



City of Santa Barbara
Building & Safety Division
Water Resources Division

Community
Development &
Public Works
Departments
630 Garden Street
805-564-5485
805-564-5460

A Guide to Permitting a Single Family Graywater System

- Step 1** - Determine if project requires a permit and obtain necessary information
 - Step 2** - Evaluate and research appropriate systems for your site
 - Step 3** - Design your graywater system
 - Step 4** - Submit application for Plan Check from the City, if a permit is required
 - Step 5** - Receive Plan Check approval and permit from City
 - Step 6** - Begin building the system according to the approved plans
 - Step 7** - Call City Building & Safety Division to set-up an inspection when trenches are open
 - Step 8** - Call City Building & Safety Division to set-up final inspection
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Step 1 – Determine if Project Requires a Permit and Obtain Necessary Information

- Determine If Permit Required:
 - Two types of Graywater Systems DO NOT require a City building permit; clothes washer only and single-fixture systems. This applies to single and two-family dwellings only.
 - Multi-fixture systems require a building permit and must meet the requirements of Chapter 16A of the California Plumbing Code.
- If No Permit Required, obtain the following information:
 - Graywater Fact Sheet and Graywater Code
 - *Laundry to Mulch Basin System – Graywater Collection System Design Sheet* (if applicable)
 - Online Information on designing and building a graywater system at www.SantaBarbaraCA.gov/water - click on “Water Conservation.”
- If Permit Required, obtain the following information:
 - Master Application
 - Graywater Fact Sheet and Graywater Code
 - Online Information on designing and building a graywater system at www.SantaBarbaraCA.gov/water - click on “Water Conservation.”

Step 2 - Evaluate Your Site and Research Appropriate Systems

- Graywater is defined in the California Plumbing Code (CPC) as “...untreated wastewater which has not come into contact with toilet waste.”
- Where can a graywater system be installed?
 - ✓ Single family residences
 - ✓ A graywater system can be constructed only on the same lot as the building it serves and must follow the criteria of CPC.
- What plumbing CAN connect to a Graywater System?
 - ✓ Bathtubs, showers, and bathroom wash basins, and clothes washers and laundry tubs only.
- What plumbing CAN NOT connect to a Graywater System?
 - ✓ Toilets and bidets

- ✓ Kitchen sinks and dishwashers
- What do I need to provide in my permit application packet about soils?
 - ✓ Soil conditions for single-family graywater systems can be established following Soil Test procedures (see Attachment B: *Soil Test for Single-Family Graywater Systems*).
 - ✓ For new construction, a soil percolation test can be added to the required soils investigation report.

Step 3 – Design Your Graywater System

- Design your graywater system according to Chapter 16A of the 2007 California Plumbing Code. Have your system designed to appropriately deal with the volume of water, soils, and slope of your site.
- See Attachment A: *Graywater Systems Checklist* for a list of all the details you'll need to show on your plan.
- For maximum efficiency, design your system to have the plants you want watered downhill from where the graywater is generated.

Step 4 & 5 – Plan Review and Permit

- What do I need to include in my Graywater Permit Application Packet?
 - ✓ Detailed Design Sheet and plot plan
 - Create your own design submission, including the details listed on Attachment A: *Graywater Systems Checklist*.
 - ✓ Master Application
 - ✓ Soils Information
 - For a Single-family Graywater System, follow Attachment B: *Soil Test for Single-Family Graywater Systems*
 - Additions or new construction need a Soil Test Certification.
- Submit plans and application packet to City's Building & Safety Division.
 - ✓ Submit 3 sets of plans to:
 - ✓ City of Santa Barbara Building & Safety Counter
 - ✓ 630 Garden Street, Santa Barbara, CA 93101
 - ✓ Call 564-5485 for plan check/technical questions.
 - ✓ A \$50 permit fee will be charged for a single-family residential graywater system. (Includes initial and final site inspection). For other types of graywater systems, additional fees may apply.
 - ✓ Following plan check approval, the inspection will be scheduled by the homeowner/contractor during the construction phase.

Step 6 – Build Your System

- Begin building your system according to the approved plans. An inspection is required during the building process as well as at completion of the installation.
- Changes to the plan may require a plan revision from the City's Building & Safety Division.

Step 7 - City Installation Inspection

- First inspection by a City Building Inspector must be when trenching is open and pipes and fittings have been installed (this is called a "Rough Plumbing" inspection). Call the City's Building & Safety Division to schedule this inspection at 564-5492.

Step 8 – Final Inspection

- Call the City's Building & Safety Division, at 564-5492, for a Final Inspection when the system is completely installed and any trenches are filled in. These inspections will ensure the installation meets all code requirements and approvals.

Attachment A - Graywater System Checklist

Drawings and Specifications

1. A simple plot plan drawn to scale:

- lot lines and existing structures
- direction and approximate slope of surface
- location of retaining walls, drainage channels, water supply lines, wells
- location of paved areas and structures
- location of sewage disposal system and 100% expansion area (if applicable)
- location of proposed graywater system (Table 16A-1)
- number of bedrooms and plumbing fixtures (1601.0)

2. Details of construction:

- installation, construction and materials
- Soils Test for Single-Family Graywater Systems* or soil absorption test

Estimate of Graywater Discharge – see Section 1606A of CPC

- bedroom #1 (2 occupants)
- additional bedrooms (1 occupant)
- showers, tubs, wash basins: 30 gpd/occupant
- laundry: 15 gallons per day /occupant

Required Area

- each zone to distribute all graywater produced daily without surfacing
- meets Table 16A-2 design criteria for subsurface drip systems, mini-leachfield or mulch field.

Surge Tanks

- solid, durable material, watertight when filled, protected from corrosion
- anchored on dry, level, compacted soil or 3" concrete slab
- meets standards for non-potable water
- vented with locking gasketed access opening
- capacity permanently marked on tank
- "GRAYWATER IRRIGATION SYSTEM, DANGER-UNSAFE WATER" permanently marked on tank
- overflow permanently connected to sewer or septic tank

Valves and Piping

- piping downstream of water seal type trap
- piping marked "DANGER –UNSAFE WATER"
- all valves readily accessible
- backwater valves on all surge tank drain connections to sanitary drain or sewer
- stub-out plumbing permanently marked

Subsurface Drip Irrigation Systems

- minimum 140-mesh (115-micron) 1" filter, with a 25-gpm capacity
- filter backwash drains to the sewer or septic tank
- number of emitters determined from Table 16A-3 minimum spacing 14"
- supply lines of PVC class 200 pipe or better and schedule 40 fittings, when pressure tested at 40 psi
- downstream, pressure does not exceed 20 psi
- each irrigation zone has automatic flush valve and vacuum breaker

Inspection

- system components identified as to manufacturer
- irrigation field installed at same location as soil test
- installation conforms with approved plans

Testing

- surge tank remains watertight as tank is filled with water
- flow test show all lines and components remain watertight

ATTACHMENT B
Soil Test for Single-Family
Graywater Systems

Option 1:

1. Dig out a soil sample from the layer of soil that will receive the graywater. Do not use top 6-9 inches of topsoil. Remove any large roots, rocks or other foreign matter from the sample.
2. Send the soil sample into a Soils Testing Lab for a soil determination “short-hydro” test. Include the report as part of the permit submittal packet. Based on lab results from the soils test, use Table 16A-2 from CPC Chapter 16A to determine design criteria

Option 2:

In Table 16A-2 from CPC Chapter 16A, use the value of the “Clay with small amounts of sand or gravel bottom” soil type to determine design criteria.

Note: This test can be used for single-family graywater systems only.
Upon request, City staff will provide list of Soils Testing Labs in Santa Barbara.