

## **Operation & Maintenance Plan Waste Storage Facility (Code 313) Tank**

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### **Expected Lifespan**

The minimum expected lifespan of this practice is at least 15 year(s).

### **Operation and Maintenance Items**

Inspections and maintenance are required to achieve the intended function, benefits, and life of the practice. The landowner/operator is responsible to establish and implement an inspection and maintenance program to ensure its expected life will be attained or exceeded. Items to inspect and maintain during the life of the practice include, but are not limited to, the following:

1. Follow your Comprehensive Nutrient Management Plan (CNMP) for waste removal timing, quantity/volume, application rate, and locations.
2. Begin emptying or drawdown according to the schedule in the CNMP or sooner if the contents of the storage facility reach the maximum operating level.
3. Inspect after significant storm events and at least annually to ensure all components are functioning properly. Identify repair and maintenance needs and promptly repair.
4. Do not dispose of dead animals, greases, syringes, human waste, or other wastes in the tank.
5. Inspect haul roads and approaches to and from the storage facility frequently. Grade and/or apply gravel or stabilizing materials as needed.
6. All appurtenances - pipes, pumps, manure pumps, valves, gates, or other electrical and mechanical equipment, should be inspected periodically (minimum of twice a year) to make sure they are in good operating condition, structurally sound, are not cracked, broken, and/or a safety hazard to the operator or livestock. Repair as needed.
  - Follow manufacturer's recommendations
  - Follow electrical codes
7. Maintain lids, grates, and shields on openings to underground structures.
8. Remove any foreign debris in or adjacent to the waste storage facility that might cause damage or blockage to pumps, pipe inlets, agitators or structures.
9. Inspect structure drains to ensure they are functioning properly. Keep screens and rodent guards in place.
10. Immediately repair any damage to the facility or appurtenances caused by vandalism, vehicles, livestock or wildlife.
11. Inspect concrete sumps, pits, walls, ramps, slats, and floors often for separations and/or cracks, which would indicate potential failure. Repairs should be made immediately. A thorough inspection should be made each time the waste storage tank is emptied.
  - Identify where any concrete is spalling, settling, misalignment, cracking or accelerated weathering. Consult with a professional for corrective repair action.
12. Inspect metal tank surfaces for rust, corrosion, or other damage. Consult with manufacturer for repair or replacement needs
  - Follow manufacturer's recommendations for cathodic protection inspections.
13. Inspect backfill areas around concrete structures often for unusual settlement. Determine if settlement is caused by backfill consolidation or failure of concrete walls. Repair walls or fill, as appropriate.
14. Inspect the exterior of the structure for any wet areas or seeps. If discovered, contact the NRCS office for assistance.
15. Check frequently for burrowing animals. When found, remove the burrowing animals, replace embankment materials, and reseed.
16. Maintain vigorous stand of desirable vegetative cover on the backfill around structures, diversions,

and drainage ways. Reseed if the vegetative cover is damaged.

- Mow twice a year to stimulate a vigorous plant growth.
  - Operate mowing and other equipment on slopes in accordance with machinery operation manual.
  - Fertilize and control with herbicides when necessary.
17. Do not operate loaded feed wagon, trucks, manure spreaders, or other heavy equipment within 10 feet of the tank walls unless the structure has been designed for such loads.
  18. Maintain the waste storage facility staff gauge that visually shows the following elevations or an appropriate documented method for monitoring the following levels during the storage period:
    - Maximum operating level.
    - Top of emergency volume, where appropriate (storages subject to precipitation).
    - Top of required freeboard volume.
  19. Outlets of foundation and subdrains should be checked frequently and kept open. The outflow from these drains should be checked when storage is being used to determine if there is leakage from the tank. If leakage is detected, repairs should be planned and made when the facility is empty.
  20. Inspect the outlet of any artificial drainage system installed to lower a perched seasonal high water table adjacent to the waste storage facility. The inspections should occur at least twice a year:
    - Once during the high water table season to ensure that water is flowing indicating the system is operating [not blocked] and
    - Once during the dry season to ensure there is no direct leakage from the storage facility into the drainage system that may be indicated by high flow rate, turbidity, discoloration, odors or other unusual characteristics of the flow. Immediately investigate any indication of blockage or leakage and consult a qualified individual for any corrective action needed.
    - Immediately close or block the flow in the artificial drainage and pump back into the storage or a spreader until the discharge source can be determined and corrected.

### **Safety**

Gases produced by stored waste can be deadly, sometimes even in small quantities. Where applicable, do not allow human entry to an enclosed waste storage structure, including pumping pits and transfer stations. If entry is required for inspection or maintenance, ensure safety equipment such as harnesses, ropes, breathing apparatus and ladders are available for workers trained in their use. Make provisions to adequately ventilate confined spaces prior to entry.

<https://extension.psu.edu/programs/nutrient-management/educational/manure-storage-and-handling>

1. Maintain appropriate warning signs.
2. Safety stations should be inspected at least twice a year. Safety items such as ropes, and swim rings should be replaced as necessary.
3. The livestock facility and any wall less than 5 feet in height should be fenced. All fences, grates, and railings should be inspected at least twice a year. Repair or replace as soon as possible to prevent accidental entry.
4. Follow your facilities emergency action plan in your CNMP.

## Specific Site Requirements