PRIMARY USE: Reduction of storm runoff from property.

ADDITIONAL USES: Conservation of ground water or reservior.

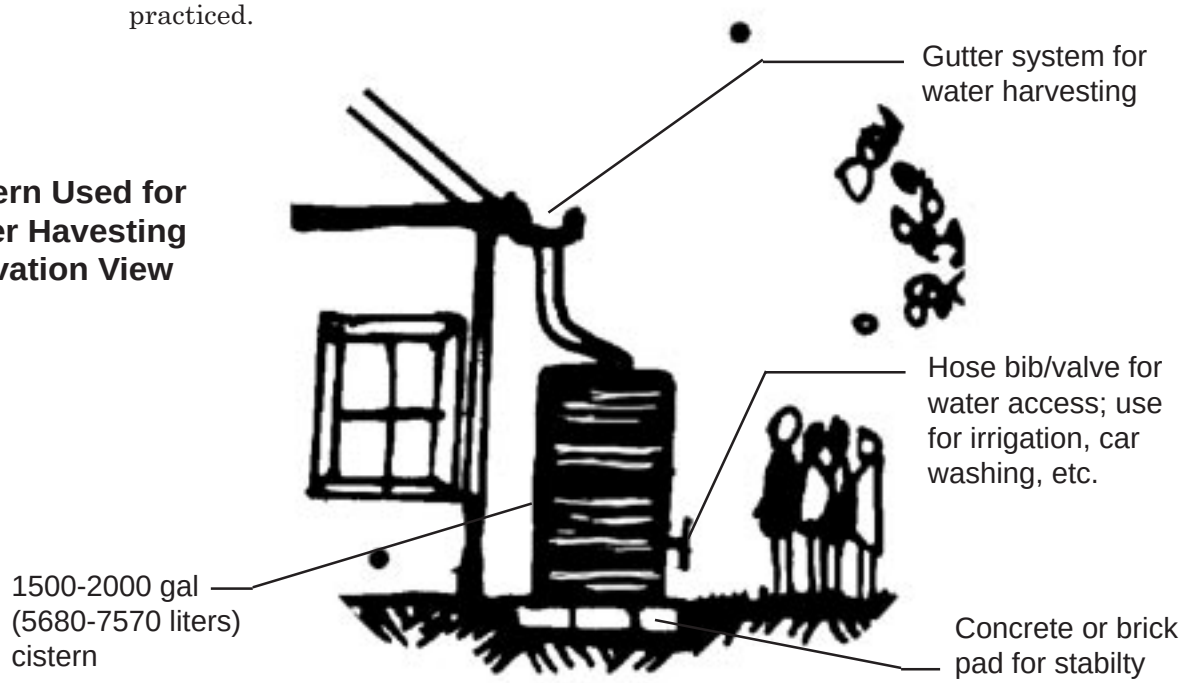
CISTERNS USED FOR WATER HARVESTING

What is it? Cisterns are containers located to receive rainwater that has been collected from rooftops with a gutter and pipe system, or an open grate and pipe system when collecting water from paved, impermeable surfaces.

Purpose

Rainwater is generally available in many parts of the world at a rate of 30-90 inches (762-1524 mm) per year. A three bedroom house roof can shed over 70,000 gallons (264,950 liters) of water per year. Part of this water can be collected and used. Water use costs can be dramatically reduced, unnatural runoff rates from the landscape can be eliminated, the natural runoff rate restored, and conservation of renewable resources can be practiced.

Cistern Used for Water Havesting Elevation View



Limitations

A large enough cistern must be created to provide for the many uses of water in the landscape. A 1500-2000 gallon (5678-7570 liter) cistern will provide for a significant amount of water for use in the landscape. Frequency of rainfall will determine cistern recharge and the practically of using the cistern in specific landscapes. In areas with hard freezes cisterns will have to be located below the frost line if year round use is anticipated. Mosquitoes will flourish in the standing water of a cistern. Cover to keep insects out or cultivate mosquito fish (*Gambusia*) if that is not possible. Plastics containers must be made of material resistant to solar radiation or place out of direct sunlight.

Materials

Historically the materials for the containers were elevated wood barrels and subterranean brick and plaster. More recently, concrete and plastered concrete block were also used. Cisterns can also be created from plastic cylinders like polypropylene, and steel containers. Sections of precast concrete drainage pipe can be used for cistern sides. Piping can be of plastics like polyvinyl chloride,or metals like galvanized steel or aluminum.

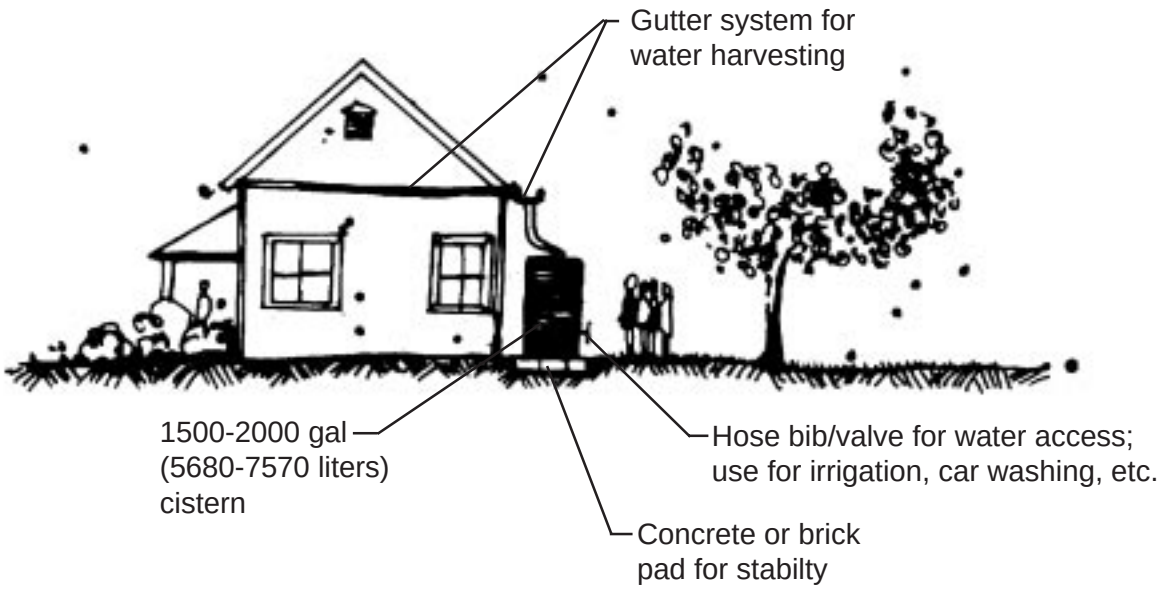
Installation

Locate the cistern so water can flow by gravity to the container. If a gravity flow System is not possible, a hand pump or an electrical pump can be used. An overflow device should be considered when planning a cistern. Safety is a prime consideration. Be sure to create stable bases for above ground cisterns and proper access to below ground cisterns to be childproof.

Source: Ernie Dorrill, Urban Conservationist; NRCS. Center for Sustainable Design, Landscape Architecture/Biological Engineering Departments; Mississippi State University.

CISTERNS USED FOR WATER HARVESTING

Additional Drawings:



Cistern Used for Water Havesting
Elevation View

Source: Ernie Dorrill, Urban Conservationist; NRCS. Center for Sustainable Design, Landscape Architecture/Biological Engineering Departments; Mississippi State University.