

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**CLOSURE OF WASTE IMPOUNDMENTS**

(No.)

**CODE 360**

**DEFINITION**

The closure of waste impoundments (treatment lagoons and waste storage ponds), 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:

- To protect the quality of surface water and groundwater resources
- To eliminate a safety hazard for humans and livestock
- To 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.

Where these impoundments are to be converted to fresh water storage and the original impoundment was not constructed to Natural Resources Conservation Service (NRCS) standards, this practice will only apply where the investigation (as called for in National Engineering Manual 501.23) shows structural integrity.

**CRITERIA**

**General Criteria Applicable to All Purposes**

The closure shall comply with all federal, state, and local laws, rules, and regulations.

All structures used to convey waste to waste impoundments shall be removed and 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 Conservation Practice Standards 633, Waste Utilization, and/or 590, Nutrient Management. The sludge remaining on the bottom and sides of the waste treatment lagoons or waste storage ponds may remain in place if it will not pose a threat to the environment. If leaving the sludge in place would pose a threat, it shall be removed to the fullest extent practical and utilized in accordance with Conservation Practice Standards 633, Waste Utilization, and/or 590, Nutrient Management.

**Land reclamation.** Waste impoundments that have water impounded against the embankment are considered embankment structures if the depth of water is 3 feet or more above natural ground. Impoundments with embankments may be breached so that they will no longer impound water, and excavated impoundments may be backfilled to reclaim them for other uses.

- Embankment impoundments - Waste shall be removed from the site before the embankment is breached. The slopes and bottom of the breach shall be stable for the soil material involved; however, the side slopes shall be no steeper than 3 horizontal to 1 vertical.
- Excavated impoundments - The backfill height shall exceed the design finished grade by 5 percent to allow for settlement. The finished surface shall be constructed of

the most clayey material available and mounded to shed rainfall runoff. Incorporate available topsoil, where feasible, to aid establishment of vegetation.

**Conversion to fresh water storage.** The converted impoundment shall meet the requirements of the applicable NRCS practice standard for the intended purpose.

**Safety.** When sludge is not removed from a waste impoundment that is converted to fresh water storage, it shall not be used for fish production. Precautions (fencing and warning signs) shall be used to ensure that the pond is not used for incompatible purposes such as swimming and livestock watering until water quality is adequate for these purposes.

**Protection.** All disturbed areas not returned to crop production shall be vegetated in accordance with seeding specifications in the Field Office Technical Guide (or other suitable measures used to control erosion and restore the esthetic value of the site).

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

## CONSIDERATIONS

Reduce pumping effort to empty waste impoundments where the surface is covered by a dense mat of floating vegetation by first applying herbicide to the vegetation and then burning the residue. Appropriate permits must be obtained before burning.

Alternative methods of sludge removal may be required where the impoundments contain large amounts of oyster shells, soil, or other debris.

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.

Keep sludge left in place flooded to prevent its aerobic decomposition with the potential release of nutrients to surface and ground water.

## PLANS AND SPECIFICATIONS

Plans and specifications for closure of abandoned waste treatment lagoons and waste storage ponds 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 shall also be consistent with the requirements of that standard.

The closure plan will follow the procedures as described by appropriate state regulatory agencies. This should include such items as the following:

- Time line-schedule for activities (including notification to state agency when closure plan will be implemented and completed)
- Dewatering method
- Sludge/sediment handling
- Analysis of sludge/sediment/soil liner
- Land application method

## OPERATION AND MAINTENANCE

The proper closure of a waste treatment lagoon or waste storage pond should require little or no operation and maintenance. However, if it is converted to another use (such as a fresh water pond), operation and maintenance shall be in accordance with the applicable NRCS conservation practice standard for the intended purpose requirements.