



# SPECIFICATIONS FOR Gray Water Systems

City of San Diego  
Development Services Department  
1222 First Avenue, MS 401, San Diego, CA 92101-4101

INFORMATION  
BULLETIN  
**208**

November 2016

This information bulletin describes the process for the installation of a gray water system. It also provides information about submittal requirements, plan review, inspection and associated fees.

### Documents referenced in this Information Bulletin

- San Diego Municipal Code, ([SDMC](#))
- California Plumbing Code, ([CPC](#))
- Owner-Builder Verification, [DS-3042](#)
- General Application, [DS-3032](#)

## I. DEFINITIONS

**A. Gray water** is defined as 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. Gray water 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, dishwashers, toilets or bidets.

### B. Residential Clothes Washer System

A gray water system utilizing only a single domestic clothes washing machine in a single-family, duplex or townhouse residential dwelling.

## II. WHEN IS A PERMIT REQUIRED?

**A.** A plumbing permit is required for all gray water systems, except for residential clothes washer systems designed as described below. To obtain a permit for gray water systems, provide the information listed below in Section III, Submittal Requirements

**B.** A plumbing permit is not required for residential gray water clothes washer systems only for single-family, duplex or townhouse buildings that comply with the following requirements:

1. The design shall allow the user to direct the flow to the irrigation or disposal field or the building sewer. The direction control of the gray water shall be clearly labeled and readily accessible to the user.

2. The installation, change, alteration or repair of the system does not include a potable water connection or a pump and does not affect other building, plumbing, electrical or mechanical components including structural features, egress, fire-life safety, sanitation, potable water supply piping or accessibility. The pump in a clothes washer shall not be considered part of the gray water systems.

3. The gray water shall be contained on the site where it is generated.

4. Gray water shall be directed to and contained within an irrigation or disposal field.

5. Ponding or runoff is prohibited and shall be considered a nuisance.

6. Gray water may be released above the ground surface provided at least two (2) inches of mulch, rock, or soil, or a solid shield covers the release point. Other methods which provide equivalent separation are also acceptable.

7. Gray water systems shall be designed to minimize contact with humans and domestic pets.

8. Water used to wash diapers or similarly soiled or infectious garments shall not be used and shall be diverted to the building sewer.

9. Gray water shall not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from home photo labs or similar hobbyist or home occupational activities.
10. Exemption from construction permit requirements shall not be deemed to grant authorization for any gray water system to be installed in a manner that violates any provisions of the California Plumbing Code (CPC) or any other laws or ordinances of the City of San Diego.
11. An operation and maintenance manual shall be provided to the home owner. Directions shall indicate the manual is to remain with the building throughout the life of the system and upon change of ownership or occupancy.
12. Gray water discharge from a clothes washer system through a standpipe shall be properly trapped in accordance with the CPC.

### III. SUBMITTAL REQUIREMENTS

The following plans and documents shall be submitted along with the appropriate fees.

#### A. Application Package

Provide one copy of the General Application (DS-3032).

#### B. Owner-Builder Verification (DS-3042)

If the property owner is doing the work, a separate Owner-Builder Verification form (DS-3042) must be completed and signed by the owner.

#### C. Plans

Provide two sets of the following plans and documents:

1. Provide a site plan showing:
  - a. Property lines, existing structures, setbacks, and paved areas
  - b. Drainage slope and direction
  - c. Location of retaining walls, drainage channels, water supply lines
  - d. Number of bedrooms and plumbing fixtures
- e. Gray water system location, potable water connections, water meters and sewer lines
2. Provide a gray water system plan showing:
  - a. Gray water tank size and location. Indicate underground or aboveground
  - b. Gray water tank installation details
  - c. All water lines draining to the tank
  - d. All waste pipes draining to the tank
  - e. Sizes of all waste pipes
  - f. All valves and backflow devices
  - g. Irrigation, disposal and mulch basin per CPC
  - h. Irrigation piping and trenching details
  - i. Irrigation pipe depth, length and spacing between the pipes
3. Provide the following notes on the plans:
  - a. Kitchen sink, toilets, bidets and diaper soiled water shall not be in gray water system.
  - b. No ponding, spray, or exposed runoff of gray water is allowed.
  - c. All gray water systems must have an air-gap or suitable backflow prevention to protect the potable water system.
  - d. Gray water is not for root crops or edible portions of food crops.
  - e. The piping must be marked every 5 feet with a purple background with black lettering to indicate the following per CPC: **"CAUTION - NONPOTABLE GRAY WATER, DO NOT DRINK"**
4. Gray water discharge shall be calculated in accordance with CPC and shown on plans.
5. The soil absorption rate must be specified on the plans. Use one of the following methods for determining the soil absorption rate:
  - a. For single-family, duplexes, and townhouses only, use 0.8 gals/ ft<sup>2</sup> per

day as specified in CPC for irrigation systems that only utilize drip type emitters.

- b. Letter from a registered design professional classifying the soil per CPC.
- c. Absorption rate based on percolation testing by a registered design professional. Submit a report that includes location of test excavations, logs of test excavations, percolation test method, test results, conclusions and recommendations.

6. The groundwater depth must be specified on the plans. Groundwater level shall be determined and reported by a registered design professional. The depth of the groundwater table shall be a minimum of three feet below the lowest point of discharge in the irrigation/disposal field. A geotechnical report previously prepared by a registered design professional for a site where a gray water system is proposed may contain sufficient evidence regarding groundwater level.

**Exception:** Where the gray water irrigation field is proposed above an elevation of 100 feet above sea level and located in Geologic Hazard Categories 51, 52, or 55, as shown on the San Diego Seismic Safety Study Maps, evidence of groundwater level will not be required.

#### D. Specifications

Provide all manufacturers' specifications for gray water tanks and any associated piping including make and model number, size, dimensions and capacity of the tank.

#### IV. ADDITIONAL REVIEWS

- A. Geology review is required if a geotechnical or percolation test report is required to verify the soil absorption rate or groundwater depth.
- B. Structural review is required for tanks that, when filled, weigh more than 400 pounds

installed above ground.

- C. Historic review is required for installation of gray water systems that also require a Building Permit or Combination Permit as follows:

1. Designated Historic. If the project involves any parcel with a designated historical resource or is located within the boundaries of an adopted historic district, historical review is required. Please refer to Information Bulletin 581, "Designated Historical Resource Review" for additional Historic Review information.

2. Potential Historic Resource. If the site contains buildings or structures 45 years old or older, plans must be submitted through the Development Services Department for historic review, unless the project scope is exempted per San Diego Municipal Code, Section 143.0212. Because of a commitment to consider public information in the review of projects 45 years old or older, there is no over-the-counter review. The length of this review will typically be ten business days. See Information Bulletin 580, "Potential Historical Resource Review" for supplemental submittal requirements.

#### V. OPTIONS FOR SERVICE

Plans for gray water systems must be submitted for review when a permit is required. Submittal appointments are recommended and can be made by calling 619-446-5300. Walk-in service is also available at the Development Services Department located at 1222 First Avenue, 3rd Floor. Please visit the department's website at [www.sandiego.gov/development-services](http://www.sandiego.gov/development-services) for a list of business hours.

#### VI. FEES

The following fees are required to be paid prior to review unless otherwise indicated below for projects that require a permit. For your convenience, DSD offers on-line payments through [OpenDSD](http://OpenDSD). Payment may also be made

in person by cash, check, debit card, Visa or MasterCard credit card. Checks shall be in the exact amount, drawn on US banks, and made payable to the "City Treasurer." Due to space constraints, we are unable to store submitted plans awaiting fee payment.

Please note that plan check fees and other administrative fees are non-refundable. Inspection fees may be refundable. See Refund Policy noted within Refund Application Form DS-721 for additional refund information.

The following fees are for Plumbing permits only. Projects requiring structural, geology, zoning, historical review, etc. may include charges for those reviews based upon a rate of \$201 per hour.

Plan Check Fee .....	\$166
Inspection Fee .....	\$169
Records Fee .....	\$20

**VI. INSPECTIONS**

A minimum of two plumbing inspections will be required for the gray water system including rough plumbing inspection and final plumbing inspection. Additional inspections may be required for structural and/or geology.