

NATURAL RESOURCES CONSERVATION SERVICE

VIRGINIA

OPERATION AND MAINTENANCE REQUIREMENTS

WASTE TREATMENT LAGOON

CODE 359

Land Owner/Operator \_\_\_\_\_

County \_\_\_\_\_ SWCD \_\_\_\_\_ Farm/Tract No. \_\_\_\_\_

Prepared By \_\_\_\_\_ Date \_\_\_\_\_

**OPERATION AND MAINTENANCE ITEMS**

A properly operated and maintained waste treatment lagoon is an asset to your farm. This waste facility was designed and installed to provide temporary storage and treatment of animal waste. The estimated life span of this installation is at least 15 years. The life of this installation can be assured and usually increased by developing and carrying out a systematic operation and maintenance program.

This practice will require periodic maintenance and may also require operational items to maintain satisfactory performance. Your operation and maintenance program includes:

- Waste will be removed from the lagoon and utilized at locations, times, rates, and volumes in accordance with the Agricultural Waste Management System Plan. Virginia state laws must be followed when emptying and applying animal wastes.
- Operate the facility in a manner that minimizes odors and air drift.
- Prior to the storage season, the lagoon storage volume should be drawn down to the minimum operating level for the design loading to provide storage capacity for the accumulation of animal wastes and precipitation during the storage period. See Figure 1.
- An unroofed waste treatment lagoon shall be operated so that the storage capacity required for the 25-year, 24-hour storm and storm runoff is always available. See Figure 1. If the accumulated storm water raises the waste in the facility above the planned maximum waste storage elevation, immediately pump out the waste volume that is above the maximum waste elevation.
- After 5 years of operation, the waste treatment lagoon shall be checked annually for sludge accumulation. If sludge has encroached into the treatment volume, the sludge will be removed and applied at agronomic rates based on analysis of the sludge.
- Follow the **Emergency Action Plan** in case of an overflow, breach, leakage, fire, need for emergency land application, etc.
- **Do not allow human entry into any enclosed structure unless the appropriate safety equipment is used. Safety equipment shall be stored near the facility in a visible and easily accessible location. This equipment shall include a ladder, safety harnesses, and breathing apparatus.**
- All fences, railings, and warning signs shall be maintained to prevent unauthorized human or livestock entry. Maintain all lids, grates, and shields on openings to underground structures. Regularly check the effectiveness of gas control components and ventilation systems.

## 359-VA-O&M Plan-2

- Inspect the embankment, vegetation, and other structures after every rainfall event. Perform needed maintenance promptly. Immediately remove all foreign debris in or adjacent to the lagoon that may cause damage to pumps, agitators or earthen structures. Immediately remove any obstructions or blockage of trash racks, or pipe inlets.
- Maintain all pumps, agitators, piping, valves and other electrical and mechanical equipment by following the manufacturer's recommendations. Grounding rods and wiring for all electrical equipment shall be maintained in good condition.
- Periodically inspect earthen embankments for longitudinal cracks or unusual settlement. Make sure all structure drains are functional and soil is not being transported through the drainage system. Check concrete surfaces for accelerated weathering, spalling, settlement, alignment or cracks. Needed repairs should be made immediately.
- Check metal surfaces for rust and other damage, especially sections in contact with earthfill and with other materials. Repair or replace damaged sections and apply paint as a protective covering.
- Check all rock riprap sections for accelerated weathering and displacement. Replace to original grades if necessary.
- Maintain vigorous growth of non-woody vegetative coverings on earthen structures. Reseed, fertilize, and apply herbicides, when necessary. The embankment and other vegetated areas shall be mowed to maintain a protective vegetative cover. Vegetation shall be clipped a minimum two times each year on the pond embankments. Trees shall not be allowed to grow on the embankments.
- Eradicate or otherwise remove all rodents or burrowing animals and repair any damage caused by their activity. Screens and/or rodent guards shall also be kept in place.
- Immediately repair any vandalism, vehicular or livestock damage to any earthfills, spillways, outlets or other appurtenances.

Figure 1. Waste treatment lagoon storage components and waste storage elevations.



