

## What is Graywater?

Graywater is untreated wastewater that does not include any toilet discharge, unhealthy bodily wastes, or manufacturing wastes. It is wastewater from bathtubs, showers, bathroom washbasins, and clothes washing machines. Wastewater from kitchen sinks, dishwashers, and laundry of soiled diapers is not included.

## How can I use Graywater?

Graywater can be used to irrigate landscaping and plants but not on root crops or edible parts of food crops. Irrigation lines can be either drip or leach systems and the discharge point must be covered by at least two (2) inches of mulch, rock, soil, or a solid shield to minimize the possibility of contact with humans and domestic pets. Be aware that some soaps and detergents can contain a variety of chemicals to aid in cleaning that may be harmful to your plants. Avoid soaps with chlorine or bleach, peroxygen, sodium perborate, sodium tryptochorite, boron, borax, petroleum distillate, alkylbenze, “whiteners”, “softeners”, and enzymatic components. Please contact a reputable landscape specialist for more information.

## What regulations should I know about?

On January 27, 2010, the State of California finalized the graywater regulations for Chapter 16A “Nonpotable Water Reuse Systems” into the 2007 California Plumbing Code (CPC). The emergency graywater regulations were enacted to help residents of California conserve water by facilitating greater reuse of laundry, shower water, and similar sources for irrigation. In addition, by making legal compliance easy, the State hopes to reduce the number of non-compliant graywater systems. Your graywater system must comply with the 2007 CPC and other codes enacted by your local municipality or water purveyor.

A copy of Chapter 16A of the 2007 CPC is available here:

<http://www.sdcwa.org/information-documents> under “Uses of Recycled Water Allowed In California”.

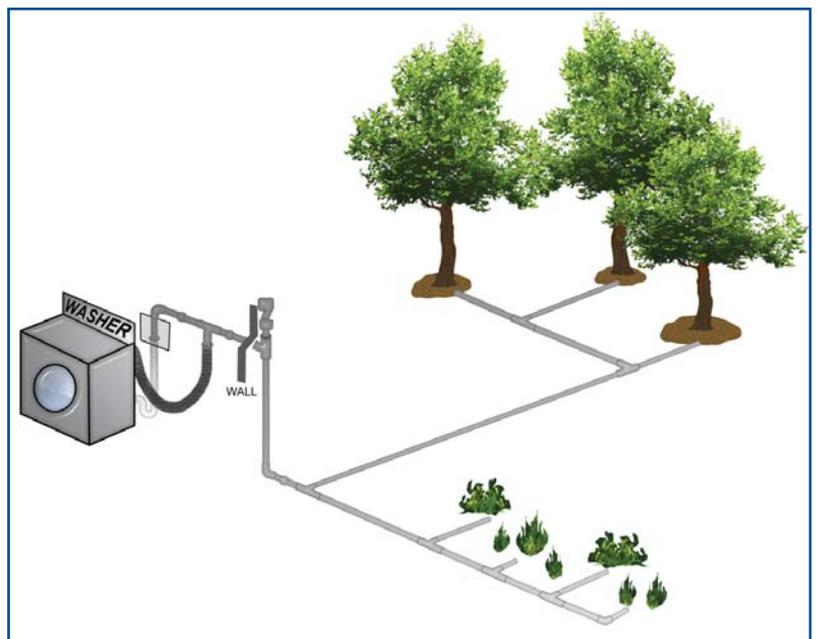
## Do I need a permit?

Not all graywater systems require a permit. Generally, clothes washer systems designed and operated to meet the following criteria do not require a permit, but you may need to notify the local jurisdiction and/or your local water supplier. The following are system design requirements:

1. Design will permit diversion of graywater to an alternative sewage disposal system.
2. There are to be no connections between the graywater and potable water systems, and no pumping of the graywater will be permitted.
3. The graywater will be contained on site, with no ponding or runoff.
4. The graywater will be released under at least two (2) inches of mulch, rock, or soil, or a solid shield.
5. Water used to wash diapers or infectious garments will be diverted to sewage disposal system.
6. Graywater will not contain hazardous chemicals.
7. The design will be consistent with the plumbing code.
8. An operation and maintenance manual will be provided to the owner and all subsequent owners/tenants.

All other gray water systems require a permit. A permit must be obtained from the building department of your local municipality. If you live in an unincorporated area of San Diego County, you must obtain your permit from the County of San Diego Department of Environmental Health (DEH). In addition to meeting the criteria listed above, the permit application will need to show plans for the graywater system. Typically the plans will need to show the following as a minimum (check with your municipality or regulatory jurisdiction):

1. Plot Plan
  - a. Showing distance of graywater tank and irrigation distances from building structures, property lines, drainage slope and direction, water supply wells, streams and lakes, septic fields/pits, cesspools, septic tanks, and water lines (both private and public).
  - b. Number of bedrooms and plumbing fixtures.



Example Clothes Washer System

## 2. Graywater System Plan

- a. Show tank size and location and installation details.
- b. Show all water lines and waste pipelines draining to tank.
- c. Show pipe diameters, valves, and backflow devices.
- d. Irrigation and reuse area.
- e. Provide details on piping such as depth, length, and separation between pipes.
- f. Soil Absorption Rates:
  - i. A percolation test may be needed to determine the ability of the soil to permeate graywater. Verify with your municipality or with the County DEH.
- g. Applicant may have to provide evidence of groundwater depth a minimum of three feet below the lowest point of discharge in the irrigation field. Please check with your municipality or regulatory jurisdiction.

## 3. Calculations

- a. Provide a calculation of the estimated graywater discharge. Refer to Chapter 16A of the 2007 CPC, Section 1606.A.

## 4. Specifications

- a. Provide all manufacturers specifications for the graywater tank, associated piping, and any water treatment provided. Include the make and model number, size, dimensions, and capacity of tank.

Once the design is approved, a construction permit must be obtained to install the graywater system and allow for inspection by the local building department or the County of San Diego.

### ***Will an inspection be required?***

For permitted systems, your building department or the County of San Diego will perform inspections to verify that your system was constructed per the approved plans. At the time of the inspection, you will be required to have an operation and maintenance manual that will remain with the building throughout the life of the system.

### ***What are some of the requirements for a graywater system?***

Chapter 16A of the CPC details the system requirements. These requirements are in place to protect you and the public water system. Some of the requirements include the following:

A three-way valve shall be installed in a location that is readily accessible to allow diversion of the graywater to either the building sewer or septic system.

A surge tank to collect the gray water shall be installed and anchored against overturning. A clothes washer system does not require a surge tank.

The surge tank shall be marked with "GRAYWATER IRRIGATION SYSTEM, CAUTION – UNSAFE WATER." The surge tanks shall be properly vented and have an overflow pipe and emergency drain pipe that drains to and is permanently connected to the building sewer. A backwater valve shall be installed on the sewer line to prevent sewage entering the surge tank.

Graywater shall not be stored in the surge tank for more than one day to avoid odor issues. All graywater piping shall be water tight and marked or have continuous taping stating "DANGER – UNSAFE WATER".

Make up water from a potable water system will require an air gap or the installation of an approved backflow prevention device. In addition, an approved backflow prevention device may be installed at your water meter if your local water purveyor requires it. It is recommended that you contact your water purveyor to make this determination.

### ***Links***

California Department of Housing and Community Development, Emergency Rulemaking:  
[http://www.hcd.ca.gov/codes/shl/graywater\\_emergency.html](http://www.hcd.ca.gov/codes/shl/graywater_emergency.html)

County of San Diego:  
[http://www.sdcounty.ca.gov/deh/water/lu\\_graywater\\_systems.html](http://www.sdcounty.ca.gov/deh/water/lu_graywater_systems.html)

City of San Diego:  
<http://www.sandiego.gov/water/recycled/graywater.shtml>

Graywater Policy and Science Center  
<http://www.graywater.org/>



Example 3-way valve