

**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, or other conservation purposes by creating impervious areas to increase, collect, and store runoff.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to resource conservation systems where there is a need for additional supply of water.

This practice applies to the sealing of the ground surface, the construction of elevated roof structures, or the use of sound existing roof structures. It also applies to simple curbs and diversions constructed to collect and store runoff from high runoff areas such as rock outcrops or existing pavement.

CRITERIA

Plan work to conform with all Federal, state, and local rules and regulations.

Evaluate impact to cultural resources, wetlands and Federal and state protected species and avoid or minimize to the extent practicable during planning, design and implementation of this conservation practice in accordance with established National and Florida policy, General Manual (GM) Title 420-Part 401; Title 450-Part 401, Title 190-Parts 410.22 and 410.26, National Planning Procedures Handbook (NPPH) Florida Supplements to Parts 600.1 and 600.6, National Cultural Resources Procedures Handbook (NCRPH), National Food Security Act Manual (NFSAM), and the National Environmental Compliance Handbook (NECH).

Design water harvesting catchments according to the water requirements and the conditions of the site in accordance with the following:

1. The contributing drainage area shall be large enough to yield the quantity and quality of runoff water required for the intended use.
2. Aprons on the ground surface 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. Undesired runoff shall be diverted from the catchment area to prevent damage, contamination, or excessive sedimentation.
4. An overflow pipe or auxiliary spillway shall be installed to prevent damage to the apron from runoff in excess of that needed to maintain the design capacity of the conveyance system.
5. If sediment is expected to be a problem, a sediment trap shall be installed between the surface apron and the storage facility.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

6. The storage facility shall be of adequate size, impermeable, and durable to hold water for the intended purpose.
 - Tanks constructed of steel, concrete, plastic, or similar materials are acceptable.
 - Above ground tanks shall be designed for the anticipated loading using sound engineering practices. All tanks shall be protected from ultraviolet degradation.
 - Diversions, sediment basins, water and sediment control basins, earthen reservoirs, shall be designed in accordance with Florida NRCS conservation practice standards Diversion, Code 362, and Pond, Code 378 as appropriate for the purpose of the structure being considered.
7. All storage facilities shall be protected from 10-year-frequency storms. An overflow device shall be installed in all storage facilities.
8. Aprons on the ground surface and elevated roof structure shall be protected from damage by weather, animals, vandals, wildlife, and traffic. Fencing shall be installed as necessary.
9. When collecting runoff from a roof, design the gutters according to Florida NRCS conservation practice standard Roof Runoff Structure, Code 558.

Soils Investigation. Adequate soils, foundation, and borrow area investigations shall be taken to ensure suitable material is present to prevent excessive seepage, water loss from the impoundment area, and/or through the embankment foundation. If adequate soils are not present, use appropriate design procedures, such as sealing or lining, to prevent excessive seepage losses.

Vegetation. All areas to be vegetated that are disturbed during construction shall be vegetated as soon as practicable after construction. Vegetation shall be in accordance with Florida NRCS conservation practice standard Critical Area Planting, Code 342.

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.

Consider the effects of standing water on mosquito breeding.

Elevated roof structures or storage tanks may require additional design criteria to meet state or local building codes/permit requirements.

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.

As a minimum, plans and specifications shall include, but not limited, to the following:

- Overall plan view, with location of water harvesting catchment.
- Details of all components used for water catchment such as aprons, overflow pipe, auxiliary spillway.
- Foundation requirements for structural measures.
- Where needed, requirement for type of surface treatment for aprons and method of application.
- Typical profile and cross section of components such as embankments, principal, auxiliary spillway, catchment area.
- For tanks, show the type of and thickness of material and dimensions.
- Profile showing grades and elevations of structure.
- Structural plans and section views as required.
- Material requirements.

- Vegetative requirements.
- Location of utilities and notification requirements.

OPERATION AND MAINTENANCE

Prepare an operation and maintenance (O&M) plan for use by the landowner or operator responsible for each water harvesting catchment facility installed. The O&M plan shall document needed actions to ensure the practice performs adequately throughout its expected life.

The O&M plan shall include as needed, but not limited to, the following provisions:

- Inspecting and testing of appurtenances such as valves, pumps, and pipelines.
- Maintaining erosion protection at outlets.
- Inspecting for and removing debris, minerals, algae and other materials that may restrict system flow.
- Inspecting and repairing any damage after each significant storm event.
- Controlling vegetation, wildlife, rodents, or burrowing animals from damaging the apron.
- Maintaining all fences to prevent unauthorized human or livestock access.
- Inspecting the catchment facility for signs of ultraviolet degradation of flexible materials.

REFERENCES

- Florida NRCS Conservation Practice Standard
Critical Area Planting, Code 342
Diversion, Code 362
Pond, Code 378
Roofs and Covers, Code 367
Roof Runoff Structure, Code 558
Water and Sediment Control Basin, Code 638
- General Manual
Title 420-Part 401
Title 450-Part 401
Title 190-Parts 410.22 and 410.26
- National Cultural Resources Handbook
- National Environmental Compliance Handbook
- National Food Security Act Manual
- National Planning Procedures Handbook
Florida Supplements to Parts 600.1 and 600.6
- USDA-ARS, Agricultural Handbook No. 600,
Handbook of Water Harvesting