

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**DAM, MULTIPLE-PURPOSE
(No. and acre-ft.)
CODE 349**

DEFINITION

A dam constructed across a stream or a natural watercourse that has a designed reservoir storage capacity for two or more purposes, such as floodwater retardation and irrigation water supply, municipal water supply, and recreation.

SCOPE

This standard applies to dams that have separate storage allocation for two or more purposes. Sediment storage is not considered a separate purpose except as indicated under Sediment Basins (350).

PURPOSE

A multiple-purpose dam must provide distinct and specific storage allocations for two or more of the following purposes: (1) floodwater retardation, (2) irrigation, (3) fishing, hunting, boating, swimming, or other recreational uses, (4) improve environment or habitat for fish and wildlife, (5) municipal, (6) industrial, and (7) other uses. (A reservoir for which multiple use is made of the same storage allocation is not a multiple-purpose dam; however, a dam designed for joint-use storage is a multiple-purpose dam.)

CONDITIONS WHERE PRACTICE APPLIES

This practice applies only to sites meeting all the following criteria:

1. Topographic, geologic, hydrologic and soil conditions at the proposed site are satisfactory for constructing a feasible dam and reservoir.
2. The watershed is protected from erosion to the extent that the sediment yield will not shorten the planned effective life of the reservoir.
3. Water is available from a single or combined source of surface runoff base flow or from subsurface storage in sufficient quantity and adequate quality to satisfy the intended purposes.

DESIGN CRITERIA

Foundation, embankment, and spillway. All dams designed under this standard shall meet or exceed the foundation, embankment, and spillway criteria called for in NRCS standard for Ponds (378) or in TR-60, as appropriate.

Floodwater retarding pool and spillway. Dams having a floodwater retarding purpose shall meet or exceed the requirements of NRCS standard for Floodwater Retarding Dams (402).

Outlet works. Outlet works discharging releases for several purposes shall have adequate capacity to carry the peak flow resulting from the combined demands at any time. Outlet conduits and appurtenances shall be designed according to criteria that are equal to or better than called for in NRCS standard for Ponds (378) or in TR-60, as appropriate.

Storage. The usable storage capacity shall be adequate for all purposes. Seasonal variations in demand and the expected losses from seepage and evaporation must be considered.

Sediment storage. The capacity, in addition to that required for all other purposes, must offset depletion by sediment accumulation for a period equal to the design life.

Type of structures. All dams and appurtenances shall be designed to meet applicable NRCS standards for the specific type and class of structure.

PLANS AND SPECIFICATIONS

Plans and specifications for installing multiple-purpose dams shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

NRCS-Minnesota
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