

## RESIDENTIAL RAINWATER HARVESTING SYSTEMS

**What is a Rainwater Harvesting System?** Rainwater harvesting is collected precipitation from rooftops and other above-ground impervious surfaces that is stored in catchment tanks for later use. Rainwater harvesting systems can range from a simple barrel at the bottom of a downspout to multiple cisterns with pumps and filtration. Untreated rainwater can be used to water all your outside plants – including edible plants.

**Benefits of Rainwater Harvesting:** Berkeley averages roughly 20 inches of rain a year. That rainwater currently flows off your roof, into a storm drain and out to the San Francisco Bay. Harvesting rainwater helps conserve water and can save you money on your water bill. Using rainwater to water your garden helps replenish local aquifers and reduces the amount of stormwater that drains into the Bay. The harvested water is low in sodium, and chloramine and fluoride free.

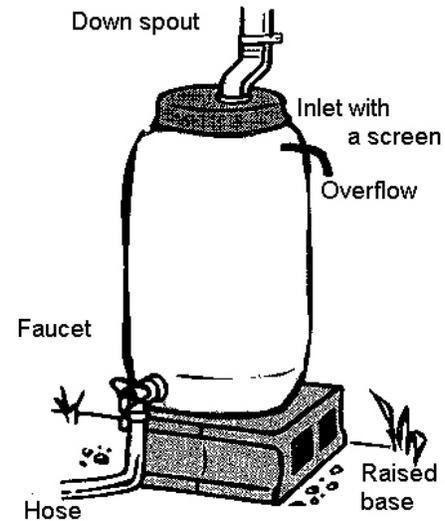
**Rainwater Catchment System Requirements:** The easiest, most low-tech system is a rain barrel attached to your downspout that has a spigot and hose out to your garden; no water treatment is necessary. Most simple rainwater catchment systems will not require any permits.

More complex systems can involve plumbing and electrical work, soil excavation or other structural work. For rainwater collection projects of this scale, consult a professional to review design, construction and safety considerations, and note the following review and permit requirements:

- Zoning review is required for cisterns that hold 360 gallons or more or are located less than 3 feet from a property line.
- Plumbing permits (and electrical and building permits, when applicable) are required for catchment storage of 5,000 gallons or more, when the height to width ratio is greater than 2-to-1, or when pumps or a makeup water supply connection is used.
- If collected rainwater will be used for spray irrigation or indoor uses, additional review and permits will be needed.

### **Non-Permitted Rainwater Catchment Systems Guidelines:**

- Use a food grade container of opaque material and made to hold liquid.
- Place on a secure, level surface at or near gutter downspouts; it can be raised slightly to help with gravity flow irrigation.
- Screen gutters serving rain barrels for debris.
- Screen any rainwater catchment openings with a fine mesh (.05-inch x .05 inch) to prevent mosquitoes from entering; securely fasten large openings to prevent accidental drowning
- Safely dispose of overflow to a stormwater drain or garden; overflow may not discharge across the public right-of-way or adjacent property or create a nuisance.
- Clean rainwater catchment systems and gutters every three months.



- If watering edible plants, consider installing a first-flush diverter to dispose of the first inch of collected rain.
- Label all rainwater harvesting pipes and barrels with: "NONPOTABLE RAINWATER, Do NOT Drink".

**Resources and Links:**

[Plumbing Code 2022 California Plumbing Code](#) (specifically [Chapter 16](#))

**Rain Barrels and Cisterns** (Bay Area Stormwater Management) [Rain Barrels and Cisterns](#)

**American Rainwater Catchment System Association** [ARCSA](#)