Home Graywater Collection Systems

What is graywater?
Graywater is untreated household wastewater generated from hand washing, laundry and bathing. This wastewater can be diverted from the sewer to irrigate outdoor plants and landscape. Graywater cannot include any wastewater from toilets, kitchen sinks, dishwashers or washing machines laundering soiled diapers or other sources of contamination such as darkrooms. Graywater cannot be stored for more than 24 hours. Graywater is different than potable tap water and requires specific measures for its safe reuse in your garden.

Why is graywater beneficial?
Using graywater reduces your reliance on potable water for outdoor irrigation throughout the year.

How graywater systems work:
Graywater systems directly reuse "wastewater" to irrigate your plants. Do not use any detergents or bleaches in your sink, bath and laundry that may ultimately be harmful to your plants. To further ensure safety, graywater cannot be used on the edible portions of vegetables and must be used for sub-surface irrigation in order to reduce human contact or ponding. You cannot store graywater, only divert the amount needed to water your garden. All systems must be installed and maintained according to Ch.16 of the California Plumbing Code.

Types of Graywater Systems:
There are three types of graywater systems that vary in complexity, volume of water produced and permitting requirements. In order to determine which system is right for you, you need to know your irrigation needs, including yard size, soil type, groundwater level and budget. The easiest, most low-tech system uses a washing machine and gravity to move laundry water directly out to the garden.

Clothes Washer System (no permit required) Laundry-to-landscape systems divert graywater from the washing machine to your garden without cutting into existing plumbing. Washing machines have internal pumps which can be used to pump water directly out to the garden. No permit is required as long as no pump (other than the washing machine itself) or surge tank is used and as long as all code requirements are met.

Simple System (Less than 250 gallons a day) These systems include reusing water from a bathroom sink or shower. Simple systems require permits and involve altering plumbing and can include surge tanks and pumps.

Complex System (Greater than 250 gallons a day) These systems supply a large volume of water. Complex systems rely on pumps, surge tanks, filtration systems and are expensive to install and require ongoing maintenance. Complex systems must be designed by a qualified professional.

Permitting Requirements:

System Type	Plumbing Permit	Electrical Permit	Building Permit	Zoning Requirements	Environmental Health Review
Clothes Washer System	No*	No	No	No	No
Simple (<250 gallons)	Yes	Yes, if pump	No**	No	No
Complex (>250 gallons)	Yes	Yes, if pump	No**	No	Yes

*A permit shall not be required for a clothes washer system that does not cut or alter the existing plumbing piping as long as it is in compliance with the Graywater System Requirements (2013 California Plumbing Code Section 16). Clothes washer systems with a tank and/or pump will require a permit.
** If the tank height is greater than twice the width of the base and over 5000 gallons, a building permit, plans and calculations for foundation and anchoring of tank are required.

Links and Resources:

City of Berkeley Graywater Clothes Washer System: Laundry to Landscape

California Plumbing Code Graywater Chapter 16

East Bay Municipal Utility District (EBMUD)

City of Berkeley Rainwater Harvesting: Rainwater Harvesting Systems

Community Resource: Greywater Alliance

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