



**RESPONSE ACTION PLAN
for Animal Carcass Management
Related to a Disaster in
Franklin County, Massachusetts**



An Agricultural Emergency Response Planning Tool

Developed by

**FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS
FRANKLIN COUNTY SOLID WASTE MANAGEMENT DISTRICT**

JUNE 2009

Funded through a grant by the United States Department of Agriculture Rural Utilities Program

ACKNOWLEDGEMENTS AND CREDITS

This plan was developed by the Franklin County Solid Waste Management District and the Franklin Regional Council of Governments. This project is funded through a USDA Rural Utilities Program Solid Waste Management grant.

This section of the *Comprehensive Response Plan for Animal Carcass Management Related to a Disaster in Franklin County, MA* is based on the Missouri Department of Agriculture's *Catastrophic Mortality and Associated Material Disposal*, Standard Operating Guideline #002. This guideline can be found online at www.mda.mo.gov/ah/pdf/animalag_guide2.pdf.

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For more information about agricultural emergency response planning contact the Franklin Regional Council of Governments at 413-774-3167 or visit www.frcog.org. Information is also available through the Franklin County Solid Waste Management District at 413-772-2438 or at www.franklincountywastedistrict.org.

TABLE OF CONTENTS

1.0 PURPOSE.....	1
2.0 INCIDENT ASSESSMENT AND SCOPE.....	1
2.1 Methods for Gathering Data	1
2.1.1 Telephone Message Logs.....	2
2.1.2 Assessment Teams	2
2.2 Evaluating the Damage	2
3.0 ANIMAL CARCASS DISPOSAL METHODS	3
Table 1. Advantages and Disadvantages of Disposal Options	4
3.1 Disposal Checklists	5
3.2 Disposal Methodology Overview	6
4.0 TEMPORARY STORAGE OF CARCASSES	7
5.0 TRANSPORTATION OF CARCASSES.....	7
5.1 Procedures for retrieving, moving, and transporting carcasses	8
5.1.1 Equipment and Supplies	8
5.1.2 Methodology	9
5.1.3 Documentation.....	9

ATTACHMENTS

Animal Mortality Telephone Message Log
Animal Carcass Damage Assessment
Decision Checklist for On-Site Composting
Area-to-Carcass Calculation Worksheet
Decision Checklist for On-Site Burial
Land-to-Carcass Calculation Worksheet
Carcass Removal from Private Property - Agreement
Safety Guidelines for Animal Carcass Collection and Disposal

1.0 PURPOSE

The purpose of this section of the Comprehensive Response Plan for Animal Carcass Management in a Disaster is to allow emergency responders to begin the process of assessing the on-the-ground situation. In any natural or man-made disaster there may be animal mortalities in sufficient numbers that they must be managed not by the local farmer/landowner but by the municipal government. Immediately following a disaster Incident Command needs to know the level of response and recovery to initiate. How many animal mortalities are there? What type of animals are they – cows, sheep, chicken, other? Where are they – on or off farm, on private property, in waterways? Are they accessible for equipment and vehicles?

These and more questions must be answered in order to develop an appropriate response. The answers will also provide Incident Command with an understanding of whether existing town equipment and staff can handle the scope or whether the town must rely on mutual aid services and/or private contractors.

If the information that has been gathered indicates the need for the town to manage the animal carcasses the Emergency Management Director can move to the next step: identifying a disposal method.

2.0 INCIDENT ASSESSMENT AND SCOPE

In order to estimate the response necessary and resources required, one of the first tasks *immediately* following the end of the cause of the disaster is to conduct an Incident Assessment. Emergency responders should use the animal census data found in the appendices to get a sense of animal populations in their town. These numbers are from town animal inspectors, town assessors' records, and the MA Department of Agriculture's Barn Book. They should be updated annually, if possible.

Also found in the appendices is a map that locates farms within your town's borders. The map includes a spreadsheet that identifies the farm owner, location, and type and number of animals on that property. As with any data source and mapping project like this, this information is not complete and the sites identified on the map might not actually be where the animals are housed. However, the animal census and the town-specific map should be used as a resource to begin the process of locating animal mortalities after a disaster. Note that in the event of severe flooding or other disruptions, such as extremely high wind, animal carcasses may be moved away from their usual locations and deposited elsewhere.

2.1 Methods for Gathering Data

There are two methods that can be employed for gathering data about animal mortalities: information submitted to Incident Command by farmers and the general public and information

submitted by teams of individuals sent into the field under ICS. Refer to the section of the master document on Incident Command Structure for a list of town boards, individuals, and organizations that could be called upon to make up assessment teams.

2.1.1 Telephone Message Logs

The Incident Command Center must have a communications/message station for logging animal mortality information. A sample form is provided at the end of this section. Officials should attempt to distribute information to farmers and the general public that encourages them to call or email the Incident Command Center with locations of animal carcasses, number and type of animal, and whether any animals are injured or suffering. This will allow the ICC to send assessment teams to areas that have not been reported by farmers or the general public.

2.1.2 Assessment Teams

Damage assessment teams could be comprised of members of town boards, town staff, the Animal Inspector, the Agricultural Commission (if one exists), community volunteers, and animal welfare organizations. (**Note:** Individuals might witness grotesque scenes of dead or dying animals. They should be forewarned about the possible field conditions. They should also be advised to visit mental health professionals provided by Incident Command.)

The damage assessment teams should travel to farms which might have been impacted. Each team must be equipped with personal protective equipment, clipboards, tracking forms, pencils/pens, GPS, and a means of communication with the Incident Command Center. A sample form for the assessment teams is provided following this document.

2.2 Evaluating the Damage

The Emergency Management Director should begin to compile the telephone message logs and the information collected by the damage assessment teams. The most critical piece of data will be the number and type (cow, sheep, poultry, etc.) of animal carcasses at each location. If the Damage Assessment shows that the number of carcasses is significant, the EMD should recommend to the Town that it must begin carcass management activities. This may trigger an emergency declaration, if one has not already been declared. Otherwise, small numbers of animals might be managed on-farm through normal mortality management techniques.

The EMD should consider mapping the location of animal carcasses, the number and type of animal. This will allow the EMD to prioritize locations that need to be addressed first. With animal carcasses, decomposition is a concern. Of course, if the disaster occurs in the winter there is less urgency except for scavenging from wild animals. However, the response should be as prompt as possible considering other possible constraints, such as areas inaccessible to large equipment.

This is also the time to contact the MA Department of Environmental Protection (DEP) to discuss assistance they can provide as well as to identify any limitations on carcass disposal methods.

3.0 ANIMAL CARCASS DISPOSAL METHODS

At this point, it is assumed that there are enough animal carcasses located in town that a response has been initiated. The next step in the response process is to evaluate the possible carcass disposal methods. There are several methods available. Each method has advantages and disadvantages as described below in Table 1.

The EMD will need to make a determination about what disposal method to use at each location with animal carcasses. Factors influencing which disposal method is appropriate include: number and type of animal carcass, accessibility to them for equipment (bucket loaders, back hoes, trucks), and whether each site meets the environmental setback criteria for burial and/or composting.

As disposal options are considered, the impact of each choice on the town's total emergency response should be weighed. Using a large amount of town resources, such as heavy equipment, for carcass disposal could redirect resources from other critical response activities.

The Massachusetts DEP has determined that the following are appropriate disposal options, listed in order of preference:

- A. On-farm composting
- B. Off-site burial (landfill)
- C. Off-site composting (commercial site or public land)
- D. On-farm burial
- E. Off-site incineration

As noted above, on-site management is preferred to off-site management, and composting is the preferred method, either on or off-site.

Note: Some or all disposal activities may require state permits. Contact DEP and DAR to determine what activities require permits or are exempt from permits. DEP-Boston: 617-292-5500; DAR-Boston: 617-626-1700

Table 1. Advantages and Disadvantages of Disposal Options

Disposal options are listed in order of preference.

Disposal Option	Advantages	Disadvantages
On-farm composting	Low technology Quick implementation No transportation costs Beneficial end-product	Requires large volume of carbon Not ideal for large animals
Off-site burial (landfill)	Lined cells with leachate collection Regional facilities available	Excessive tonnage could affect operation and permit Will most likely require state permits
Off-site composting	Low technology Beneficial end-product	Requires large volume of carbon Not ideal for large animals Will most likely require state permits
On-farm burial	Low technology Quick implementation No transportation costs	Geologic and environmental limitations Minimal decomposition Leachate
Off-site incineration	Regional facilities available	Size of “hopper” to accept large animals Wet and/or feathered animals don’t burn well Will most likely require state permits

3.1 Disposal Checklists

To help emergency managers decide what to do, comprehensive checklists for each option are provided following this section. On site personnel should complete the checklist for each option to determine whether or not that option is feasible (for example on-site burial or composting). The checklist should be used in conjunction with the town-specific map in the Appendix of the main document binder to identify farms that might meet the burial criteria.

Also included in this binder are separate sections that provide more in-depth information and instruction on each method. For example, there is a section that explain how to compost animal carcasses on site. In addition, equipment lists are provided for each method.

In general, the following list identifies issues and limitations that need to be considered when evaluating disposal options¹:

- State and local public health and environmental protection laws and codes. Consider Board of Health regulations.
- Potential hazards for other animals or humans
- Isolation from public areas is desirable
- Number and type of animals that will be disposed
- Site access for heavy equipment and vehicles
- Areas and methods of disposal should afford protection from scavenging animals
- Disposal area(s) should not be located in sensitive environments (i.e. wetlands, drinking water protection areas etc.) Impact on surface/ground water should be considered. **Note:** See specific disposal method information in following sections for these actual criteria.
- Permeability of subsoil, amount of rocks in the soil, drainage characteristics. **Note:** See specific disposal method information in following sections for these actual criteria.
- Location of any underground utilities
- Amount and type of non-animal material such as compost amendment or additional cover soil that will be needed
- Availability of supplies and equipment necessary for the disposal method selected
- Availability of utilities at the site (i.e. electricity, telephone, water)

¹ Adapted by permission from Missouri Department of Agriculture Standard Operating Guide No. 002

- Subsequent use of the area
- If private lands are considered for any disposal option, the EMD should obtain written use agreements from the landowner(s). An example of such an agreement is provided following this document.

3.2 Disposal Methodology Overview

After completing the checklist(s) the EMD can identify the most feasible disposal method that is also suitable for each specific site. The sections following this document will provide a walk-through of on-site composting, on-site burial, and off-site disposal at a landfill or incinerator.

- In general, on-site composting is preferred for small animals such as poultry because it is usually the most cost effective and it generates a usable end product. In many cases, the farm will have easy access to a carbon source such as poultry litter, hay, straw or even wood shavings. The farm will also typically have needed equipment such as a skid steer or bucket loader.
- If it's possible to use an off-site composting operation that should be considered as a disposal option. State and local permits will have to be investigated. In an emergency, state agencies may allow off-site composting of carcasses without a long permitting delay. In general, the major consideration for this option is transportation from the farm or carcass location to the composting operation.
- Burying carcasses on a farm is one of the most affordable disposal options but there is the potential for environmental degradation. Leachate from carcasses can enter groundwater or drinking water supplies. Carcasses also tend not to decompose when they are buried meaning that they could be unearthed years later if the burial area is dug up for development.
- The most significant advantage to landfills for carcass disposal is the fact that the infrastructure already exists and the capacity (depending on the landfill) can be relatively large. Lined landfills pose little risk to the environment. In the event of an emergency or catastrophic event, time is a very important factor and landfills offer preexisting sites for disposal of carcasses with the necessary equipment, personnel, procedures, and containment systems.
- While commercial incinerators can provide a disposal outlet, they are most effective for small animals. They are not effective for large animals, such as bovines or horses, or for feathered animals, such as poultry. In general, landfill disposal is more suitable for carcass disposal than incineration.
- Rendering is an acceptable disposal option for animal carcasses that have not degraded; however there are currently no rendering facilities in the area. Another possible option is

alkaline hydrolysis, but there are no permitted facilities in the area and disposal of the end product is currently a problem. These disposal options are not covered in this document.

Note: Other disposal options exist but are either not recommended or not feasible as of the writing of this plan. A disposal option that is not recommended due to the level of resources needed and the resulting environmental degradation is on-farm incineration. This refers to air-curtain incinerators which require an enormous amount of dry wood, are labor intensive, and create significant air pollution.

4.0 TEMPORARY STORAGE OF CARCASSES

If a determination is made that some carcasses can't or won't be managed within a week's time, temporary storage should be considered until disposal is possible. If the disaster occurs in cold weather, carcasses can be buried in snow piles. In warmer weather, some carcasses will bloat and bodily fluids may leak into the ground. In this situation, the carcasses would need to be stored on plastic sheeting with berms to contain bodily fluids. Pile carcasses together on the plastic sheeting and cover them with 3 feet of soil. This might slow down decomposition. In general, storage of carcasses in warm weather should be for the shortest time possible.

5.0 TRANSPORTATION OF CARCASSES

Depending on the nature of the disaster and the methods chosen for disposal, it may be necessary to transport carcasses off the original site at which they were found. The transportation of large numbers of deceased animals requires significant planning and preparation. Dead animals must be transported in covered, leak-proof containers. The route(s) for transport of animal carcasses should be determined ahead of time.

For local short transport, emergency managers might use municipally-owned vehicles. Significant preparation for transport out of Franklin County will be required. All transportation personnel (public and private) will need briefing regarding what is expected of them, training in the use of personal protective equipment (PPE), in responding to public questions and the media, and being familiar with permits and other documents.

For long distance transport it is possible to use lined rolloff containers, lined dump trucks or other type truck that can "tip" its load. These types of vehicles are most commonly operated by private companies. Refer to the section on Procurement. It includes a list of heavy equipment vendors on state contract. If the carcasses are being hauled to a landfill then the contractual arrangements with the disposal location must be arranged.

5.1 Procedures for retrieving, moving, and transporting carcasses²

The procedures for collecting, moving, and transporting carcasses are similar regardless of whether they are being disposed on-site or off-site. They will need to be carefully picked up and moved to either the on-site disposal location or placed into a leak-proof container for transportation off-site. In either situation, workers should wear PPE to protect from them from body fluids. This includes tyvek suit, boots, and synthetic impermeable gloves. Safety glasses should be considered depending on the state of the carcasses and whether liquid is likely to become airborne. They should all have direct communication with the Incident Command Center in case a problem arises. They should also be directed to seek mental health counseling based on some of the images they are likely to witness.

5.1.1 Equipment and Supplies

The following list of equipment should be considered depending on the specific situation. It may be necessary to contract with private companies for supplies and/or equipment. Be certain to comply with FEMA contracting requirements in order to be reimbursed should this incident be declared a state disaster. See the section on Procurement and Record Keeping.

➤ Heavy machinery:

- Skid Steer with attachments
- Front-end loaders
- Dump trucks
- Roll-offs
- Cranes
- Chains, hooks, shovels

➤ Supplies:

- 6 mil plastic sheeting, poly bags with a zipper (available from Waste Management at www.wmupstream.com/documents/Bio-zipfinal.pdf)
- Absorbent material – sawdust, wood shavings, hay, straw
- Personnel Protective Equipment

➤ Lighting: If the situation warrants working after daylight, then lighting should be provided. With any lighting system, it will be necessary to provide electricity, either with batteries, generators or drop service from power lines. The use of a drop service will require coordination with the local power company.

➤ Communications: Personnel at each site where carcasses are being collected, moved and transported need to have a means of communication with the Incident Command Post.

² Adapted from the Missouri Department of Agriculture *Standard Operating Guide #002* p13 ff.

5.1.2 Methodology

If the town does not have adequate equipment, then order the necessary containers. Rolloff containers are usually 10, 20, 30, or 40 cubic yards. Rolloff containers will most likely need to be sealed to prevent leakage. Dump trucks can also be used. **Note:** Large transfer trailers are not ideal because the weight of the carcasses will not allow the load to tip out of the trailer easily or without ripping the liner. Make sure a contract has been prepared for the trucking activities.

1. Seal all rolloff containers and dump trucks around the gate. Do not use any container that has holes or is rusty and thin in places.
2. Double-line with 6 mil plastic sheeting or poly bags with a zipper (bio-zip from Waste Management). If using plastic sheeting make sure to leave enough at the sides to seal the top after loading is completed. Dimensions are as follows: 10 cubic yard is 32'x 44'; 20 cubic yard is 34'x 76'; 30 cubic yard is 40'x 80' and 40 cubic yard is 50'x 100'. Make sure two people work together to do the lining.
3. Load the container with 1 foot of absorbent material such as sawdust, wood shavings, hay or straw.
4. Retrieve animal mortalities on sites where it has been decided that they can not be managed. Some carcasses will bloat. Use great care, handle the carcass as little as possible. Load them carefully into the container both to avoid tearing the liner and to avoid puncturing the body cavity of the carcasses, thus keeping the release of body fluids to a minimum.
5. In loading a vehicle, ample space must be left for the expansion of carcasses. At least 1-2' of space (depending on the temperature and the distance to be traveled) should be left around the carcasses.
6. After loading, cover carcasses with plastic sheet which should be attached to sides and top of container to prevent leaking or zip the poly bag.

5.1.3 Documentation

It is imperative to use appropriate documentation for all activities that require labor, equipment, supplies, and trucking services. The EMD should have some level of assurance that any containers of carcasses hauled off site have been properly loaded (not under filled or over filled) and are delivered to the contracted end disposal facility. Logs and written documentation will be required for reimbursement from FEMA. See the Procurement and Record Keeping section for copies of FEMA forms.

ATTACHMENTS

- ❖ Animal Mortality Telephone Message Log
- ❖ Animal Carcass Damage Assessment
- ❖ Decision Checklist for On-Site Composting
- ❖ Area-to-Carcass Calculation Worksheet
- ❖ Decision Checklist for On-Site Burial
- ❖ Land-to-Carcass Calculation Worksheet
- ❖ Carcass Removal from Private Property – Agreement
- ❖ Safety Guidelines for Animal Carcass Collection and Disposal

ANIMAL CARCASS DAMAGE ASSESSMENT

TOWN OF _____ INCIDENT _____

DATE _____ GPS Coordinates _____

TEAM MEMBERS:

Total numbers of animal carcasses		Location/s
Cows		
Horses		
Sheep		
Swine		
Large Birds (Turkeys)		
Small Birds (Chickens)		
Other: list		

FRANKLIN COUNTY, MASSACHUSETTS

AGRICULTURAL DISASTER RESPONSE – ANIMAL CARCASS DISPOSAL

DECISION CHECKLIST FOR ON-SITE COMPOSTING

This worksheet should help emergency managers/staff decide if composting of animal carcasses on site is possible, and if so, what planning should be done to accommodate composting. **Note: Any composting activity should be coordinated with the MassDEP, Mass DAR, and the local Board of Health. Some composting activities may require a permit or may qualify for a permit exemption.** MassDEP-Boston: 617-292-5500; Mass DAR-Boston: 617-626-1700

Is on-site composting a possible management method? Use this checklist in conjunction with the town-specific map in the Appendix of the main document binder to identify farms that might meet the composting criteria.

Name, address, GPS coordinates of site: _____

Step 1. Determine whether composting is possible: **You must answer “NO” to all questions in this section in order for a site to be usable for composting. If you answer “YES” to any question in this section consider burial on-site or off-site disposal. Refer to the on-site burial checklist.**

- Is the site at least 500’ from residences or sensitive receptors? Y__ N__
- Is the site within Zone I of a public water supply? Y__ N__
- Is the site within Zone A of a surface drinking water supply? Y__ N__
- Is the site within 500’ of a private well? Y__ N__
- Is the site within 400’ of a perennial watercourse? Y__ N__
- Is the maximum high groundwater table at least 4’ below ground level? Y__ N__
- Is the site within 100’ of a resource area protected by the Wetlands Protection Act?
Y__ N__
- Is the site in a flood plain? Y__ N__

(over)

Step 2. *Other evaluative criteria for sites under consideration* (the more “yes” answers the better suited the site is for on-site composting)

- Is the site outside Zone II of an existing public water supply? Y__ N__
- Is the site outside Zone B of a surface drinking water supply? Y__ N__
- Is the site located on a relatively flat area (less than 2% slope)? Y__ N__
- Is the site well-drained? Y__ N__
- Is the site easily accessible by large trucks and equipment? Y__ N__
- Would the site have adverse impact on other agricultural lands, wildlife habitat, areas of critical environmental concern, or open space? Y__ N__
- Is the site located downwind of any residences nearby? Y__ N__

Step 3: *Complete the attached area-to-carcass calculation worksheet to determine if enough open land or building space is available to complete composting of carcasses.*

Step 4: *If it is determined that the site meets the criteria for composting and enough space is available, make a list below of equipment that will be needed for this specific site.*

Equipment list:

FRANKLIN COUNTY, MASSACHUSETTS

AGRICULTURAL DISASTER RESPONSE – ANIMAL CARCASS DISPOSAL DECISION CHECKLIST FOR ON-SITE COMPOSTING

Area-to-carcass calculation worksheet

Name, address, GPS coordinates of site: _____

Amount of land needed: (note both cubic and square footage)

1.2-3.5 cubic yards per bovine or equine; 14 square feet per bovine equivalent.

- For other animals, one bovine = 1 horse
- = 5 sheep
- = 5 hogs
- = 40 turkeys
- = 200 chickens

Animal type and number		Amount of space needed: first divide number of animals by equivalent above, then multiply answer times area ranges. See example below.		
<i>Animal</i>	<i>Number</i>	<i>Bovine equivalent</i>	<i>Space needed</i>	
			Cubic yards	Square feet
Bovine		-		
Equine		-		
Sheep				
Swine				
Turkey or similar				
Chicken or similar				
TOTALS				

EXAMPLE: 45 HOGS/5 equivalents = 9 bovine equivalent X 1.2-3.5 cy = 10.8-31.5 cy and 126 square feet (9 x 14 sf) needed for composting

Translate volume into area dimensions: For a 10 cy animal area - There are 27 cf in a cy, so there are 270 cf in 10 cy. If the area itself is 7' wide and 5' tall then it must be about 9' long. (7 x 5 x 9 = 315 cf or 11.6 cy)

NOTE: 12 CY OF COVER/BASE MATERIAL IS NEEDED FOR EACH BOVINE EQUIVALENT.

FRANKLIN COUNTY, MASSACHUSETTS

AGRICULTURAL DISASTER RESPONSE – ANIMAL CARCASS DISPOSAL

DECISION CHECKLIST FOR ON-SITE BURIAL

This worksheet should help emergency managers/staff decide if burial of animal carcasses on site or at a mass grave site is possible, and if so, what planning should be done to accommodate burial. Note: Any burial action should be coordinated with the MassDEP, Mass DAR, and the local Board of Health. Off-site burial will most likely require permits. MassDEP-Boston: 617-292-5500; Mass DAR-Boston: 617-626-1700

Is on-site burial a possible management method? Use this checklist in conjunction with the town-specific map in the Appendix of the main document binder to identify farms that might meet the burial criteria.

Name, address, GPS coordinates of site: _____

Step 1. Determine whether burial is possible: **You must answer “NO” to all questions in this section in order for a site to be usable for burial. If you answer “YES” to any question in this section consider composting on-site or off-site disposal. Refer to the composting checklist.**

- Is the site within Zone II of an existing public water supply well? Y__ N__
- Is the site within Zone A or B of a surface drinking water supply? Y__ N__
- Is the site within 400’ of a perennial water course? Y__ N__
- Is the site within 1000’ upgradient or 500’ down gradient of a private drinking water well? Y__ N__
- Is the maximum high groundwater table within 4’ of the bottom of the proposed burial trench? Y__ N__
- Are the perimeters of the burial trench within 100’ of a resource area protected by the Wetlands Protection Act? Y__ N__
- Is any part of the burial trench within 400’ of a lake or 200’ of a river? Y__ N__
- Is the site within a flood plain? Y__ N__

(over)

Step 2. *Other evaluative criteria for sites under consideration* (the more “yes” answers the better suited the site is for on-site burial)

- Is the area large enough to accommodate the carcasses to be disposed of? (See the attached table to calculate the amount of land needed for different numbers and types of animals) Y__ N__
- Is the seasonal high groundwater static table at least 15’ below ground surface? Y__ N__
- Is bedrock at least 15’ below ground surface? Y__ N__
- Is the burial area close to the mortality site? Y__ N__
- Is the burial area easily accessible by large trucks and earth moving equipment? Y__ N__
- Is the site located on a relatively flat area (less than 2% slope) with low permeability soils? Y__ N__
- Is the area free of buried utility lines or pipelines or other utilities in or near the burial area? Y__ N__
- Would burial have adverse impact on other agricultural lands, wildlife habitat, areas of critical environmental concern, or open space? Y__ N__

Step 3: *Complete the attached land-to-carcass calculation worksheet to determine if enough open land is available to complete trench burial of carcasses.*

Step 4: *If it is determined that the site meets the criteria for burial and enough land is available, make a list below of equipment that will be needed for this specific site.*

Equipment list:

FRANKLIN COUNTY, MASSACHUSETTS

AGRICULTURAL DISASTER RESPONSE – ANIMAL CARCASS DISPOSAL DECISION CHECKLIST FOR ON-SITE BURIAL

Land-to-carcass calculation worksheet

Name, address, GPS coordinates of site: _____

Amount of land needed: (note both cubic and square footage)

1.2-3.5 cubic yards per bovine or equine; 14 square feet per bovine equivalent.

- For other animals, one bovine = 1 horse
- = 5 sheep
- = 5 hogs
- = 40 turkeys
- = 200 chickens

Animal type and number		Amount of land needed: first divide number of animals by equivalent above, then multiply answer times land ranges. See example below.		
<i>Animal</i>	<i>Number</i>	<i>Bovine equivalent</i>	<i>Land needed</i>	
			Cubic yards	Square feet
Bovine		-		
Equine		-		
Sheep				
Swine				
Turkey or similar				
Chicken or similar				
TOTALS				

EXAMPLE: 45 HOGS/5 equivalents = 9 bovine equivalent X 1.2-3.5 cy = 10.8-31.5 cy and 126 square feet (9 x 14 sf) needed for burial

Translate volume into area dimensions: For a 10 cy burial trench - There are 27 cf in a cy, so there are 270 cf in 10 cy. If the trench is 9' deep and 7' wide, it must be about 5' long. (9 x 7 x 5 = 315 cf or 11.6 cy)

NOTE: CARCASSES MUST BE COVERED WITH A MINIMUM OF 3' OF SOIL TO GRADE PLUS AN ADDITIONAL 1-2' ABOVE GRADE.

FRANKLIN COUNTY, MASSACHUSETTS

AGRICULTURAL DISASTER RESPONSE – ANIMAL CARCASS DISPOSAL

CARCASS REMOVAL FROM PRIVATE PROPERTY

Animal carcasses may have been moved by flood waters or strong winds from their property of origin to land belonging to someone else. They must be removed and disposed of. If the disaster has become a federal level disaster with a Presidential Disaster Declaration, costs of the activity may be reimbursed by FEMA. However, in general, removal of carcasses from private property is not eligible for reimbursement because there is usually no health and safety threat to the public. There are times, however, when circumstances do create a health and safety threat to the public.

If a town is going to remove carcasses from private property, it should know that FEMA intends that an applicant seek approval for reimbursement before beginning work, and show that a public health threat does exist. If this is not possible because action is critical then the same actions that FEMA requires for pre-approval should be taken in order to seek reimbursement later:

1. The Town must demonstrate it has the authority and legal responsibility to enter private property to remove carcasses. This is usually established by law, ordinance, or code (i.e., housing code).
2. The Town's Board of Health should issue a written order to remove the carcasses from private property. This order should become part of the disaster records.
3. The Town must also show that a legally authorized official, such as the Chair of the Selectboard or Town Manager, has implemented the Board of Health order.
4. Photos of the animal carcasses needing removal should be taken and maintained in the files.
5. A "Right-of-Entry/Hold Harmless Agreement" should be signed by the property owner(s). A sample form is attached.

The applicable FEMA policy is FEMA DAP 9523.14 *Debris Removal from Private Property*.

This entire document was adapted from the Michigan Local Disaster Debris Management Planning Handbook, MSP/EMHSD Pub. 109a.

Sample Right of Entry/Hold Harmless Agreement for Removal of
Carcasses from Private Property

I/We _____ (names), the owners of the property commonly identified as _____ (address) in _____ (Town/City) in Franklin County, Massachusetts, do hereby grant and give freely and without coercion, the right of access and entry to said property to the Town/City of _____, its agencies, contractors, and subcontractors thereof, for the purpose of removing and clearing any or all disaster-related animal carcasses from the above described property. It is fully understood that this permission is NOT an obligation to perform clearance of animal carcasses.

The undersigned agrees and warrants to hold harmless the Town/City of _____, Massachusetts, its agencies, contractors and subcontractors, for damage of any type, whatsoever, either to the above described property or persons situated thereon and hereby release, discharge and waive any action, either legal or equitable which might arise out of any activities on the above described property.

I/We have ___ have not ___, will ___, will not ___ receive/d any compensation for animal carcass removal from any other source including the Small Business Administration (SBA), Natural Resource Conservation Service (NRCS), private insurance, federal Individual Assistance programs, or any other public assistance program. I/We will report for this property any insurance settlements to me or my family for carcass removal that has been performed at government expense. I am fully aware that an individual who fraudulently or willfully misstates any fact in connection with this agreement shall be subject to a fine of not more than \$10,000 or imprisoned for not more than one year, or both. For the considerations and purposes set forth herein, I hereby set my hand this day _____ of _____ (month), 20 ____ .

Witness

Owner

Owner

Telephone Number

SAFETY GUIDELINES FOR ANIMAL CARCASS COLLECTION AND DISPOSAL¹

Site Safety Checklist:

- Conduct a job hazard analysis prior to beginning work.
- Assign a staff member to be responsible for safety issues.
- Note and list risks/hazards associated with all operations.
- Confirm that personnel are adequately trained for the jobs they are expected to do.
- List, obtain, and distribute appropriate protective clothing and equipment.
- Note and take any actions needed to make work environment less hazardous.

Hazards and Recommendations:

Unstable work surfaces

- Ensure work surfaces are as stable as possible.
- Ensure workers have safety footwear with slip resistant soles.
- Remind workers to be alert to such hazards.

Dust and gases from engines/ road dust/ other sources

- Workers should use dust masks or respirators as needed.
- Dust should be monitored and suppressed with water as necessary.
- Keep speeds down on construction equipment.

Heat and cold stress

- Cold: Wear adequate clothing to maintain warmth, drink warm liquids often, replace wet clothing as necessary, and use heated shelters as needed to maintain warmth.
- Heat: Adjust work schedules and rotate personnel. Replenish fluids. Know warning signs of heat stress. Provide shelter for workers. Use sun screen.

Carbon monoxide

- Heaters, generators, and heavy machinery can produce carbon monoxide which can make workers dizzy, drowsy, nauseous, or have headaches. Shut off machinery and get air.
- If possible, have a CO warning sensor.

Traffic Hazards

- Make sure all workers wear appropriate high visibility safety garments.
- Use necessary traffic control devices.
- Everyone should know what routes equipment will use.

Heavy Equipment

- Wear safety vests
- Make sure that all warning devices on equipment are working.
- Ensure that operators of equipment know where workers on foot are.
- Ensure that workers do not walk through established equipment routes.

Isolated Work Areas/Sanitation

- Sanitation equipment and materials should be provided.
- Use hand sanitizers.
- Use appropriate clothing/hand protection.
- Keep water and food on hand for workers.
- Have an on-site first aid kit.

Mental Health

- Ensure workers have access to mental health counselors in order to discuss the effects of handling injured, euthanized, or deceased animals.