

**R18-9-D701 Type 1 Reclaimed Water
General Permit for Gray Water—Conditions**

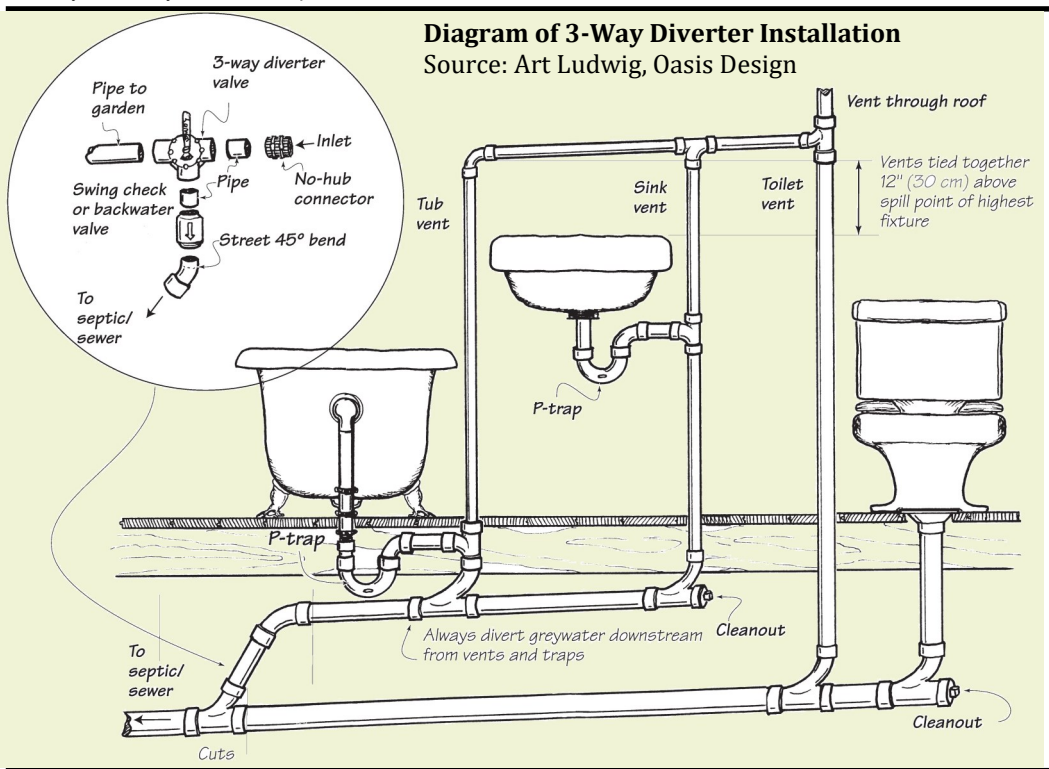
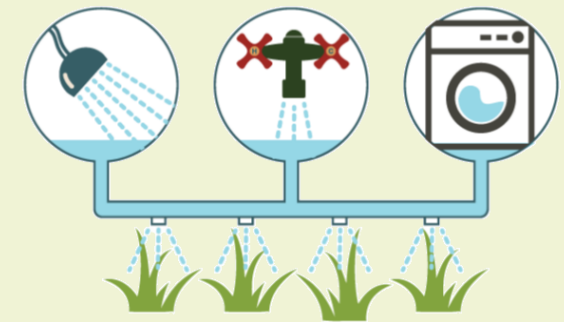
- 1.Gray water originating from the residence is used and contained within the property boundary for household gardening, composting, or landscape watering;
- 2.Human contact with gray water and soil watered by gray water is avoided;
- 3.Surface application of gray water is not used for watering of food plants, except for trees and shrubs which have an edible portion that does not come into contact with the gray water;
- 4.The gray water does not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from hobbyist or home occupational activities;
- 5.The gray water does not contain water used to wash diapers or similarly soiled or infectious garments;
- 6.The application of gray water is managed to minimize standing water on the surface by using measures such as avoiding overwatering, distributing the gray water beneath a mulch or other cover, and using best practices to improve soil condition and increase filtration;
- 7.If blockage, backup, or overload of the system occurs, gray water distribution shall cease until the deficiency is corrected. The gray water system may include components to reduce

- blockage and backup and be operated using best practices to extend system lifetime; The gray water is sited outside of a floodway;
- 8.Gray water surge tanks, if any, are covered to restrict access and to eliminate habitat for mosquitoes or other vectors, and holding time is minimized to avoid development of anaerobic conditions and odors;
- 9.The gray water system is sited outside of a floodway;
- 10.The gray water system is operated to maintain a minimum vertical separation distance of at least five feet from the point of gray water application to the top of the seasonally high groundwater table;
11. For a residence using an on-site wastewater treatment facility for black water treatment and disposal, the use of a gray water system does not change the design, capacity, or reserve area requirements for the on-site wastewater treatment facility at the residence, and ensures the facility can handle the combined black water and gray water flow;
- 12.Any pressure piping used in a gray water system that may be susceptible to cross connection with a potable water system clearly indicates the piping does not carry potable water; and
- 13.Surface application of gray water is only by flood or drip distribution methods. Flood distribution methods may include containment by horticultural mulch basins and swales.

Mandatory Gray Water Stub-Out

Coconino County Ordinance 2019-10 adopting the 2018 ICC building codes includes an Amendment for a Mandatory Gray Water Stub-Out. This amendment mandates that clothes washers on exterior walls be pre-plumbed to make it easy to connect to a gray water irrigation system in the future (washing machines with plumbing on interior walls are exempt from this requirement). The code also states that, when feasible, at least one bathtub or shower shall also be pre-plumbed in this way. The extent of the pre-plumbing required for each of these is an accessible 3-way diverter valve that allows for the wash water to be sent to the wastewater system in one position, and a future gray water system in the other position, and then piping to an exterior “stub-out”.

Nonpotable water outlets such as hose connections, open-ended pipes and faucets must be identified at the point of use with signage.



For more information see:

Coconino County
Sustainable Building Program's
Gray Water Informational Packet

Coconino County
Community Development
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What is gray water?

Gray water is the used water from baths, showers, wash basins, clothes washing machines and hand wash sinks. Gray water comprises from 50-80% of the water used in a home.

What is black water?

In Arizona, black water is the wastewater from the toilet and the kitchen sink. Black water is more commonly referred to as "sewage" and has much more suspended and dissolved solids in it than gray water. Black water cannot be discharged onto the ground and has a much greater potential for bacterial, virus and pathogen contamination.

System Permitting

Arizona Department of Environmental Quality's Type 1 General Permit for Gray Water allows for private residential use of gray water for a flow of up to 400 gallons per day as long as 13 conditions are met (see back of brochure). There is no permit application needed for a Type 1 gray water system. However, when permitting an on-site wastewater system, Coconino County may have additional requirements for the installation of a gray water system. The following table outlines these requirements.

Common Permitting Misconceptions

Often times when homeowners are permitting a wastewater system and plan to reuse their gray water, they don't think the wastewater system needs to be sized to accommodate gray water flows. The ADEQ rule is clear that gray water is only to be used for irrigating plants or watering compost and must be diverted to the wastewater system when not used for these purposes, when it contains infectious or toxic substances or when the system is plugged or backed up. Therefore, wastewater systems must be sized to accommodate both the gray and black water flows from a home.

Also, when a composting toilet system is installed, while there is no black water from toilets, there is still kitchen sink black water that necessitates a wastewater system. Again, that system must also be sized to accommodate gray water flows for any day or days when the gray water system is not operational.

For information on gray water system design, see the Coconino County Sustainable Building Program's **Gray Water Informational Packet**, available at www.coconino.az.gov/sustainablebuilding

Requirements for All Gray Water Systems:

- Gray water irrigation system shall meet all of ADEQ's permit conditions (see back of brochure), including a Minimum Vertical Separation of at least 5' feet from the point of gray water application to the top of the seasonally high groundwater table.
- A 3-way diverter valve to allow for gray water diversion to the wastewater system is required; it shall be noted on building plans and will be inspected by the Building Division.
- Building plan specifications shall include which fixtures will be connected to the gray water system and the requirements for purple pipe and a 3-way diverter valve. Plans must show the location of the irrigation area and gray water outlets from the building.
- **Additional requirements for specific scenarios are as follows:**

On-Site Wastewater System

- Wastewater system shall be designed to accommodate full design flow.
- * If site conditions require that an alternate system be installed, system manufacturer must give written approval for diversion of graywater from system.

Composting Toilets Installed Instead of Flush Toilets

- Composting toilet must be listed on ADEQ's List of Proprietary Products.
- Wastewater system shall be sized for at least 60% of total design flow.
- * In areas where groundwater is 1000' or greater from the ground surface, Minimum Vertical Separation (MVS) between wastewater system discharge and a limiting layer may be reduced from 4' to 1'.
- * If site conditions require an alternate system be installed, system manufacturer must give written approval for diversion of graywater from system.
- *A sewage vault may be allowed as the alternate system if a severe site, operational or financial constraint prevents installation of a conventional or alternate system.

Gray Water Recycling for Toilet Flushing

- Wastewater system must be designed to accommodate full design flow.
- NSF 350-approved treatment unit for gray water is required.
- For sites requiring an alternate system, consider an NSF-350 approved wastewater reuse system instead of separate systems for gray and black water.

*For more information on specific system design requirements for composting toilet/graywater systems see Coconino County's reference design.

