RESIDENTIAL GRAY WATER
FREQUENTLY ASKED QUESTIONS

WHAT IS GRAY WATER?
Gray water is wastewater from:

- Bathroom sinks
- Showers and bathtubs
- Clothes washers and laundry tubs.

Gray water **does not** include wastewater:

- From toilets, dishwashers or kitchen sinks
- That has had contact with human waste (*such as from washing diapers*)
- That has had contact with hazardous materials (*such as pesticides or chemicals*)

Water used in those ways is called “black water”. You may not use black water in a gray water system.

WHY SHOULD I USE GRAY WATER?
Your home’s landscape or foundation does not need water that has been treated to the same level as for drinking or bathing. A gray water system can help to lower your water bills since you will be paying for water once but using it twice!

HOW DO I COLLECT GRAY WATER?
The simplest way is to divert your clothes washer's wastewater to an in-ground mulch basin. This is called a Laundry-to-Landscape system. Complex systems can include several water sources, a holding tank, pump, and filtration. A complex system usually needs more maintenance, is more expensive, and uses more energy.

HOW CAN I USE GRAY WATER?
You may use gray water for non-drinking outdoor uses (*such as watering your landscape or your home’s foundation*). As you decide where to use gray water, keep the following in mind:

- Gray water **cannot**:
  - Spray in the air, pool, pond, or runoff a property
  - Be used for toilet flushing in single-family properties;
  - Be used in water features (*ponds, fountains, waterfalls, creeks, etc*.)
  - Be used to water vegetable gardens that have root crops or crops where the edible part of plant touches the ground
  - Be used at properties within the Edwards Aquifer Recharge Zone
- You must distribute gray water at least 2 inches below grade through a mulch basin or underground irrigation system topped with soil, mulch, or gravel.
- Because gray water is a little alkaline, avoid using it on plants that like acidic soils.

HOW MUCH WATER CAN I SAVE BY USING GRAY WATER?
It depends on how many people live in the home and the number of fixtures you’re collecting from. An average home with all available fixtures connected can collect about 40 to 90 gallons a day.

WHAT REGULATIONS DO I HAVE TO FOLLOW WHEN I DESIGN MY SYSTEM?
Local:

- 2012 Uniform Plumbing Code (UPC) Chapters 6 and 16
- Austin City Code **§25-12-153**

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State:

- The **Texas Commission on Environmental Quality** (TCEQ)
- Texas Administrative Code (TAC) **Title 30, Part 1, Chapter 210, Subchapter F**
- Texas Health & Safety Code **§341.039**
- Texas Water Code **§26.0311**

DO I NEED A PLUMBING PERMIT / INSPECTION TO INSTALL A GRAY WATER SYSTEM?

Yes. All gray water systems need an **auxiliary water permit**. Pressurized systems must also meet Austin's **cross connection requirements**. Please contact **Special Services** at 512-972-1060 if you have questions.

Homeowners may get the permit themselves for:

- Laundry-to-landscape systems
- Gravity-flow systems that use no more than 250 gallons a day.

Licensed plumbers or professional engineers must get the permit for:

- Gravity-flow systems that use more than 250 gallons a day
- All pressurized systems.

WILL MY GRAY WATER SYSTEM NEED A CROSS CONNECTION INSPECTION?

A gray water system cannot connect directly to the public water supply. The following types of systems will need a **cross-connection test** after installation as well as annual **inspections**:

- Gravity flow systems that use more than 250 gallons;
- All pressurized systems; and
- Systems using the public water supply as a backup.

Please contact **Special Services** at 512-972-1060 if you have questions.

WHAT STEPS SHOULD I FOLLOW AS I DEVELOP AND INSTALL A GRAY WATER SYSTEM?

1. Decide which fixtures you will use for collecting gray water. Calculate the estimated amount of available gray water they can produce.
2. Select potential locations that you want to water with gray water. Test their absorption capacity and drainage to see if they are appropriate for gray water use.
3. See if the estimated amount of gray water is enough for the plants in those locations.
4. Learn about different types of gray water systems and select a design that best meets your needs.
5. Create a system design plan and sketch of your proposed system.
6. Apply for a permit for your system.
7. Install your system and have it inspected before use.
8. Operate your system.
9. Keep an operation & maintenance manual for your system. Perform routine maintenance to the system to ensure safe functioning.

HOW CAN I OPERATE MY GRAY WATER SYSTEM SAFELY?

Microbial concentrations in gray water exceed levels allowed for drinking water. To protect the health of you, your family and your neighbors:

- Avoid contact with gray water. Stop using the system if someone becomes ill after having contact with gray water. You can use the system again after you determine that the contact didn't cause the illness.
- If anyone in your home has a contagious illness, send the gray water to the public wastewater system until they are well. This helps to avoid exposing people to disease-causing organisms.
- Don't use water contaminated with human waste, pesticides, or other toxic substances.
- Remember that a gray water system is like a mini wastewater treatment system. You must perform regular operational and maintenance checks.

DO I NEED TO TREAT GRAY WATER BEFORE I USE IT?

It depends on how you are going to use the gray water. Basic filtration should be the only treatment needed for the uses allowed by the City of Austin.

WHAT TYPES OF CLEANING PRODUCTS SHOULD I USE WITH A GRAY WATER SYSTEM?

What you put the down the drain is going to end up in your yard. Be sure products you use are safe for your landscape and the environment. Consider the following as you choose products:

- Cleansers, detergents, and soaps should be biocompatible, non-toxic, and pH neutral
  - Common brands that are usually safe include Dr. Bronner's, Oasis, Vaska, and Ecos.
- Avoid these ingredients - sodium chloride (*sodium, sodium complexes, salt*), borax (*boron*), peroxygen, sodium perborate, sodium trypochlorite, petroleum distillate, alkylbenzene, "whiteners", "softeners", and "enzymatic" components
  - Powdered soaps and detergents often have high levels of sodium chloride
- Avoid chlorine (*bleach*) products as they are harmful to plants. You can use oxygenated (*hydrogen peroxide*) bleaches in their place.
- Be careful about overusing disinfectants. They can kill beneficial microbes in the soil

HOW DO I MAINTAIN MY GRAY WATER SYSTEM?

All gray water systems need regular maintenance. The amount and type of maintenance required varies depending on the type of system you have. You can do the following things to help your system operate well:

- Install a filter and wash it regularly to help keep the system from clogging with lint and debris.
- Let anyone who works in your yard know about the gray water system. Show them the location of pipes and irrigation points. This keeps someone from puncturing pipes or altering or burying mulch basins.
- Set the diversion valve to send the gray water to the wastewater system during times when you are not using your system.
- Ensure that water flows evenly out of the system outlets. If the flow is uneven, check the outlets for clogs and remove any debris. You may need to flush the system if many of the outlets have clogged.