

# Guide Towards Understanding Alternate Nonpotable Water Source Applications

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## Sources

California Building Standards Commission  
California Green Building Standards Code  
CPC Plumbing Code Supplement, July 2108  
California Housing & Community Development  
Department of Water Resources (MWEL0)  
Los Angeles Municipal Code  
Los Angeles Plumbing Code  
San Diego Land Development Code  
San Francisco Health Code Article 12C  
San Francisco Green Building Code  
Santa Monica Municipal Code

## Definitions

**Graywater** [BSC-CG & HCD 1]. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" **includes, but is not limited to,** wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

**Gray Water System** [BSC-CG]. A system designed to collect gray water to be treated on-site for reuse or distribution to an irrigation or disposal field. A gray water system **may** include, on-site treated nonpotable water devices or equipment, tanks, valves, filters, pumps or other appurtenances along with piping and receiving landscape.

### ***On-Site Treated Nonpotable Graywater Devices and Systems***

Devices or equipment used to treat on-site treated nonpotable graywater in order to maintain minimum water quality requirements determined by the Authority having Jurisdiction.

### ***Gray Water Ready***

Alternate non potable waste piping and components shall be installed at the time of construction according to submitted and approved designs, details, and plans and shall be verified in accordance with the California Green Building Standards Code (CALGreen), Chapter 5, Division 5.3. to accommodate accessibility, ease of installation and operation.

***On-Site Treated Nonpotable Water [BSC-CG & HCD 1].***

Nonpotable water that has been collected, treated, and intended to be used on-site and is suitable for direct beneficial use. Sources for on-site treated nonpotable water include, but are not limited to, gray water; rainwater, stormwater, reclaimed (recycled) water, cooling tower blow-down water, and foundation drainage

***On-Site Treated Nonpotable Gray Water Devices and Systems***

Devices or equipment used to treat on-site treated nonpotable gray water for use in water closet and urinal flushing, surface irrigation, and similar applications shall be listed or labeled to NSF 350 or approved by the Authority Having Jurisdiction.

***NSF Standard 350***

The recognized standard for On-site commercial and residential waste water reuse treatment. See 2018 California Plumbing Code. Treated water meeting the requirements of NSF 350 can be used for toilet and urinal flushing, surface irrigation, decorative fountains, car washing and other nonpotable water applications.

***Reclaimed (Recycled) Water [BSC-CG, HCD 1 & DWR].*** Nonpotable water that meets California State Water Resources Control Board statewide uniform criteria for disinfected tertiary recycled water. Reclaimed (recycled) water is also known as “recycled water” or “reclaimed water”.

***Treated Gray Water [HCD 1].*** Same as On-Site Treated Nonpotable Water

***Recycled Water Supply System. [BSC-CG, HCD 1, & DWR]*** The building supply pipe, the water distribution pipes, and the necessary connecting pipes, fittings, control valves, backflow prevention devices, and all appurtenances carrying or supplying reclaimed (recycled) water in or adjacent to the building or within the premises.

California Plumbing Code

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***1501.2 System Design (BSC-CG, HCD 1, DWR)***

Components, piping, and fittings used in any alternate water source system shall be listed.  
(Edited)

***1502.2.2 Diversion***

The gray water system shall connect to the sanitary drainage down stream of fixture traps and vent connections through an **approved diverter valve**. The diverter valve shall be installed in a readily accessible location and clearly indicate the direction of flow.

***1504.7 On-Site Treated Nonpotable Graywater Devices and Systems***

**Devices or equipment used to treat on-site treated nonpotable gray water in order to maintain the minimum water quality requirements determined by the Authority Having Jurisdiction shall be listed or labeled (third-party certified) by a listing agency**  
(edited)

## Regulations

### ***Title 23, Chapter 2.7***

#### ***Model Water Efficient Landscape Ordinance, MWEL0, (DWR)***

##### **490 Purpose**

To conserve water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water.

##### **490.1 Applicability**

All new construction projects with an aggregate landscape area equal or greater than 500 square feet requiring a building or landscape permit, plan check or design review.

##### **492.14 Recycled Water**

a. The installation of recycled water irrigation systems shall allow for the current and future use of recycled water.

##### **492.15 Graywater Systems**

Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the CPC (Title 24, Part 5, Chapter 15) and applicable local ordinances and standards.

##### **Intent:**

The intent of these measures is to eliminate the use of potable water for landscape irrigation.

### ***Appendix A5 (CGBSC 2016) Non Residential Voluntary Measures***

#### **A5.303.2.3.4 Nonpotable water use systems for indoor use.**

Utilizing nonpotable water systems (such as captured rainwater, treated gray water and recycled water) intended to supply water closets, urinals, and other allowed uses, may be used in the calculations demonstrating the 12-, 20- or 25-percent reduction. The nonpotable water systems shall comply with the current edition of the CPC.

#### **A5303.5 Dual Plumbing**

New buildings and facilities shall be dual plumbed for potable and recycled water systems for toilet flushing when recycled water is available, as determined by the enforcement authority. *See 2108 CPC Supplement*

#### **A5.304.8 Graywater irrigation system**

Install a graywater collection system for outside onsite subsurface irrigation using graywater collected from bathtubs, showers, bathroom wash basins and laundry water. *See 2018 CPC Supplement*

**Intent:** The intent of this measure is to eliminate the use of potable water for landscape irrigation.

## **SECTION A5.305 Water Reuse**

### **A5.305.1 Non potable water systems**

Nonpotable water systems for indoor and outdoor use shall comply with the current edition of the California Plumbing Code.

**Intent:** The intent of this measure is to promote the use of nonpotable water systems to conserve potable water, and to reference the California Plumbing Code for requirements.

## Various City Ordinances

### **Los Angeles**

Ordinance No. 184248 Residential Buildings 4/16

#### **2014 Los Angeles Green Building Code**

WATER CONSERVATION NOTES –

##### **FORM GRN 18R**

##### **IRRIGATION SYSTEM**

12. A water budget for landscape irrigation use that conforms to the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) is required for new landscape areas of 500 sq ft or more.

The following methods to reduce potable water use in landscape areas include, *but are not limited to, use of captured rainwater, recycled water, graywater, or water treated for irrigation purposes and conveyed by a water district or public entity.*

Ordinance No. 184248 6/16

#### **SEC. 99.04.305. WATER REUSE SYSTEMS.**

**99.04.305.1. Graywater Ready.** Alternate waste piping shall be installed to permit the discharge from the clothes washer, bathtub, showers, and bathroom/restroom wash basins to be used for a future graywater irrigation system. The flow from the fixtures shall be piped separately. The point of connection between the graywater piping and other waste piping shall be accessible (as defined in Section 99.02.202).

##### **EXCEPTIONS:**

**2. Sites with landscape areas not exceeding 500 square feet.** ( Edited)

Ordinance No. 184692 12/16

Article 4, Division 16

#### **Non potable Rainwater Catchment Systems**

Chapter 16 of the CPC is adopted by reference.

Article 4, Chapter 16A

#### **Non-Potable Water Reuse Systems**

Chapter 16A of the 2016 CPC is adopted by reference

## **San Fransisco**

Ordinance No. 109-15 and Article 12C

Health, Public Works Codes - Mandatory Use of Alternate Water Supplies In New Construction. Encourages the use of non-potable water for non-potable applications and by replacing potable water use for toilet and urinal flushing and irrigation to the maximum extent possible with alternative water sources.

## **San Diego**

### **Pre-Plumbing For Gray Water Systems**

Land Development Code

1601.1.2 Water Reuse Systems

When required by the Green Building Regulations, alternative plumbing piping shall be installed in new residential buildings that are within the scope of the California Residential Code to permit the discharge of gray water in compliance with Section 1602.1.1 of the California Plumbing Code. (5/15/15)

## **Santa Monica**

Ordinance No. 2545 **Water Neutrality**

### **Intent:**

To eliminate the need to have to import water from outside the city by limiting water consumption in all new construction over a baseline water demand established over a previous 5-year period. Various provisions provide options towards conforming and permitting.

([www. Santa Monica OSE Water Neutrality](http://www.santamonica.gov/DocumentCenter/View/1111))

