

Scenario Worksheet

Practice and Scenario Description:

| | |
|---------------------------|--|
| Information Type | Data |
| Region | Delta States |
| State | Louisiana |
| Discipline Group | Environmental Engineering |
| Practice Code/Name | 316 - Animal Mortality Facility |
| Scenario ID | 5 |
| Scenario Name | Invesel Rotary Drum=>700 CF |
| Scenario Description | This scenario consists of installing a horizontal rotary drum to compost larger poultry and swine facility mortality. It can handle between 600 and 1,000 lbs per day of mortality plus equal or higher volumes of carbon material (i.e. wood chips). A secondary composting storage area is required to finish materials. Payment quantity based on interior volume of rotary composter in cubic feet of smallest drum that can process daily mortality as per manufacturers' recommendations. This option is not typically least-cost. In most states a roofed static pile with concrete floor and multiple bins would be considered least cost. Therefore consider reducing payment rate as per State Conservationist discretion. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Air quality impacts due to odors will also be addressed. Potential Associated Practices: Roofs and Covers (367), Waste Storage Facility (313), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Diversion (362), Subsurface Drain (606), and Underground Outlet (620). |
| Before Practice Situation | Animal mortality is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators. No plan was formulated for both normal and catastrophic mortality events. |
| After Practice Situation | Proper operation results in little to no odors, complete composting, and protection from predators to minimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. Installed a 5' diameter by 54' long rotary drum on two concrete pads that can process 810 lbs of mortality per day. Drum rotation moves and mixes mortality and wood chips. Site preparation includes topsoil removal, gravel pad, concrete pads, slab at two locations plus concrete floor and walls to complete composting. Input material reduced by 40-60 percent and put into 4' high, three sided, 30'x 30' concrete bin with 10'x30' concrete apron for secondary composting. Area can be protected by adding Roofs and Covers (367) standard. |
| Scenario Feature Measure | Volume of Drum |
| Scenario Unit | Cubic Foot |
| Scenario Typical Size | 1079 |

Cost Summary:

| Cost Category | Scenario Cost | Scenario Cost/Unit |
|------------------------------------|---------------|--------------------|
| Materials | \$60,364.45 | \$55.94 |
| Equipment/Installation | \$8,033.70 | \$7.45 |
| Labor | \$0.00 | \$0.00 |
| Mobilization | \$562.78 | \$0.52 |
| Acquisition of Technical Knowledge | \$0.00 | \$0.00 |
| Foregone Income | \$0.00 | \$0.00 |
| Total | \$68,960.93 | \$63.91 |

Cost Details:

| Cost Category | Component ID | Component Name | Component Description | Unit | Price (\$/unit) | Quantity | Cost |
|------------------------|--------------|--|---|------------|-----------------|----------|-------------|
| Materials | 46 | Aggregate, Gravel, Graded | Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel. | Cubic yard | \$24.23 | 15 | \$363.45 |
| Materials | 1628 | Composter, drum, 28 CY | 28 CY drum composter unit. Includes equipment and operation controls. Labor not included. | Each | \$60,001.00 | 1 | \$60,001.00 |
| Equipment/Installation | 48 | Excavation, Common Earth, side cast, small equipment | Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor. | Cubic yard | \$1.80 | 4 | \$7.20 |
| Equipment/Installation | 38 | Concrete, CIP, formed reinforced | Steel reinforced concrete formed and cast-in-placed in formed structures such as walls or suspended slabs by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish. | Cubic yard | \$333.36 | 9 | \$3,000.24 |
| Equipment/Installation | 37 | Concrete, CIP, slab on grade, reinforced | Steel reinforced concrete formed and cast-in-placed as a slab on grade by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish. | Cubic yard | \$209.92 | 21 | \$4,408.32 |
| Equipment/Installation | 36 | Concrete, CIP, formless, non reinforced | Non reinforced concrete cast-in-placed without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish. | Cubic yard | \$102.99 | 6 | \$617.94 |
| Mobilization | 1139 | Mobilization, medium equipment | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$133.51 | 2 | \$267.02 |
| Mobilization | 1137 | Mobilization, very small equipment | Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously. | Each | \$36.97 | 8 | \$295.76 |