

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE STANDARD**

**WATER HARVESTING CATCHMENT**

(No.)  
**CODE 636**

**DEFINITION**

A facility for collecting and storing runoff from precipitation.

**PURPOSE**

Provide water for livestock, fish, wildlife, and/or other purposes by sealing of the watersheds or contributing areas to increase, collect, and store runoff water for future use.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies to areas where there is a need for additional water. The contributing area shall have a potential to furnish the quantity and quality of water required for the intended use.

It also applies to simple curbs and diversions constructed to collect and store runoff from such high runoff areas as rock outcrops or existing paved or impervious areas.

**CRITERIA**

Each water-harvesting catchment shall be designed according to a plan suited to the water requirements, the site conditions, *rainfall, and the Hawaii Rainfall Harvesting Design Aid located in the National Engineering Handbook Part 650, Engineering Field Handbook, Chapter 11.*

The following points shall be considered in designing water-harvesting catchments:

1. The area of the apron shall be large enough to yield the required amount of

runoff from the expected storms.

2. The apron shall be smooth and impervious to insure that adequate runoff occurs. Compacted earth, treated earth, wax, rubber, plastic, asphalt, concrete, steel, and other such suitable materials are acceptable for this purpose.
3. Foreign runoff shall be diverted from the catchment area to prevent damage and excessive sedimentation.
4. An overflow pipe or auxiliary spillway will be installed to prevent damage to the apron from runoff in excess of that needed to maintain the design capacity of the conveyance system. A sediment trap will be installed between the apron and the storage basin.
5. The storage basin shall be of adequate size, impermeable, and durable to hold water for the intended purpose. Earth basins and tanks constructed of steel, concrete, butyl rubber, and similar facilities are acceptable. Earth dams shall have at least 1 foot of freeboard above the design high water. All storage basins shall be protected from 10-year-frequency storms. An overflow device shall be installed in all storage basins.
6. The apron and storage areas shall be protected from damage by weather, animals, vandals, wildlife, and traffic. Fencing shall be installed as necessary.

7. *Tank materials and construction shall conform to the Hawaii standard for Watering Facility, Code 614.*
8. *Storage basins shall conform to Hawaii standard for Pond, Code 378.*
9. *Storage basin linings shall conform to Hawaii standard Pond Sealing or Lining, Code 521A.*

### **CONSIDERATIONS**

Consider the effects the practice has on surface and ground water. Factors may include changes in evaporation, timing of releases from the catchment, and the impact of the type of catchment on surface water versus ground water.

Evaporation control measures may be needed to insure that adequate storage capacity is maintained.

Consider covered storage and/or storage tanks to store runoff.

### **PLANS AND SPECIFICATIONS**

Plans and specifications for water-harvesting catchments shall be in keeping with this standard and shall describe the requirements for installing the practice to achieve its intended purpose.

**Catchment area.** *Construction plans shall include:*

- *Layout and dimensions of catchment area.*
- *Specifications for the materials to seal or surface the catchment area.*
- *Structural requirements for the rainsheds.*

**Storage Basin.** *Construction plans shall include:*

- *Dimensions of storage basin.*
- *Profile and cross-section of embankment.*
- *Profile and cross-section of emergency spillway.*
- *Inlet and outlet pipe material specifications.*
- *If lining is needed, lining material specifications and installation details.*

### **OPERATION AND MAINTENANCE**

*The Operation and Maintenance Guide for Your Water Harvesting Catchment shall be provided to and reviewed with the landowner.*