

DIY Rainwater Harvesting

This playbook outlines the steps required to create a DIY rainwater harvesting system for garden irrigation and other non-potable uses. It details the process from collecting rainwater to effectively storing it for later use.

Step 1: **Site Analysis**

Evaluate the potential collection sites for the rainwater harvesting system, considering factors such as roof size, location relative to the garden, and existing downspouts.

Step 2: **Material Collection**

Gather all necessary materials and tools, including gutters, downspouts, rain barrels or tanks, first flush diverter, screens, and pipes.

Step 3: **Gutter Installation**

Install gutters along the edges of the roof, ensuring they have a slight slope to direct water towards the downspouts.

Step 4: **Install Downspouts**

Attach downspouts to the gutters to channel the water downwards, including elbow joints at the base to direct the flow toward your storage container.

Step 5: **Storage Setup**

Set up the rain barrels or tanks in a secure location, elevated if possible to aid water pressure and flow. Attach screens or filters at entry points to prevent debris and insects from entering.

Step 6: **First Flush Diverter**

Install a first flush diverter, which ensures initial rainwater containing contaminants from the roof does not enter the storage system, but is diverted away.

Step 7: **Connect Pipes**

Connect pipes from the downspouts or first flush diverter to the rain barrels or tanks, ensuring watertight seals to prevent leaks.

Step 8: **Overflow Solution**

Implement an overflow outlet from the storage containers that directs excess water away from the foundation of the building to avoid pooling and structural damage.

Step 9: **System Maintenance**

Regularly clean gutters, screens, and first flush diverters, and inspect the system for leaks or blockages to maintain efficiency and longevity.

Step 10: **Water Usage**

Use the collected rainwater for garden irrigation or other non-potable purposes, employing a hose or irrigation system connected to the storage tank.

General Notes

Permit Check

Before starting, check local regulations and zoning laws regarding rainwater harvesting as permits may be required for certain systems or areas.

Water Treatment

If considering the use of collected rainwater for domestic purposes beyond irrigation, additional water treatment processes will be necessary to ensure water safety.

Winter Preparation

In climates where freezing occurs, winterize the system by draining all water to prevent pipe and tank damage.