UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
_____ , OKLAHOMA

OPERATION AND MAINTENANCE PLAN
WASTE STORAGE POND

Sponsor/Land user: _____ Date: _____

Address: _____

_____

Legal description of practice location: SEC _____ T _____ R _____

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

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

OPERATION OF WASTE STORAGE POND

The waste management system for your operation includes a waste storage pond to provide temporary storage of runoff, manure or other process water until the waste is managed in accordance with the utilization plan. The system is planned to manage waste generated by your animal feeding production area in a manner that prevents or minimizes degradation of soil, water, air, plant, and animal resources and protects public health and safety. It is also planned to preclude discharge of pollutants to surface water from a 25-year, 24-hour storm event, to minimize ground water contamination, and to recycle the waste produced through soil and crops to the fullest extent possible.

The waste storage pond is designed to accommodate animal waste from the production area. The structure is designed to handle waste from _____ animals with a market weight of ____ pounds. The maximum anticipated storage period would not exceed _____ days between waste removals.

The stored waste is land applied to crop or pasture land as specified in the Comprehensive Nutrient Management Plan (CNMP) when possible during the growing season. All waste will be utilized following the guidelines in the CNMP. It is recommended that waste nutrient testing of any waste stored be tested for nutrient content prior to land application. Loss of nutrients during storage can result.

Monitor Filling Rate. Compare the actual liquid level to the predicted storage level on a monthly basis. Remove some of the waste or adjust the loading rate when the actual level is significantly higher than the planned level. This is especially important when evaporation is the

principle method planned for disposing of liquid waste. Check for leaks when the liquid level is less than expected for the actual inflow and outflow rates.

Maintain Storm Storage Volume. Always maintain enough volume to store the rainfall and runoff that would enter the pond from unusually large or long duration storms with adequate freeboard. Promptly (within 15 days) remove waste from the pond whenever the storage level rises above the maximum operating level designated in the design.

Empty the Pond on Schedule. Most waste storage ponds are designed to be emptied at least once a year, from either evaporation or planned draw downs. When removing waste from the pond, plan this activity at times when strong odors are least likely to create a nuisance for neighbors. Agitate the contents of the pond to entrain as much of the settled solids as possible and for more consistent nutrient content in the effluent. Remove solids from the bottom when the accumulated depth exceeds 8 to 12 inches. The design should contain site specific instruction on the equipment and methods needed to remove waste from the pond.

Sample the Contents. Sample the effluent and determine its nutrient content and salinity at the time the pond is agitated and emptied. Compare the sample's characteristics to assumptions in the utilization plan and make adjustments in land application rates as necessary.

Develop an Emergency Response Plan. Accidental discharges can result from mechanical failures, embankment failure, overflows during unusually wet weather, or operator error. Prepare an emergency response plan that lists the actions required to prevent or reduce damages after a discharge, and include the names and phone numbers of people that should be contacted after an unintended release of waste from the pond.

GENERAL MAINTENACE RECOMMENDATIONS

- Do not dispose of dead animals, greases, syringes, or other wastes in the facility.
- Prevent or repair erosion damage. Repair ruts or gullies on the top, inside and outside slopes of the embankments.
- Look for unusual or non-uniform settlement or cracks in earth fill areas. Identify the cause and repair the damage as soon as possible.
- Look for areas on the bottom third of embankments and low areas where vegetation appears greener than normal. When the pond is full look for seepage at the base of earth fill areas and in low spots downstream of the pond. When the pond is empty check the condition of the liner and repair any damage found.
- Repair spalls, cracks and weathered areas of concrete structures. Repair or replace rusted or damaged metal and paint. Check the condition the overflow pipe (where applicable), immediately remove obstructions of spillways or trash racks.
- Maintain all pumps, agitators, piping, valves and other equipment in good condition following manufacturer's recommendations. Make sure inlet and outlet screens are in place and free of debris.
- Maintain fences, guardrails and warning signs in good condition to prevent entry by humans or livestock. Assure appropriate rescue equipment is available, and located in a conspicuous area near the pond.
- Eradicate rodents and other burrowing animals and repair any damage caused by their activity.

- Encourage vigorous growth of desirable plants by seeding, mulching, fertilizing, controlling weeds and mowing as necessary. Prevent trees and woody shrubs from growing on embankment areas.
- Immediately repair any vandalism, vehicular or livestock damage to the structure, earthen areas surrounding the structure, or any appurtenances.
- Maintain all lids, grates, and shields on ramps and openings to underground structures.
- The embankment should be thoroughly inspected at least twice a year.
- Maintain the soil covering adjacent to all structures at elevations shown on the plan.
- Follow the schedule developed for emptying the structure.
- Follow the comprehensive nutrient management plan.
- Operate system in a manner to minimize odors and air drift.

SPECIFIC RECOMMENDATIONS FOR YOUR INSTALLATION

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR STRUCTURE.

NRCS, OK
November, 2014