

RAINWATER COLLECTION SYSTEMS

▶ USES: ROOFS



Rain barrels connect to your downspouts and capture water for later non-potable use.



Connect several rain barrels together to increase your storage capacity.

Rainwater collection is an excellent opportunity to **SLOW** water down by temporarily storing it. Captured water can be reused for irrigation or other non-potable options or drained off **SLOWLY** after storm events to allow for infiltration and reduced flooding.

RAIN BARRELS

Rain barrels are small- to medium-sized containers placed outside buildings and connected to roof downspouts to collect runoff for later use in non-potable applications. Rain barrels have many advantages. They take up very little space, are inexpensive and are easy to install. Rain barrels conserve water and reduce the volume of runoff moving off-site. Keep in mind, because we get so much rainfall in Snohomish County, a rain barrel may not always be practical due to the limited volume they can hold.

✓ Maintenance

Rain barrels require regular draining after rainstorms and removal of leaves and debris collected on screens. Ensure that there is an overflow outlet near the top of the rain barrel with an attached hose or pipe to take excess water away. Always check that the overflow is clear and directed away from the foundation to an appropriate location (e.g., nearby vegetation or a runoff swale).

WHAT SHAPE ARE YOUR GUTTERS?

Sediment and debris that collect in the corners and edges of gutters support the growth of bacteria and other organisms that could contaminate rainwater.

Because rounded gutter systems have fewer edges than their square-cornered counterparts, they provide cleaner water for rainwater collection systems.

DO

- Use water regularly (e.g., water indoor plants).
- Use gravity to your advantage.
- Use multiple barrels where possible to capture more volume.
- Keep covered to prevent clogs, debris build up and mosquito breeding.

DON'T

- Allow access for mosquitos, rodents, children, pets, or debris.
- Use for drinking or watering edible gardens without bacterial filtration.
- Capture water from roofs with excessive debris (e.g., leaves, pine needles, or bird droppings) or composite shingles which typically contain asbestos, heavy metals and other contaminants.

WATER TANKS (CISTERNS)

Water tanks (cisterns) are manufactured water storage containers for non-potable use in residential, commercial, or industrial applications. Water tanks can be installed both above and below ground. Some tanks come as sectional pieces that can be put together to fit different space constraints. Tanks can be used with most guttered roofs to collect runoff and reduce runoff volume. Both water tanks and rain barrels can be used without pumping devices, instead relying on gravity flow. However, depending on the desired use for the water, a pump may be necessary for best performance.

Larger tanks can be designed to also function as privacy screens, fences, or small retaining walls. Tanks can also be hidden under decks or serve as the foundation for play structures or other landscape features. Check with [Snohomish County Planning & Development Services \(PDS\)](#) to see if you need a permit then get creative!

An underground tank is an excellent option for areas with limited space. However, do not install underground systems beneath the path of vehicles or heavy machinery traffic unless they have been engineered for that purpose. Extra precautions may be needed when placing tanks in locations with high water tables or saturated clay soils. Contact an experienced licensed professional for tank installations under these conditions. See www.RainScaping.info/resources for more information.

Basic Components of a Rainwater Collection System

- **Catchment surface:** normally a roof, but there are other options
- **Gutters and downspouts:** round gutters are recommended because they are less likely to collect sediment in corners and edges (sediment in runoff can support bacteria growth.)
- **Mesh screens** on tanks or barrels and downspout openings
- **First-flush device:** recommended but optional
- **Water tanks:** There are various options including manufacturing on-site
- **Water tank vent**
- **Overflow device:** should be equal to, or larger in diameter than, the inflow pipe to avoid backup
- **Faucet and valve**
- **Filters and pumps** (optional)

✓ Maintenance

Remove accumulated sediment and debris annually and inspect all components, such as gutters and downspouts, regularly. The inside of the tank must also be inspected. Look for leaks and cracks. Check all connections and hoses for wear and all screens or mesh for debris build-up and holes. Make sure overflow is clear and directed to an appropriate location. Inspect all seams for leaks. Follow all manufacturers' recommended maintenance for any storage device.



With the large amount of rain we receive, water tanks are a great option in our area.

DO

- Check with [Snohomish County Planning and Development Services \(PDS\)](#) to find out when a permit is needed.
- Secure tanks with straps for protection from earthquakes and other movement.
- Use gravity to your advantage wherever possible.
- Keep underground tanks a minimum of 1/4 full at all times to prevent collapsing of certain tank types.

DON'T

- Place tanks on steep hillsides.
- Place water tanks below ground unless they are approved for this use.
- Collect roof water from areas prone to large amounts of debris or contamination (leaf litter, bird droppings, etc.).