



August 2016

Burial of Catastrophic Mortality from Poultry Operations

This guidance ONLY applies to poultry operations with a Water Quality Management Plan certified by the Texas State Soil and Water Conservation Board (TSSWCB). TSSWCB Poultry Water Quality Management Plans (WQMP) have a catastrophic animal mortality plan that includes a map showing appropriate burial locations. By having a certified WQMP from the TSSWCB that includes site specific burial guidance, it is not necessary to notify the Texas Commission on Environmental Quality (TCEQ) or deed record the burial site. Please notify TSSWCB about the proposed burial and request additional technical information if needed.

TCEQ rules allow storage of carcasses on-site for no more than 72 hours, provided that storage is in a varmint-proof receptacle to prevent odor, leakage, or spillage. Storage beyond 72 hours must be in a freezer or refrigerator at 40 degrees Fahrenheit or lower. Burial of birds is not allowed for day-to-day mortality under Texas law. Rules prohibit on-site burial of poultry carcasses, except in the event of a major die-off, which is defined as a mortality rate of 0.3 percent or more per day of the total poultry inventory.

If you suspect that a communicable disease has caused an animal death, report it to the Texas Animal Health Commission at: **800-550-8242** and follow their disposal recommendations.

Utilities Safety

Contact Texas 811 before digging starts.

(website: www.texas811.org or call 8-1-1)



Trench Safety

Regardless of depth of the trench, there may be a potential for injury or loss of life when working in and around trenches and heavy equipment.

OSHA Trench Safety Requirements: If the burial trench or pit will be greater than 5' deep, specific OSHA rules will apply.

See reference section for additional information resources.

Locating the Burial Site

Refer to burial map in the WQMP prepared by TSSWCB indicating appropriate burial site locations. Burial sites should be within areas identified on the burial map, but preferably out of sight of neighbors or roadways if possible.

Items to consider:

- Farm Biosecurity
- Handling Procedures
- Equipment Needs
- Materials Needed for the Process (wood shavings, lime, diesel/gas)
- Personal Protective Equipment needed on-site (boots, gloves, coveralls)
- Scheduling Requirements/Availability
- Restrictions on Type, Quantity, or Volumes
- List of Vendors and Contact Information
- Costs

These should be reviewed annually to make sure that the selected option is still viable. Don't wait till after a catastrophic die-off to find out that a driver and truck to transport mortality will not be available for several weeks (MAKE ARRANGEMENTS NOW, NOT AFTER THE ANIMALS ARE DEAD).

Test Pits (Recommended)

It is recommended that a test pit be dug *prior* to the need for burial to verify soil type and site conditions are suitable for mortality burial.

- Call 8-1-1 before digging starts.
- Dig pit to anticipated depth for burial (over 5' deep requires OSHA shoring or sloping the side walls).
- Request that TSSWCB, SWCD technician or NRCS come out to evaluate the pit. They will evaluate: soil type (does it match what was expected), bedrock, gravel, water or identification marks that the area has a shallow or perched water table.
- Close the test pit and mark the location (GPS on a smart phone, place a post or other identification method), if location is a suitable burial site.
- If site conditions of initial test pit(s) are not suitable for burial, refer to WQMP burial map and find another test location to evaluate and repeat above process until a suitable site is found.
- If it is determined that no suitable burial sites exist on the property, make arrangements now for alternative means of disposal for catastrophic mortality. Do **NOT** wait until a catastrophic mortality event to plan an alternate disposal method.

Burial of Catastrophic Losses

Contact the Texas Animal Health Commission if mortality is disease related and follow their disposal recommendations. Dispose of carcasses as quickly as possible.

- If burial is not due to disease, it is recommended that TSSWCB be notified of proposed burial. This may prevent unnecessary site visits or negative publicity.
- Notify Texas 811 by calling 8-1-1 or visit their website at www.texas811.org (use Fast Customer for call back or the appropriate portal) and indicate it is an emergency locate. Provide GPS coordinates of the burial area if possible.
- Obtain needed burial equipment (trackhoe, backhoe, etc).
- Construct diversions upslope from the burial area as needed to prevent stormwater runoff from running through the burial site.
- Verify that any needed personal protective equipment such as gloves, masks, boots, clothing, disinfectants and other items are available to protect workers consistent with the farm's biosecurity plan.
- Estimate the number and size of burial trenches needed, the time needed for excavation and number of workers needed.

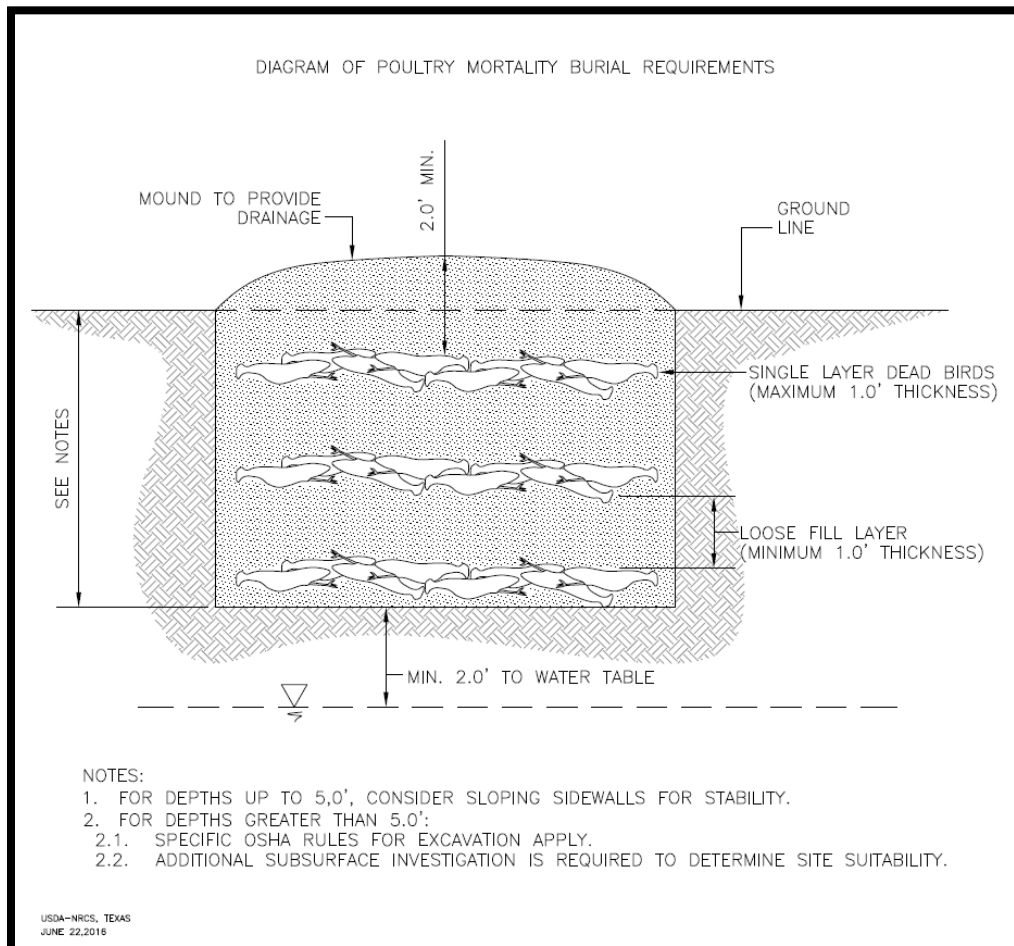
| | |
|---|--|
| Make sure <u>the following</u> buffer distances are maintained: | |
| Water – private wells, springs, streams, intermittent streams | Must be at least 150 feet |
| Water – public well | Must be at least 500 feet |
| Public areas – parks, schools | Must be at least 150 feet |
| Residences or property lines | Must be at least 50 feet; <u>further is better</u> |

During excavation, if any of the following are found, please contact TSSWCB or NRCS for additional guidance.

| | |
|----------------------------------|---|
| Fractured bedrock or water table | Bottom elevation must be a minimum of two feet above any fractured bedrock or water table |
|----------------------------------|---|

Actual Placement of Carcasses in the trench

- a) Place carcasses in a layer not thicker than 1 foot and cover each layer with at least the same depth of loose soil. Preliminary test plots of cattle burial in Virginia and anecdotal stories indicate that shallow burial is better than deep burial. A maximum trench depth of 3 to 4 feet encourages a greater volume of mortality burial in the aerobic (shallow) zone of the burial trench. Deeper trenches provide for cooler temps in the burial pit which reduces and may prevent the decomposition process.



- b) Hydrated lime may be used at operator's discretion in the burial process to reduce potential for disease spread and odor control.
- c) Burial site should be mounded with a covering of at least 2 feet of loose, uncompacted soil. Surface water should be diverted away from the mound.
- d) Owner/operator of the facility will be responsible for placing additional soil material in areas that subside.
- e) The burial site should be vegetated as soon as practical to prevent erosion of the soil cover.

Estimating Burial Pit/Trench Volumes Needed

| Line | Item | Quantity | Units |
|------|--|----------|--|
| 01 | Total Weight of Mortality | | Pounds |
| 02 | Estimated Volume of Mortality – <i>calculate</i> <i>Line 01 (lbs) ÷ 62.4 lbs/cubic foot</i> | | Cubic feet |
| 03 | Pit Excavation Factor -- Additional pit volume will be required to account for voids in placed mortality. In addition, the burial pit should be excavated large enough for both mortality and (where planned) alternate layers of approximately equal thickness of soil. | | This factor will range from 2 to 4. This will be dependent upon the soil type and the size of the carcasses to be buried. Soils with large aggregates will need a higher factor. Larger carcasses will need a higher factor. |
| 04 | Total estimated pit/trench volume required <i>calculate: Line 02 x Line 03</i> | | Cubic Feet |
| 05 | Estimated cubic yards of material to be excavated: <i>Line 04 ÷ 27 CF/Cubic Yard</i> | | Cubic Yard |
| 06 | Planned Width of Excavation (must be at least as wide as the bucket) | | Feet |
| 07 | Maximum Depth –trench safety and shoring may be required to meet OSHA regulations; any depths over 5 feet will need soils sampled to the maximum planned depth plus two feet | | Feet |
| 08 | Estimated length based on rectangular burial pit dimensions: <i>Line 04 ÷ (Line 06 * Line 07)</i> | | Feet |

Determine practical and safe pit width, depth, and side slopes for the equipment available. Select a cross-sectional geometry for the pit. Determine the pit length with assumed cross sectional area that would be required to provide the total required excavated volume in cubic feet.

ESTIMATING TIME to excavate (based on tractor size):

| Estimated Cubic Yards for Excavation Based on Equipment | | | | | | | | |
|---|---------------|-----|-----|---------------|----------------|-----|---------------|-----|
| | Wheel Tractor | | | Small Backhoe | Medium Backhoe | | Large Backhoe | |
| | 0.75 | 1.5 | 2 | 1 | 1.5 | 2 | 2.5 | 3 |
| Bucket Size (CY) | 0.75 | 1.5 | 2 | 1 | 1.5 | 2 | 2.5 | 3 |
| Estimated Cubic Yards Per Hour | 20 | 90 | 150 | 50 | 125 | 225 | 250 | 350 |

| Line Item | Description | Quantity | Units |
|-----------|--|----------|------------------|
| A | Cubic Yards to be Excavated (from line 05) | | Cubic Yards |
| B | Estimated cubic yards/hour for equipment (see table) | | Cubic Yards/hour |
| C | Calculate Hours for excavation (Line A ÷ Line B) | | Hours |
| D | Estimate Hours to fill trench (Line C x 2) | | Hours |
| E | Total Equipment Time for Burial (Line C + Line D) | | Hours |

REFERENCES AND RESOURCES

NRCS TX Conservation Practice Standards: Code 316 - Animal Mortality Management

TRENCH SAFETY

OSHA Video: https://www.osha.gov/dts/vtools/construction/trench_fnl_eng_web.html

OSHA Trench Safety Card: https://www.osha.gov/Publications/trench/trench_safety_tips_card.pdf

“How Jordan Baughn Was Almost Killed in a 3' 9" Deep Trench” – laying some storm drain; was seriously injured – link to video: <https://www.youtube.com/watch?v=ny5Zmq7P6hs> (courtesy of Trench Safety and Supply, Inc.)

Trench Safety Slope Calculator: <http://trenchsafety.com/SlopeCalculator/> (there is also an App for iPhone and Android)

OSHA Construction rules: http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1926.html

OSHA Excavation Rules: http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1926_SUBPART_P.html

STATE LAWS SPECIFIC TO POULTRY MORTALITY DISPOSAL

Title 30, Texas Administrative Code, Chapter 335, Industrial Solid Waste and Municipal Hazardous Waste: [http://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=335&sch=A&rl=Y](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=335&sch=A&rl=Y)

§335.5(d), Deed Recordation of Waste Disposal;

§335.6(l), Notification Requirements;

§335.25, Handling, Storing, Processing, Transporting, and Disposal of Poultry Carcasses;
Handling and Disposal of Carcasses from Poultry Operations, Regulatory Guidance:

<https://www.tceq.texas.gov/publications/rg/rg-326.html>

Title 2, Texas Water Code, Chapter 26, Subchapter H, Poultry Operations: <http://www.statutes.legis.state.tx.us/Docs/WA/htm/WA.26.htm>

Texas Legislative Bills: <http://www.lrl.state.tx.us/isaf/lrlhome.cfm>

SB 1910 (75th Legislature, 1997);

SB 1339, HB 3355 (77th Legislature, 2001);

HB 1457, HB 1719 (80th Legislature, 2007).

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