

NATURAL RESOURCES CONSERVATION SERVICE
MISSOURI CONSTRUCTION SPECIFICATION
WATER AND SEDIMENT CONTROL BASIN
CODE 638

General

Construction operations shall be carried out in a manner and sequence that erosion and air and water pollution are minimized and held within legal limits. **A land disturbance permit from the Missouri Department of Natural Resources may be needed if the disturbed area is greater than one (1) acre in size.**

The completed job shall present a workmanlike appearance and shall conform to the line, grades, and elevations shown on the drawings or as staked in the field. Contractor shall be assured that all state laws concerning buried utilities are met prior to beginning work.

All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

Site preparation

All dead furrows, ditches, or gullies shall be filled before constructing the basin or shall be part of the construction. All other obstructions shall be removed, as necessary, to install a farmable system.

Cutoff trench

If required by the plans a foundation cutoff trench shall be excavated to the minimum depth shown on the drawings. The depth shown on the drawing is an estimate. Final depth of cutoff trench shall be determined by observation. Side slopes of cutoff trench shall be 1 1/2:1 or flatter, as needed to be stable. Sand, gravel, and other water conducting materials shall be removed to prevent leakage under the embankment.

When rock or other hard layers are encountered, a bulldozer mounted single tooth ripper shall be used to loosen all weathered material. Stair-step rock or hard ledges will require handwork to remove all loose materials and hand backfill with clay before machine backfill is started.

In some cases, it will be necessary to thoroughly clean the bottom of rock core trenches to ensure good bond and prevent leakage.

Basin construction

Water and sediment control basins shall be constructed to the line, grade, and dimensions as staked in the field. Unless otherwise shown on the drawings the settled height of the basin ridge shall be increased a minimum of 10 percent in height for settlement for Dozer compaction method or 5 percent for Roller compaction method.

The minimum moisture content for obtaining the required compaction shall be such that when the material is kneaded in the hand, it will form a ball which does not readily separate. Fill material that is too dry shall have water added or work shall be stopped until moisture conditions are satisfactory. Care must be taken to assure proper compaction and bond of the fill material to the existing fill. The side slopes of the existing fill shall be excavated until moist material is uncovered and a good bond can be attained.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resource Conservation Service or download the standard from the electronic Field Office Technical Guide for Missouri.

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The placing and spreading of the fill shall be started at the lowest point of the foundation and the fill shall be brought up in approximately horizontal layers. Each layer shall be spread, processed, and shall be compacted by one of the following methods, as specified on the drawings:

Dozer - Complete coverage by tread or track of hauling or spreading equipment. Each lift shall not exceed 5 inches in thickness.

Roller - two passes of standard tamping type roller over the entire area to be compacted. Complete coverage by the treads of loaded hauling equipment is considered equivalent to two (2) passes of tamping roller. Each lift shall not exceed 9 inches in thickness.

The tamping-type roller shall have tampers or feet projecting not less than six (6) inches from the surface of the drum and shall have a minimum static load on each tamper of 250 pounds per square inch of tamping area. Tamping rollers with minimum static load on each tamper of 125 pounds per square inch of tamping area may be used if the number of passes is increased to four (4) or the thickness of lifts is reduced to four (4) inches. (Sheepsfoot or wedgefoot drum rollers are considered tamping rollers.)

Cuts and fills should be made in such a manner that topography will be enhanced. Excavation is generally made on the uphill side of the basin ridge. Excessive cuts should not be made in depressions to secure borrow to build the water and sediment control basin ridge. Borrow for large fills across depressions shall be taken from the intervening ridges, preferably immediately below the basin ridge, which will tend to flatten the area to be farmed.

The surface of the basin ridge shall be reasonably smooth.

Topsoiling

If required on the drawings, topsoil shall be stockpiled and spread over excavations and other areas to facilitate restoration of productivity. On deep cuts and where unfavorable subsoil is exposed, the topsoil shall be stripped, stockpiled, and replaced as the basin ridge is constructed.

Conduits

Underground conduits shall be installed according to Missouri Construction Specification for Underground Outlet (620) or as shown on drawings. When shown on the drawings, the principal spillway shall be constructed according to Missouri Construction Specification for Pipe Spillway in Conservation Practice Standard (378) Pond.

Vegetation

Refer to JS-AGRON-25 for seeding and mulching recommendations or equivalent.

Additional Details: _____

**NATURAL RESOURCES CONSERVATION SERVICE
MISSOURI OPERATION AND MAINTENANCE**

WATER AND SEDIMENT CONTROL BASIN

CODE 638

GENERAL

- Operation and maintenance shall address maintaining the basin ridge, storage area, vegetative cover, and outlet.
- Perform periodic inspections, especially immediately following significant runoff events.
- Failures should be corrected as soon as possible to prevent major damages.

BASIN RIDGE

- Eroded areas shall be promptly repaired and reseeded, if applicable.
- Trees and woody cover generally create problems on ridges and should be controlled.

STORAGE AREA

- The sediment and design capacity shall be maintained by cleaning the basin or by raising the ridge height. Excavated material spread on the cropland or pastureland shall be placed to maintain fertility and enhance topography.
- After each large storm, basin(s) shall be checked and needed maintenance performed.
- Basins shall be cleaned out.

VEGETATION

- The vegetation shall be maintained to prevent sheet and rill erosion or gulying of the ridge.

OUTLET

- Maintenance should include inspection of inlets for clogging and ridge failure after each large storm.

Additional Details: _____

