

Requirements for Engineering Reports for Dual Plumbed Systems

City of Sunnyvale Recycled Water Program

Facilities where both recycled water and potable water are present inside a building are referred to as “dual plumbed systems”. Typical examples would include facilities that use recycled water for toilet flushing, or in industrial processes such as makeup water in cooling towers.¹ Title 22 requires that a special report be prepared for facilities with dual plumbed systems. The report shall be submitted in electronic (pdf) format and must include the following information:²

FACILITY DESCRIPTION

- The location and type of facility proposing to use a dual plumbed system.
- The average number of persons estimated to be served by the facility on a daily basis.
- The specific boundaries of the facility. This is best delineated using a site map.
- The person(s) responsible for operation of the dual plumbed system. A facility must have a designated recycled water site supervisor, who is familiar with and responsible for the proper use of recycled water. Requirements for proper use are described in the City of Sunnyvale’s *Rules and Regulations*. The requirements are reviewed during mandatory site-supervisor training sessions provided by the City.
- The specific use(s) of recycled water at the facility.

PLANS AND SPECIFICATIONS

- Proposed recycled water piping system(s) to be used.
- Pipe locations for both the recycled and potable systems.
- Type and locations of the outlets and plumbing fixtures that will be accessible to the public.
- Methods and devices to be used to prevent backflow of recycled water into the public (potable) system.
- Description and location of signage. Specific signage requirements for dual plumbed systems are described in the California Plumbing Code.

If construction plans and specifications are used to meet this requirement, include as attachments in pdf format. Only the relevant plan sheets and specification sections should be included in the report. For plan sheets, these typically include civil and/or utility sheets, plumbing sheets, and if applicable, irrigation sheets. Include legend and symbol sheets as needed to interpret the drawings. Drawings should be “as-built.”

¹California Code of Regulations Title 22, Section 60301.250 defines Dual Plumed System as a system that utilizes separate piping systems for recycled water and potable water within a facility and where recycled water is used 1) to serve plumbing outlets (excluding fire suppression systems) within a building, or 2) for landscape irrigation at individual residences.

²Derived from Title 22, Article 5, “Dual Plumbed Recycled Water Systems” Sections 60313-60316. If the recycled water use area includes more than one facility with a dual plumbed system, provide the required information for each facility.

All recycled and potable water systems and piping must be clearly delineated (and differentiated from each other) using highlighters or other suitable means. The preferred method is to use purple highlighting for recycled water, and blue for potable. Highlighting can be applied to the original CAD drawings or overlaid in the pdf version. Call out and/or highlight points-of-connection to City mains, location of meters and backflow devices, and points of connection to buildings. Clearly delineate any food preparation or food service/consumption areas. If needed for clarity, also provide a simplified site map.

CROSS-CONNECTION AND BACKFLOW PREVENTION

The methods to be used to assure that the installation and operation of the dual plumbed system will not result in cross-connections between the recycled water system and the potable water system. This would typically include a description of “in-house” controls and procedures to prevent cross-connection, and a description of procedures for initial and periodic cross connection testing. For the latter, the procedure specified in the California Plumbing Code, which is attached to this document, may be used. Cross-connection testing will be performed by the City’s Cross Connection Control Specialist before recycled water service is provided to the site. Note that the use of potable water as a backup to the recycled system is permitted only if the potable water is introduced through an approved air gap.

CERTIFICATION STATEMENT

The report shall be stamped by a qualified engineer licensed to practice in California and shall contain the following certification statement with signature:

This document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.