

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CLOSURE OF WASTE IMPOUNDMENTS

(No.)

CODE 360

DEFINITION

The closure of waste impoundments, (waste treatment lagoons and liquid storage facility) that are no longer used for their intended purpose, in an environmentally safe manner.

PURPOSE

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- Protect the quality of surface water and groundwater resources.
- Eliminate a safety hazard for humans and livestock.
- Safeguard the public health.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to agricultural waste impoundments that are no longer needed as a part of a waste management system and are to be permanently closed or converted.

CRITERIA

General Criteria Applicable to All Purposes.

The waste impoundment closure plan shall comply with all federal, state, and local laws and regulations.

All structures used to convey waste or process wastewater to impoundments shall be removed, replaced with compacted earth material or otherwise rendered unable to convey waste.

Liquid and slurry wastes shall be agitated and pumped to the extent conventional pumping will allow. Clean water shall be added as necessary to facilitate the agitation and pumping. The wastewater shall be utilized in accordance with

NRCS conservation practice standard, Waste Utilization (Code 633) and Nutrient Management (Code 590).

There are two options for the closure of the impoundment. The structure can be removed and the land reclaimed or it can be left intact and converted to another use.

Land Reclamation. The impoundment will be eliminated by removal of the berms, grading, or backfilling so that the area may be reclaimed. The residuals (sludge) remaining on the bottom and sides of the impoundment may remain in place if it does not exceed the agronomic loading rates for the vegetation planned for the reclaimed site. Residuals left in place will be mixed with soil on at least a 1 to 1 ratio. The site shall be graded and vegetated so as to avoid ponding of surface water and provide adequate drainage without creating soil erosion.

Impoundment Left Intact. Where these impoundments are to be converted to other uses an investigation, as called for in National Engineering Manual (NEM) 501.23 for structural integrity, shall be performed.

The impoundment will be improved or maintained to ensure structural integrity.

Demolition of Fabricated Structures. Closed waste storage structures shall be demolished or disassembled or otherwise altered to such an extent that no water can be impounded. Disassembled materials such as pieces of metal shall be temporarily stored until their final disposition in such a manner that they do not pose a hazard to animals or humans.

Demolished materials can be buried on-site or moved off-site to locations designated by state or local officials. The typical procedure for material to be buried on-site, the materials are to be covered with soil to a settled depth of one foot, and the backfill be sufficiently mounded

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.

**NRCS MOFOTG
October 2009**

such that runoff will be diverted from the site after the backfill settles.

Safety. When residuals are not removed from an embankment or excavated pond, precautions (fencing and warning signs) will be used to ensure that the pond is not used for incompatible purposes (such as swimming, livestock watering, fish production, etc.) until water quality meets the requirements for the intended purpose. Water quality determination will be coordinated with Missouri NRCS State Office and Missouri Department of Natural Resources (MDNR).

Protection. A land disturbance permit from the MDNR will be needed if earth-moving activities disturb 1 acre or more. All disturbed areas not returned to crop production shall be vegetated in accordance with NRCS conservation practice standard Critical Area Planting (Code 342).

Measures shall be taken during construction to minimize erosion and pollution of downstream water resources. This may include details and specifications for such items as silt fences, hay bale barriers, temporary vegetation, mulching, etc.

CONSIDERATIONS

Residuals from poultry lagoons can contain large quantities of eggshells and ground oyster shells. Other waste impoundments receiving runoff from cattle washing areas and open lots can contain excessive amounts of soil and other debris. These types of residuals will be difficult to remove by agitation and pumping.

When converting impoundments to other uses, the effects on the water budget should be considered. A pond will reduce surface runoff, trap sediment, and reduce nutrients and pesticides leaving the land.

Consideration of climate factors such as humidity, wind speed, and wind direction should be considered to determine the timing and method of applying the wastewater and residuals from the impoundment in order to minimize odor.

Minimize the impact of odors associated with emptying and land applying wastewater and sludge from a waste impoundment by using an incorporation application method at a time when

the humidity is low, when winds are calm, and when wind direction is away from populated areas.

Disassembled structural facilities may be suitable for assembly at another site. Care should be taken during closure to minimize damage to the pieces of the facility, particularly coatings that prevent corrosion of metal pieces.

PLANS AND SPECIFICATIONS

Plans and specifications for closure of or conversion of an impoundment shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications will also be in keeping with the requirements of that standard.

OPERATION AND MAINTENANCE

The proper closure of an impoundment should require little or no operation and maintenance; however, if it has been converted to another use, operation and maintenance will be in accordance with the needs as set forth in NRCS conservation practice standard for the intended purpose.

REFERENCES

NRCS Conservation Practice Standards:
Critical Area Planting, Code 342
Nutrient Management, Code 590
Pond, Code 378
Waste Utilization, Code 633

MDNR Standard Conditions Part III