- Who to call if there is a suspected cross connection.

Site Supervisor

The Site Supervisor is responsible for operation and maintenance of the recycled water system in compliance with these Guidelines and all recycled water DPH regulations and City ordinances.

It is important that the City have the name and contact information for the current Site Supervisor at all times. Promptly notify the City in writing when there is a change in Site Supervisors. The new Site Supervisor must complete the City's training program if he/she has not already done so.

Site Supervisor Responsibilities

Site Supervisor responsibilities include but are not limited to:

- ✓ Accountable for site compliance with DPH regulations, City ordinances and California Code of Regulations Title 17 and Title 22
- ✓ All site reporting to the City
- ✓ Avoidance and detection of cross connections to the potable water system
- ✓ Minimization of overspray
- ✓ Prevention of leaks
- ✓ To serve as a liaison between the City and the Customer during normal operations and specifically when the system is under cross-connection tests
- ✓ Responsible for training of site personnel in the safe use and handling of the recycle water, including any third-party contractors who may conduct work on the site and use recycled water (refer to section on "Third-Party Contractors" for additional detail)

Site Supervisor Training

The City provides a free Site Supervisor Training course that is mandatory for Site Supervisors and is recommended for other property management and personnel who will be working with recycled water. Specifically the training shall cover the following syllabus:

1. General attributes of recycled water.
2. Legal aspects of recycled water use.
3. Recycled water production and the Redwood City system.
4. Recycled water's effects on operations and maintenance of commercial and industrial systems.
5. Specific expectations for recycled water sites including maintenance.
6. Inspection documentation with specifications, schedules and reporting requirements.
7. Potential for problems with cross connection created with particular system configurations.

Third-Party Contractors

For recycled water use at a site involving third-party contractor, the following requirements apply:

- The third-party contractor must file a recycled water application with the City.
- The designated Site Supervisor for the site is responsible for training the third party contractor.
- Training of third party contractors should include, but is not limited to:
 - General attributes of recycled water
 - Proper use of the water
 - Practice of good hygiene
 - Minimizing worker exposure
 - Prevention of cross connections and cross contamination (i.e. any equipment used on the recycled water system must not be then used on the potable water system)
 - Implementation of any required Best Management Practices (BMPs)

Site Monitoring

Self Monitoring

Site Supervisors must monitor the recycled water use area at the frequency specified in the Customer's Recycled Water Permit and complete an inspection report to be submitted to the City. This report shall include the observation results and descriptions of any corrective actions taken. A Site Supervisor Monitoring Form is provided in Appendix B.

In particular, at a minimum the monitoring should consider the following:

1. If recycled water is used for irrigation on the site, are there any irrigation system defects including:
 - Runoff of recycled water from the site? If so, document the affected area on a plot plan and estimate the volume.
 - Overspray from sprinklers into non-irrigated areas or hard surfaces?
 - Evidence of leaks or breaks in the system piping, tubing, drip emitters or spray sprinklers?
 - Recycled water ponding, and/or evidence of mosquitoes breeding within the irrigation area due to ponded water?
2. Are there recycled water system defects including:
 - Evidence that all valves and appurtenances are working: Are all valves and appurtenances in the recycled water system working? Document and inspect all valves in the system and make notes on their conditions affected area on a plot plan and estimate volume?

-
- Evidence of leaks or breaks in the system piping?
3. Are all recycled water warning signs, tags, stickers, and above ground pipe markings properly located and visible?
 4. Is there an odor of wastewater origin at the site? If yes, indicate apparent source, characterization, direction of travel, and any public use areas or off-site facilities affected by the odors.
 5. Has the designated Site Supervisor changed in the past year? If so note new Site Supervisor with appropriate contact numbers.

For dual plumbed sites, see the cross connection test requirements below.

City Monitoring

In addition to the required self-inspections, City Recycled Water Specialist or designees may conduct a “snap” (unscheduled) or scheduled inspection of a recycled water use site at any time. A report will be prepared from the inspection results and a copy will be provided to the Site Supervisor (see Appendix C for a sample City inspection form). Any defects identified must be corrected within ten working days of receipt of the inspection report. Serious violations of the recycled water use permit require immediate rectification.

Significant Violation Reporting

Site Supervisors shall report any significant violations of these Guidelines to the City within 24 hours of the occurrence. Within 15 days, a written documentation of the incident, including the problem, how and when the problem was discovered, and the corrective response actions taken should be submitted to the City.

Backflow Prevention Device Testing

All backflow prevention devices, whether on the potable water or recycled water system, must be tested annually by a backflow prevention specialist approved by the Department of Public Health. Backflow devices must be tested immediately after being installed, relocated or repaired and shall not be placed into service until functioning as required.

The City will coordinate testing of all backflow prevention devices at sites where both potable and recycled water are used. The Site Supervisor and the City Recycled Water Specialist must be present during the test. A copy of the test results will be provided to the Site Supervisor. The City will maintain records of all testing. The City Recycled Water Specialist will submit a written report to DPH documenting the result of the testing within 30 days following completion of the testing.

Cross Connection Prevention

A cross connection occurs when a recycled water line is connected to a potable water line. Cross connections are not permitted. Although recycled water has been treated to meet high quality water standards and is approved for many uses, including bodily contact, it is not approved for drinking. Every effort must be made to prevent recycled water pipelines from being connected to potable water pipelines. A cross connection shut down test will be performed at all retrofit sites before recycled water is delivered. Additional inspection and testing required for dual plumbed sites are described in subsequent paragraphs.

Three indications of a possible cross connection are:

1. Change in the drinking water pressure or in the irrigation system pressure
2. Change in the appearance of drinking water
3. Change in the taste and/or smell of drinking water

At any time that a cross connection is suspected, the City must immediately be notified.

Cross Connection Inspection and Testing

Cross connection tests are required to ensure that no such connection has been made. At dual plumbed sites, a cross connection shut-down test must be completed once every four years and visual inspections performed annually. The test and the inspection must be completed by a certified Cross Connection Control Specialist¹.

The City will coordinate all cross connection tests (both visual and physical). The Site Supervisor and a City representative must be present during the inspection or test. The Cross Connection Control Specialist completes a cross connection test form as record of the test and provides a copy to the Site Supervisor and to the City. The City Recycled Water Specialist will submit a written report to DPH documenting the result of the testing within 30 days following completion of the testing.

Annual Cross Connection Visual Inspection for Dual Plumbed Sites

At dual plumbed sites, an annual cross connection visual inspection must be completed by a certified Cross Connection Control Specialist.

The annual visual inspection will include a check of the following:

- Meter locations of the recycled water and potable water lines to verify that no modifications were made
- Any signs of or visible cross connections
- Inspect valve tags, signage and equipment marking
- All pumps and equipment, equipment room signs, and exposed piping in equipment room

¹ The Cross Connection Control Specialist must be certified by either the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements.

-
- All valves to insure that valve lock seals are still in place and intact
 - All valve control door latches are in place
 - Maintenance records
 - On-site back-up water supply (if applicable)

Cross Connection Shut-Down Test

Prior to receiving recycled water, all retrofit sites must complete a cross connection shut down test. At dual plumbed sites, a cross connection shut down test must also be conducted at least once every four years. All shut down tests must be performed by a certified Cross Connection Control Specialist.

Recognizing that a cross connection test may interfere with normal operations at a Customer site, the City will provide adequate notice and coordinate with the Customer so that the test may be conducted with minimal disruption.

Cross Connection Shut-Down Test Notification Procedures

The City will mail a notice to the Site Supervisor approximately 30 days before the planned schedule test date. The notice will provide a date and time for the test and request that the Site Supervisor confirm the date and either fax or mail the completed form to the City. A sample notification form is included as Appendix D.

Cross Connection Shut-Down Test Procedure

In general, the cross connection test will involve:

1. Pressurization of the potable water system and de-pressurization of the irrigation water system.
2. Verification of flow from the potable water outlets and absence of flow from the irrigation water system outlets.
3. Pressurization of the irrigation water system and de-pressurization of the potable water system.
4. Verification of flow from the irrigation water outlets and absence of flow from the potable water system outlets.

Emergency Cross Connection Response Procedures

In the event of a confirmed or suspected cross connection, the Site Supervisor must be vigilant in exercising a quick response. The City will proactively intervene with the site's owners, supervisors and occupants to manage the response from initial notification until recycled water service is safely restored to the site.

In the event of an emergency, the necessary repairs can be made by the Customer (or Site Supervisor) without prior consent from the City if the emergency poses a public threat. The Customer (or Site Supervisor) must notify the City immediately of the emergency and the modifications made to the system by phone, and followed by a written report.

.....

The following steps outline the Site Supervisor and City responsibilities in a Cross Connection Response:

1. Site Supervisor: Shut down all recycled water piping to the building at the meter.
2. Site Supervisor: Shut down all potable water piping to the building at the meter.
3. Site Supervisor or the Building Superintendent: Place “Do Not Drink” signs at sinks and water dispensers.
4. Site Supervisor: Notify the City as soon as possible after reasonable safeguards are implemented, but in no case longer than two hours.
5. City: Provide a reasonable amount of bottled drinking water to those residents and businesses affected by the shut down.
6. City: Immediately report to the scene and investigate the situation. If a cross connection is confirmed, the City will immediately notify the following agencies by phone:
 - Department of Public Health
 - San Mateo County Health Services Agency
 - San Francisco Bay Regional Water Quality Control Board
7. City: Immediately notify local residents and business owners through multiple forms of communication. These may include e-mail broadcasts, hand distributed leaflets, postcard mailings, door to door informant, and reporting through the local media (i.e. local television, newspaper and radio) depending on the response deemed appropriate for the cross connection occurrence. The City will also continue to communicate with affected residents and businesses as to status and conclusion of a reported incident.
8. City, with the DPH and the County: Assess the situation and determine the course of action to be implemented to identify the cause and locations of the cross-connection(s) and eliminate them. This may include bacteriological testing of a water sample that may have resulted from a cross connection. The potable water piping will be disinfected in accordance with DPH recommendations.
9. Site Supervisor and City: Perform a cross connection test prior to returning the potable water system to service.
10. Site Supervisor: Obtain approval from the City and County Health before the recycled water is re-energized.
11. Site Supervisor: Obtain final approval from the City or County Health before removing the Do Not Drink signs.
12. City: Prepare and submit a written report to the Regional Board, San Mateo County Health Services, and DPH.

APPENDIX A:

DRAWING REQUIREMENTS

Drawing Requirements

The following list and table provide information that should be included on the drawings. The Customer is responsible for preparation of a set of retrofit plans. The plans must be reviewed and approved by the City prior to construction. The City will maintain comprehensive files of drawings of each customer site and the proposed recycled water connection. Drawings shall depict the layout of the proposed recycled water system and the existing potable water system, principal potable points of connection, and changes necessary to allow conversion to the recycled supply.

Site drawings shall locate and label the following features where applicable:

1. All sources of water.
2. Where recycled water will be used on the site.
3. All potable and recycled water piping within the recycled water use area. Identify any additional piping that is located near the recycled water pipes.
4. For industrial processes, clearly identify the process to which recycled water will be applied. Identify where in the process recycled water is used and if applicable, where excess recycled water flows.
5. Where used in toilet flushing, identify the location and number of the toilets.
6. Any wells, lakes, ponds, reservoirs, or other water impoundments located on the site or within 100 feet of the site indicating the type of water source and its connections to the appropriate main.
7. The existing and proposed location and size of all water meters (including any adjacent residential potable meters).
8. All backflow prevention devices for potable water systems. Indicate the disposition of backflows that are on systems being converted to the recycled water.
9. If a new backflow prevention device is to be installed on either the potable or recycled water system, indicate the location, size, and make and model. All backflow prevention devices must be of a make and model approved by the California Department of Public Health. If an air gap is used, indicate the discharge pipe diameter and the distance from the discharge end of the pipe to the flood rim of the receiving vessel.
10. If the retrofit design is for a cooling process, add a note to the plans describing the drift eliminator and the use of chlorine or other biocide.
11. All strainers, pressure regulating valves, master valves or other appurtenances.
12. The location of all water pipelines (including potable and well lines) crossing the site.
13. All adjacent streets and locations of all major improvements on the site.

14. If recycled water is being used in an outdoor fountain or impoundment, identify all drinking fountains, outdoor eating areas, and other public facilities supplied with recycled or potable water in the recycled water use area including, but are not limited to, restrooms, snack bars, swimming pools, hot tubs, wading pools, decorative fountains, showers and any other facility which uses water. Show the pipelines feeding all of these facilities.
15. Indicate that the separation between potable and recycled water lines meets minimum design requirements as noted in these Guidelines. Where recycled water pipelines cross over potable water pipelines show sleeving as required by these Guidelines.
16. If potable water piping is not present on the site, state in a note that the cross-connection test required by the City is waived for sites where potable water piping is not present.
17. Show all details necessary to properly construct the system, including the details conforming to the requirements of the City responsible for reviewing the plans. The purpose of the details is to show the materials and methods necessary to clearly identify all water systems on the site.
18. Proposed sign locations on plans. All sites using recycled water must post clearly visible signs conforming to these Guidelines or as specifically instructed by City staff.
19. Include an equipment legend specifying all materials of construction for the system, including:
 - Pipe schedules with sizes
 - Materials of construction
 - Type of water
20. A listing of valve types, including quick coupling valves.
21. Indication of purple-colored pipe with recycled water stenciling and quick coupling valves with purple covers where recycled water is used.
22. Supply the following information, as applicable, for each recycled water connection. Place this information on the same sheet as the pertinent meter/point of connection.

Legal Property Owner	Name _____
Property Manager Contact:	Name _____ Title _____ Telephone number _____
Tenant (s): <i>[name(s) & phone number(s); if not applicable, state NOT APPLICABLE].</i>	

Public Access To Site Grounds Is	<input type="checkbox"/> <i>Unrestricted</i> or <input type="checkbox"/> <i>Restricted</i> .		
Recycled Water Application:			
Total Landscaped Area:	SqFt		
Recycled Water Landscaped Area - Turf	SqFt		
Recycled Water Landscaped Area – Other including ground cover and tree areas	SqFt		
Potable Water Landscaped Area (if any)	SqFt		
For sites where recycled water is used in an outdoor application, include the following information on the plans:			
On-Site Well Locations:	_____ Wells		
Off-Site Wells (if located on adjacent sites within 50 ft. of recycled water use area <u>or</u> within 100 ft. of any recycled water impoundment).	_____ Wells		
Outdoor Drinking Fountains In/Near The Recycled Water Approved Use Area:	<input type="checkbox"/> <i>YES</i> or <input type="checkbox"/> <i>NO</i> _____ Drinking fountains		
Outdoor Eating Area:	<input type="checkbox"/> <i>YES</i> or <input type="checkbox"/> <i>NO</i> _____ Eating areas		
Water Features:			
Type		Quantity:	Water Source:
Fountain			
Pond			
Other			

23. Include two signature lines for the City of Redwood City on all plan sheets, detail sheets, and specification sheets.

APPENDIX B:

**SITE SUPERVISOR
MONITORING FORMS**



Site Number: Report for the Month/Year of:

Redwood City Recycled Water Project Self-Monitoring Monthly Inspection Report Landscape Irrigation

Site Name:	Site Number:
Site Supervisor:	
Site Address:	
Has the Site Supervisor changed since the last report? Yes <input type="checkbox"/> No <input type="checkbox"/> If so, provide name, phone number and e-mail address:	

	Observation Date:				
<i>(Some sites may be required to monitor more than once a month)</i>	<i>(Required)</i>				
Is there any evidence of recycled water escaping any irrigation site through surface runoff or airborne spray? (If yes, attach a sketch showing the affected area(s).)	Yes <input type="checkbox"/> No <input type="checkbox"/>				
Are there any odors resulting from the use of recycled water? (If yes, note source, characterization and travel distance on the second sheet of this form.)	Yes <input type="checkbox"/> No <input type="checkbox"/>				
Is there evidence of prolonged ponding of recycled water in the irrigation site as a result of excessive spray and evidence of mosquitoes breeding within the irrigation area due to ponded water?	Yes <input type="checkbox"/> No <input type="checkbox"/>				
Are any recycled water warning signs, tags, stickers, and above ground markings missing or improperly located, hidden or illegible?	Yes <input type="checkbox"/> No <input type="checkbox"/>				
Is there evidence of leaks, breaks, or plugs in the irrigation system pipelines, tubing, drip irrigation, sprinkler emitters, or other appurtenances?	Yes <input type="checkbox"/> No <input type="checkbox"/>				
Is there evidence of direct spraying of recycled water on people, streams, passing vehicles, buildings, domestic water facilities (such as drinking fountains), or food handling facilities?	Yes <input type="checkbox"/> No <input type="checkbox"/>				
If the answer is "yes" to any of the above questions, describe the situation on the second sheet of this form. Indicate the date that the problem was noticed, the specific location within the site that the problem occurred, and the corrective action taken. Attach additional sheets if necessary.					
Return this form to:	<table style="width: 100%;"> <tr> <td style="width: 50%;"> Via the internet at: rwspecialist@redwoodcity.org </td> <td style="width: 50%;"> Via mail to: Redwood City Public Works Office Attn: <u>Recycled Water Specialist</u> 303 Twin Dolphin Dr. Ste. 400 Redwood City, CA 94065 </td> </tr> <tr> <td> Via FAX at: (650) 594-2832 </td> <td></td> </tr> </table>	Via the internet at: rwspecialist@redwoodcity.org	Via mail to: Redwood City Public Works Office Attn: <u>Recycled Water Specialist</u> 303 Twin Dolphin Dr. Ste. 400 Redwood City, CA 94065	Via FAX at: (650) 594-2832	
Via the internet at: rwspecialist@redwoodcity.org	Via mail to: Redwood City Public Works Office Attn: <u>Recycled Water Specialist</u> 303 Twin Dolphin Dr. Ste. 400 Redwood City, CA 94065				
Via FAX at: (650) 594-2832					

 X
Signature of Site Supervisor

Date



Site Number: Report for the Month/Year of:

Redwood City Recycled Water Project

Self-Monitoring Monthly Inspection Report

Commercial and Industrial Uses

Site Name:	Site Number:
Site Address:	
Site Supervisor:	
Has the Site Supervisor changed since the last report? Yes <input type="checkbox"/> No <input type="checkbox"/> If so, provide name, phone number and e-mail address:	

List the commercial and industrial applications on site:				
Observation Date:				
Is there any evidence at meter locations of the recycled water and potable water lines that modifications were made?	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there evidence of any signs of or visible cross connections?	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Are all valve tags, signage and equipment marking in place, visible, and undamaged?	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there evidence of leaks, breaks, or plugs in the system pipelines or other appurtenances?	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Are all valve lock seals in place and intact?	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>

Are all recycled water signs, tags, stickers, and above ground markings properly located, visible, and legible?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Are all maintenance records up to date?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the on-site back-up water supply in operable condition?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
If there is a cooling tower on site that uses recycled water, is the drift eliminator functioning properly?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
If there is a cooling tower on site that uses recycled water, is biocide applied as required?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is there any evidence of recycled water escaping the use area through surface runoff or airborne spray? (If yes, attach a sketch showing the affected area(s).)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Are there any odors resulting from the use of recycled water? (If yes, note source, characterization and travel distance on the second sheet of this form.)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is there evidence of direct spraying of recycled water on people, streams, passing vehicles, buildings, domestic water facilities (such as drinking fountains), or food handling facilities?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

If the answer is “yes” to any of the above questions, describe the situation below. Indicate the date that the problem was noticed, the specific location within the site that the problem occurred, and the corrective action taken. Attach additional sheets if necessary.

Return this form to: Via the internet at:
rwspecialist@redwoodcity.org

Via FAX at:
(650) 594-2832

Via mail to:
Redwood City Public Works Office
Attn: Recycled Water Specialist
303 Twin Dolphin Dr. Ste. 400
Redwood City, CA 94065

X _____
Signature of Site Supervisor

Date

NOTES:

APPENDIX C:

CITY INSPECTION FORM



Redwood City Recycled Water Project Annual City Inspection

Scheduled Snap

Site Number:
 Inspection Date:
 Scheduled Snap

Site Name:	Site Number:
Site Address:	
Inspector:	Customer Representative Present:
Has the Site Supervisor changed since the last report? Yes <input type="checkbox"/> No <input type="checkbox"/>	

General Permit Compliance		
1.	Is recycled water used for any purposes not listed in this permit?	Yes <input type="checkbox"/> No <input type="checkbox"/>
2.	Are use rates consistent with those listed in the permit?	Yes <input type="checkbox"/> No <input type="checkbox"/>
3.	Is the use application limited to those specified in the original permit application?	Yes <input type="checkbox"/> No <input type="checkbox"/>
4.	Have any alterations been made to the recycled water system since the permit was issued?	Yes <input type="checkbox"/> No <input type="checkbox"/>
5.	Is the Site Supervisor the same person specified in the permit and is the Site Supervisor information in City records current?	Yes <input type="checkbox"/> No <input type="checkbox"/>
6.	Has the on-site staff been trained in the use of recycled water and measures to protect personal and public health?	Yes <input type="checkbox"/> No <input type="checkbox"/>
7.	Has Customer been conducting self-monitoring and filing report in accordance with their permit?	Yes <input type="checkbox"/> No <input type="checkbox"/>
8.	Is there evidence of any signs of or visible cross connections?	Yes <input type="checkbox"/> No <input type="checkbox"/>
9.	Is there any evidence of recycled water escaping the use area? (If yes, attach a sketch showing the affected area(s).)	Yes <input type="checkbox"/> No <input type="checkbox"/>
10.	Are there any odors resulting from the use of recycled water? (If yes, note source, characterization and travel distance on the second sheet of this form.)	Yes <input type="checkbox"/> No <input type="checkbox"/>
11.	Is there evidence of prolonged ponding of recycled water in use area? Is there evidence of mosquitoes breeding within the irrigation area due to ponded water?	Yes <input type="checkbox"/> No <input type="checkbox"/>
12.	Are all recycled water warning signs, tags, stickers, and above ground markings properly located, visible, and legible?	Yes <input type="checkbox"/> No <input type="checkbox"/>
13.	Is there evidence of leaks, breaks, or plugs in the recycled water system pipelines or other appurtenances?	Yes <input type="checkbox"/> No <input type="checkbox"/>
14.	Is there evidence of direct spraying of recycled water on people, streams, passing vehicles, buildings, domestic water facilities (such as drinking fountains), or food handling facilities?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Backflow/Cross-Connecting Testing (where applicable)	
	Have backflow prevention devices been tested in the last 12 months? Date:
	The most recent cross-connection test was completed on: Part I Pretest and Visual Test Date: Part II Cross-Connect Control Test Date:
	Is the site due for a cross-connection test?
Impoundments, if applicable	
	Is there evidence of overflows, leaks, erosion of dikes, etc. of storage ponds or impoundments?
Required Action	
<input type="checkbox"/> None	Compliance Date
By District:	
By Customer:	Compliance Date
Comments	
Signature	
X _____ Inspector	_____ Date
X _____ Site Supervisor	_____ Date

Copies: _____ File (Original)

_____ Customer

APPENDIX D:

**CROSS CONNECTION TEST
NOTIFICATION FORM**



Redwood City Recycled Water Project Notification Form

Annual Inspection Cross Connection Test

Date of Notice:

Our records indicate that your:

Facility was last inspected on _____

Last cross connection test was _____

The work noted above is scheduled for

Test Date:

Test Time:

Site Name and Address:

Site Supervisor:

Phone Number:

Please confirm this appointment by signing below and mailing the original form to the City within 10 days of receipt. Retain a copy of this document for your files.

X

Site Supervisor Signature

Date

Mail to: Redwood City Public Works Services Department
Attn:
1400 Broadway
Redwood City, CA 94063

If the date and time listed above do not fit your schedule, contact the City as soon as possible to reschedule at (650) 555-1234

ABBREVIATIONS and GLOSSARY

Air Gap	A physical break between the supply line and a receiving vessel
AWWA	American Water Works Association
Backflow Preventer	A device to prevent water from returning to a pipe system
County DPH	San Mateo County Health Services Agency
Cross Connection	An illegal connection between a potable water system with a recycled water system
Cross Connection Test	A test to determine if the potable and recycled water are connected on a site
Customer	The person who signs the Recycled Water Use Application and represents the site to receive recycled water
DPH	California Department of Public Health
Dual Plumbed System	Refers to a building that utilizes both potable and recycled water systems to serve interior fixtures.
Hose Bib	hose bibs are not permitted on the recycled water system, replace all hose bibs with quick couplers
Off-Site Facilities	Pipes and other water carrying devices upstream of the customer water meter
On-Site Facilities	Pipes and other water carrying devices downstream of the customer water meter
Overspray	Water usually sprayed from a sprinkler which lands in an unintended area, particularly on hard surfaces, walks, paths or roads
POC	Point of Connection of the site plumbing system to the main system
Ponding	Irrigation water which forms a puddle on the landscape on or off site
Potable Water	Drinking water
PSI	Abbreviation for pounds per square inch, a unit of measurement of pressure

Quick Coupler	Below ground device that should be used in place of a hose bib
Recycled Water	Disinfected tertiary recycled water
RWQCB	Regional Water Quality Control Board
RWQCB Order No. 96-011	Regional Water Quality Control Board General Order No. 96-011; the General Water Reuse Order under which the City of Redwood City is permitted
RP Device	Reduced pressure backflow prevention device
Runoff	Irrigation water which leaves the site in a rivulet or stream
Site Supervisor	Designated person responsible for the recycled water system on a site.
State DPH	California Department of Public Health
Title 17	Title of the California Code of Regulations under which a cross connection control program and backflow prevention is regulated
Title 22	Title of the California Code of Regulations under which recycled water quality and use is regulated