
ESF #3- Debris Management Appendix

I. FOREWORD

The state developed this document to provide guidance to KDEM, the State Debris Management Unit, and local jurisdictions throughout the state. The state departments, in most cases, provide technical assistance, equipment, and manpower to assist the local jurisdictions. Local jurisdictions maintain direction and control of response and recovery efforts. This guidance can be used by local jurisdictions as a resource guide in developing local debris management plans, or during recovery from a major disaster.

Local officials are encouraged to review the community's vulnerability to a disaster, and consider how to manage a large scale debris clearance, removal, and disposal operation. The KDEM and the FEMA Regional Office may provide additional technical assistance for state communities.

II. PURPOSE

Provide policies and guidance for the removal and disposition of debris caused by an emergency event or major disaster. To facilitate and coordinate the management of debris following a disaster to mitigate against any potential threat to the health, safety, and welfare of the impacted citizens, expedite recovery efforts, and address any threat of significant damage to improved public or private property.

III. Staff Roles and Responsibilities

Staff roles and responsibilities follow the organization established in the KRP's Basic Plan. When the Debris Management Unit is required, the KDHE will serve as the lead agency. Support agencies will include:

1. KDEM/PA Branch
2. KSNG
3. KHP
4. OTAG's General Accounting Finance Officer
5. OTAG's General Council
6. KDOT

IV. Roles and Responsibilities

The KRP's Basic Plan and ESF annexes provide the broad framework for organizational roles and responsibilities through all phases of emergency management. This appendix provides specific responsibilities as it relates to debris management roles and responsibilities. All tasked agencies will provide representation to the Debris Management Unit upon request.

Agency Responsibilities

OTAG

- 1) KDEM will activate the Debris Management Plan and oversee the work of the Debris Management Unit to ensure coordination with other response operations;
- 2) KDEM will provide support to the Debris Management Unit including Warning and Public Information, Planning and Resource Management, Logistics, Finance/Administration and Legal Counsel;
- 3) The legal counsel will provide legal support to the Debris Management Unit;
- 4) The general accounting finance officer will provide staff to document financial expenditures;
- 5) The KSNG will provide equipment and personnel for approved task assignments from the SEOC; and
- 6) The Public Information Office will establish a debris information center or a venue to address all concerns, questions, or complaints.

KDHE

- 1) Establish and lead the Debris Management Unit in the SEOC to coordinate with local authorities, private and non-profit entities, and state and federal agency debris management efforts;
- 2) Ensure all debris management actions are in compliance with applicable state and federal environmental regulations;
- 3) Provide technical support to debris removal, reduction, and disposal efforts;
- 4) Ensure the appropriate removal and disposal of HazMat debris;
- 5) Provide recycling information and guidance;
- 6) Coordinate KDHE contracts, as needed;
- 7) Coordinate debris estimation and modeling efforts;
- 8) Provide asbestos inspection and remediation technical assistance; and,
- 9) Provide technical assistance on available landfill space.

KDOT

- 1) Identify routes that are essential and critical to emergency operations, in conjunction with local jurisdictions and the KHP;
- 2) Coordinate emergency roadway and public right-of-way clearance;
- 3) Coordinate KDOT resources, including equipment and manpower; and,
- 4) Coordinate KDOT emergency contracts, as needed.

KHP

Assist with ingress and egress controls, evacuation, and reentry issues.

Kansas State Historical Preservation Division

Provide assistance in identifying any historical structures or landmarks.

Agency Roles

Administration

KDEM PA Branch will coordinate all federal and state reimbursement of eligible debris expenses incurred on behalf of the state or local jurisdictions. Eligible local and state applicants are responsible for maintaining applicable records and documentation for all debris operations.

Contracting and Procurement

Please see contracted services section later in this plan. Additional Contract Requirements are listed in FEMA Fact Sheet, Debris Removal, and Applicant's Contracting Checklist.

Legal

Local jurisdictions should:

- 1) Identify all local ordinances affecting the jurisdiction's ability and authority to establish a diversion program or to enter into contracts to manage the disaster debris;
- 2) Determine who in the jurisdiction has been delegated the authority to act on behalf of the governing body in the event of an emergency/disaster;
- 3) Outline jurisdiction's local authority with respect to debris management; and,
- 4) Identify or establish local ordinances relating to temporary sites.

The OTAG's general counsel will provide legal support for the state Debris Management Unit during SEOC assigned operations.

Operations

- a. The SEOC's Infrastructure Branch through ESF #3 will coordinate, for the Debris Management Unit, state resources, including manpower, equipment, materials, and technical assistance to be provided by state departments/agencies;
- b. Local jurisdictions will appoint a person to be the liaison to the state Debris Management Unit;
- c. All state resources will be under their department command and will work within the local jurisdiction's Incident Command System.

Debris Management Unit

Debris Management Unit Activation: The SEOC response section chief will assign representatives from the KDHE' Division of Environment to establish the Debris Management Unit and coordinate with local authorities, private/non-profit entities, state and federal agencies to address management of debris removal and disposal.

The Debris Management Unit should be prepared to take the following actions:

- a. Establish and direct the Debris Management Unit in the SEOC Response Section to coordinate with local authorities, private and non-profit entities, and state and federal agency debris management efforts;
- b. Meet with local government officials and other parties to offer technical assistance to select and implement the best debris management sites and practices based upon specific details of the disaster and available local resources;
- c. Issue special approvals or permits to operate debris management sites including staging areas, processing sites, burn sites, and disposal sites;
- d. Develop specific guidelines to property owners and contractors to facilitate debris segregation, collection, and processing;
- e. Coordinate with all parties responsible for implementing debris management efforts including local governments, KDOT, KSNG, hired contractors including engineering consultants, the U.S. Army Corps of Engineers (USACE), FEMA, the U.S. EPA, and solid waste management experts from other cities or counties;
- f. Monitor all debris management activities to ensure compliance with all environmental laws and regulations and offer technical assistance when necessary;
- g. Offer technical assistance and facilitate waste recycling when practical in lieu of disposal;
- h. Coordinate KDHE contractor work when needed;
- i. Provide technical support related to the performance of asbestos inspections, waste material sampling, and remediation;
- j. Develop safety guidelines for debris management at the points of generation and at debris management sites;
- k. Coordinate responses to the release of HazMat with the U.S. EPA, emergency responders, and private response contractors;
- l. Direct sampling activity of soil before and after the use of debris management sites to determine the impacts of debris management and to ensure that sites are returned to pre-disaster conditions;
- m. Coordinate ambient air monitoring with the U.S. EPA or hired contractors to determine the need for respiratory protection or changes to debris management methods and to document potential exposures of workers;
- n. Participate in debris management site operations as necessary until other staffing personnel are identified and hired or assigned;
- o. Oversee the closure of all debris management sites and issue approval letters to document clean closure

Engineering

- a. The county-appointed engineer should be a member of the local debris management team;
- b. KDOT/Engineering may provide assistance to local county engineers during time of disaster;
- c. KDHE/Environment Division has engineers and contractors available to assist with landfill issues;
- d. Develop an estimating strategy for post-disaster debris quantities.

Emergency Communications Strategy

The emergency communications strategy used by the Debris Management Unit will align with the concepts provided in the KRP's Basic Plan.

Health and Safety Strategy and Procedures

Health and safety strategy and procedures include the following considerations:

- a. The safety officer selected by the incident commander will have the responsibility to implement health and safety requirements. He or she will request specific assistance and technical advice as dictated by the situation.
- b. KDHE and/or local health departments will provide technical assistance regarding debris management and public health issues to include: personal protective equipment, proper handling of specific kinds of waste, and general guidelines for safe work environments and equipment operations;
- c. The type of disaster, location, etc. may require special policies due to unusual circumstances;
- d. Information will be distributed to all agencies, contractors, and residents in the impacted area advising of the appropriate health guidelines to follow;
- e. Representatives of the debris management local team will be advised by the safety officer and/or public health official;
- f. All representatives are responsible for notifying persons under their authority;
- g. Contracts must contain a termination clause that non-compliance by local contractors with health and safety procedures will result in immediate termination of their contract for cause; and,
- h. KDHE will provide technical guidance and assistance accordingly to internal and/or SEOC protocol.

Training Schedule

State Debris Management Unit and local debris management teams should annually review and update their Debris Management Plan. KDEM will work in conjunction with the state Debris Management Unit and FEMA to deliver debris management courses.

V. Situation and Assumptions

Situation

The situation information on the state's hazards and associated risk can be referenced in the KRP's Basic Plan.

Assumptions

- a. In large disaster events, with significant debris removal required, local governments will exhaust local resources and mutual aid quickly. In such events, state experts will provide technical assistance to local government pursuant to the procedures set forth in the KRP.
- b. Agencies may have statutory responsibilities for debris management assistance absent the activation of the Debris Management Unit. Upon activation, the Debris Management Unit

- has representatives from such agencies. Coordination will be required to correctly maintain a common operating picture of past, present, and future actions.
- c. Natural and man-made disasters precipitate a variety of debris which includes such things as trees, sand, gravel, building/construction material, household hazardous waste, vehicles, mobile homes, and personal property. The quantity and type of debris generated from any particular disaster will be a function of the location and kind of event experienced. Historically in the state high volume debris removal has been from tornados, winter storms and flooding.
 - d. Debris removal is a high priority following a disaster. It is a visible sign of action and helps to restore a sense of normalcy to the affected population. Removal often represents the first visible step toward recovery.
 - e. The quantity and type of debris generated, its location, and the size of the area over which it is dispersed, will have a direct impact on the type of collection and disposal methods utilized, associated costs, and how quickly the problem can be addressed.
 - f. In a major catastrophic disaster there may be difficulty in locating staff, equipment, and funds to devote to debris removal. The amount of debris could exceed the local jurisdiction's ability to dispose of it. If the event or disaster requires, the governor will declare a state of emergency that authorizes the use of state resources to assist in technical assistance, and possible removal and disposal of debris. In the event federal resources are required, the governor will request federal assistance in accordance with the NRF.
 - g. Private contractors may play a significant role for state agencies and local governments in the debris removal, collection, reduction, and disposal process. The debris management program implemented will be based on the waste management approach of reduction, reuse, reclamation, resource recovery, incineration, and land filling, respectively.

Forecasted Debris

Staff must be able to assess debris based on:

- a. Quantities and types;
- b. Rural, urban and/or agricultural locations;
- c. Number of private homes, mobile homes, public facilities and commercial establishments damaged or destroyed;
- d. Miles of roads affected, categorized by type, such as rural, urban and/or expressways; and,
- e. Quantity and types of household hazardous wastes.

Forecasted Types

- 1) Flood debris may consist of sediment, wreckage, personal property, and sometimes HazMat deposited on public and private property. Additionally, heavy rains and floods may produce landslides; in such cases, debris consists primarily of soil, gravel, rock, and some construction materials.
- 2) Tornado and heavy wind debris consists primarily of vegetative, construction materials from damaged or destroyed structures and personal property. Usually composed of approximately 30% clean wood debris and 70% mixed construction & demolition (C & D) material.
- 3) Winter ice storm debris consists primarily of trees and woody debris, causing severe utility outages.

Forecasted Locations

- 1) Flash flooding can occur throughout the state during a sudden surge of water down narrow channels or sloping ground caused by heavy rainfall.
- 2) The entire state is vulnerable to tornadoes and heavy winds. The majority of the damage would occur in more populated urban and suburban areas.
- 3) Typically, winter storms have been widespread, adversely affecting many people in several counties.

Forecasting Methods

Buildings

Residential Buildings

A formula for estimating the debris quantities from a demolished single-family home and associated debris is:

$$L' \times W' \times S \times 0.20 \times VCM = \text{___ cubic yards of debris (cy)}$$

Where:

- a) L = length of building in feet
- b) W = width of building in feet
- c) S = height of building expressed in stories
- d) VCM = Vegetative Cover Multiplier

The vegetative cover multiplier is a measure of the amount of debris within a subdivision or neighborhood. The descriptions and multipliers are described as:

- a) **Light** (1.1 multiplier) includes new home developments where more ground is visible than trees. These areas will have sparse canopy cover.
- b) **Medium** (1.3 multiplier) generally has a uniform pattern of open space and tree canopy cover. This is the most common description for vegetative cover.
- c) **Heavy** (1.5 multiplier) is found in mature neighborhoods and woodlots where the ground or houses cannot be seen due to the tree canopy cover.

The table below can be used to forecast debris quantities for totally destroyed single-family, single-story homes in the applicable vegetative cover category.

The amount of personal property within an average flooded single-family home has been found to be:

- a) 25-30 cy for homes without a basement
- b) 45-50 cy for homes with a basement

Mobile homes have less wasted space due to their construction and use. The walls are narrower, and the units contain more storage space. Therefore, the typical mobile home generates more debris by volume than a single-family home. Historically, the volume of debris from mobile homes has been found to be:

- a) 290 cy of debris for a single-wide mobile home
- b) 415 cy of debris for a double-wide mobile home

Outbuildings

All other building volumes may be calculated by using the following formula:

$$L' \times W' \times H' \times 0.33 = \text{___ cubic yards of debris}$$

Where:

- a) L = length of building in feet
- b) W = width of building in feet
- c) H = height of building expressed in feet
- d) 0.33 is a constant to account for the "air space" in the building
- e) 27 is the conversion factor from cubic feet to cubic yards

Vegetation

Vegetation is the most difficult to estimate due to the random sizes and shapes of trees and shrubbery. Based on historical events, the USACE has established a few rules of thumb in forecasting and estimating vegetative debris.

- a) Treat debris piles as a cube, not a cone, when estimating
- b) 15 trees, 8 inches in diameter = 40 cy (average)
- c) One acre of debris, 3.33 yards high = 16,117 cy

Volume- Weight Conversion Factors

These factors to convert woody debris from cubic yards to tons are considered reasonable and were developed by USACE.

- a) Softwoods: 6 cy = 1 ton
- b) Hardwoods: 4 cy = 1 ton
- c) Mixed debris: 4 cy = 1 ton
- d) C & D: 2 cy = 1 ton

To verify these conversion factors in the field, several truckloads may be tested. Trucks should be well loaded, contain woody debris typical of that being removed, and truck capacities should be verified. It is recommended testing be performed with all affected parties present.

VI. Debris Collection Plan

List Priorities

Debris Management operations should be divided into two phases. Phase I consists of clearance of debris that hinders life saving actions and poses an imminent threat to public health and safety. Phase II consist of removal and disposal of debris determined necessary to ensure the orderly recovery of the community and to eliminate lesser threats to health and safety.

The Debris Collection Plan will be implemented only after a local jurisdiction declares an emergency, SEOC has been activated, and debris management issues have overwhelmed local capabilities.

Response Operations

Phase 1

Emergency Debris Clearance

Opening emergency access into a physically affected area is a top priority following any type of major disaster. The Debris Management Unit will coordinate with local government officials to identify routes that are essential to emergency operations and any unmet support needs. Priority action is focused on moving debris to the shoulders of essential arterial roads and collector streets. No attempt is made to remove or dispose of the debris, only to clear routes to expedite:

- a) Movement of emergency vehicles;
- b) Resumption of critical services;
- c) Assessment of damage to key facilities and utilities;
- d) Access to other critical community facilities such as municipal buildings, water and wastewater treatment plants, power generation units, airports, trauma centers, hospitals, critical care units and jails; and,
- e) Access to debris management center, emergency operations center, communication towers and community shelters.

Damaged utility systems, structurally unstable buildings, and other heavily damaged public facilities must be expeditiously repaired, deactivated, barricaded, or removed. Activities involving these facilities should be closely coordinated with owners and operators. Demolition of unsafe structures may be deferred if access to the area can be controlled

Following and/or during emergency debris clearance, the local government and a member of the Debris Management Unit should discuss the following checklist. This checklist and the components therein provide a roadmap for decision makers concerning debris management operations. The components of this list are discussed in the remainder of this plan.

Debris Management Checklist

- a) SEOC and/or KDOT deploy resources and work with local government officials to identify routes that are essential to emergency operations and assist in clearing debris from those route;
- b) Estimate the volume and nature of debris in affected area(s) in cooperation with local government officials and identify any special handling requirements caused by debris characteristics;
- c) Within 24-hours of a local county declaration, KDEM calls a meeting of the SEOC Infrastructure Branch to review the geographic extent of disaster impacts, to assess the debris generation and management needs, and to ensure coordinated state agency actions;

- d) State agencies are assigned tasks by the SEOC through their respective ESF. For debris management mission assignments these are typically via the SEOC infrastructure branch director through ESF #3. Please see Basic Plan for mission assignment flow chart. Agencies deploy resources in accordance with assignments;
- e) Assess whether there has been a release of HazMat and take appropriate measures to respond to such releases including hiring of specialized response contractors;
- f) KDHE contacts or meets with local governments having jurisdiction over affected areas to:
- Determine whether debris can be managed with local resource;
 - Determine the adequacy of any local debris management plan to handle volume and type(s) of debris generate; and
 - Identify contractors or other governmental jurisdictions capable of providing services in areas of need.
- g) Based upon all factors assess options and determine the primary debris management methods (burial, burning, recycling, composting, mulching, etc.);
- h) Issue special emergency permits or other approvals to manage debris
- Evaluate the need for hiring special pre-qualified health and safety officer(s) and implement the hiring and assignment process as warranted;
 - Solicit bids from private companies for various needed services related to debris management;
 - Work with local governments to develop debris management guidelines for property owners and contractors including waste segregation, staging, and safety requirements;
 - Request assistance from federal agencies (such as the EPA) as appropriate based upon capabilities of state and local government resources and available private contractors;
 - Assess waste reduction/recycling opportunities and implement as practical in lieu of disposal methods;
 - Develop and implement system of special debris haul routes and disseminate that information to all interested parties;
 - Work with local government officials and FEMA (as appropriate) to develop land lease agreements for the storage, processing, or disposal of debris;
 - Perform soil sampling at debris management sites prior to use to document pre-use conditions;
 - Inspect and sample debris to establish required management methods, especially as related to asbestos content;
 - Assist local governments in initiating debris collection and debris site operations pending the hiring of qualified contractors to take over those responsibilities;

- Carry out ambient air monitoring as necessary to determine the need for respiratory protection and/or changes to debris management practices; and
- Oversee the operation of all debris management sites to ensure compliance with applicable laws and regulations and the closure of all sites (or return to non-emergency operational status). Issue approval letters documenting the end to emergency operations or “clean” closure and/or special conditions associated with future site management.

Recovery Operations

When an impacted state or local government does not have the capability required to respond to a residentially declared disaster, a request for technical or DFA may be made. The approved request is called a “mission assignment”. A mission assignment is a work order issued by FEMA to another federal agency directing completion of a specific assignment in anticipation of, or response to, a presidential declaration of a major disaster or emergency.

FEMA debris-related mission assignments are performed by:

- a. ESF #3 is responsible for infrastructure protection, emergency repair, and restoration. This group provides engineering services and construction management, and serves as a critical infrastructure liaison. USACE is the lead agency for ESF #3; and
- b. ESF #10 is responsible for responding to oil and hazardous material issues, environmental safety, and short-and long-term cleanup. The two most commonly deployed agencies that deal with the debris-related activities are U.S. EPA and USCG.

Requirements

- 1) The mission assignment must be requested by the state;
- 2) The community must demonstrate that the required disaster-related efforts exceed state and local resources;
- 3) The scope of work must include specific quantifiable measurable tasks; and,
- 4) FEMA issues mission assignments.

Costs

- 1) DFA mission assignments are subject to the cost-sharing provisions applicable to the disaster. The state will agree in advance to reimburse FEMA for the appropriate non-federal share of the work assigned the mission assignment; and
- 2) The state may require a local jurisdiction to pay their portion of the non-federal cost share.

Phase II

Phase II recovery operations should begin with a meeting between the local officials of the impacted area and a representative from the Debris Management Unit. This coordinating meeting will shape the scope of the debris removal mission. Topics of discussion should include:

Debris Removal and Disposal

- a) As clearance efforts progress, the public rights-of-way and initial roadside debris piles will become a primary dumping location for affected citizens. As a result, expedient removal of debris from in front of residents' homes should become a priority to clear public rights-of-way and expedite the replacement of key utilities;
- b) The recovery phase focuses on collecting the remaining debris, reducing or recycling, and final disposal;
- c) Development of a debris management site is considered a recovery activity as well.
- d) Depending on the quantity and the complexity of the debris removal actions, debris removal activities could continue for several months; and
- e) Local jurisdictions can use a combination of force account and contractor services for debris removal activities during this phase.

Estimating Staff, Procedures, and Assignments:

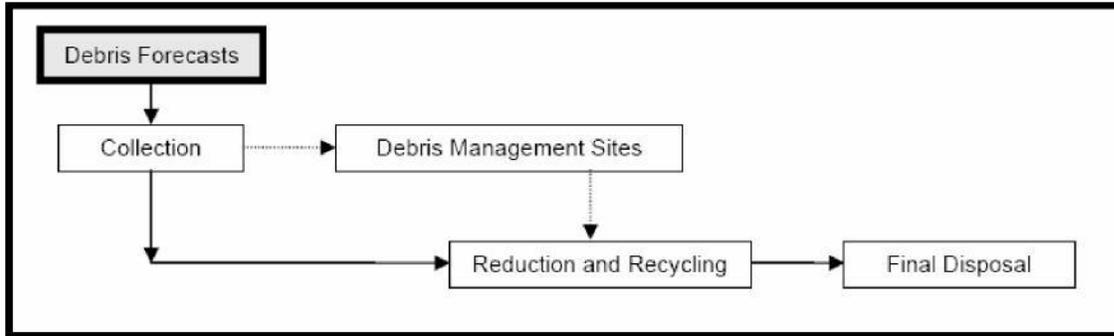
- a) The size and composition of a staff organized to manage debris clearance, removal, and disposal issues will depend on the magnitude of the disaster and the size of the community;
- b) Pre-disaster debris planning might be quite small; however, following a major disaster, additional staff members may be required;
- c) The local, tribal, or state debris staff will be comprised of trained personnel supplemented with personnel from other staffs and agencies; and
- d) Prior to any anticipated disaster, it is essential that perspective staff members have as much training as possible, and interface with other agencies responsible for debris clearance, removal and disposal activities, such as KDOT, KDHE, FEMA, and the USACE.

Collection Method

The fundamental component of a disaster debris management strategy is the collection of debris. The public expects to have debris removed from neighborhoods soon after a disaster event. The implementation of timely disaster debris collection operations after the disaster signifies that recovery efforts are in progress and that the community will return to normal quickly. Developing an approach to collect debris early in the planning process will assist local jurisdictions to begin collecting debris promptly following a disaster event.

The debris type, amount, and urgency determines which collection method is used. The two main methods of debris collection are curbside collection and collection centers.

The planning staff may tailor the collection operation using curbside collection, collection centers, or a combination of both depending on the specific jurisdiction, quantities, and types of debris.



Curbside Collection

Curbside collection parallels a local jurisdiction's normal garbage and trash collection operations. Debris is placed at the curb or public rights-of-way by the residents for the local jurisdiction's collection.

Mixed Debris Collection

Collecting mixed debris by the local jurisdiction allows for residents to place all debris types in one specified area, usually along the public right-of-way in front of their residence. While this is the most convenient for the public, it does not facilitate effective recycling and reduction efforts, as the debris will need to be handled multiple times. Therefore, this method prolongs recycling and reduction efforts and increases operational costs.

Source-Segregated Debris Collection

Residents are directed to sort the debris by material type and place it at the curb in separate piles. Trucks (obtained locally, via mutual aid, via contractor, or via SEOC deployment) designated for a particular debris type collect the assigned debris and deliver it to a temporary staging area, or debris management site, reduction, recycling, or disposal facility. The disadvantage of this method is it requires more trucks to collect the different types of debris; however, this increased equipment cost may be offset by avoiding the labor cost and time to separate the debris by hand. Source-segregated debris collection offers the potential of high salvage value and efficient recycling/reduction processing. This method is important when collecting hazardous and environmentally sensitive debris, such as household hazardous waste and white goods.

Collection Centers

The second type of collection method is to have residents transport their debris to a common location. Large roll-off bins may be placed on public rights-of-way or public property for the residents to bring their debris for collection. This is well suited for rural, sparsely populated areas or logistically difficult conditions (i.e., hilly neighborhoods) where curbside collection is not practical. Separate bins can be designated for particular types of debris. The associated costs are generally low since the public essentially accomplishes the material collection and separation themselves.

The planning staff, in cooperation with operations staff, should assign employees to manage the development of the site and oversee the operations of the collection center based on the direction of the incident commander. The planning staff needs to design the circulation for proper ingress, egress, and collection bin exchanges. Employees need to be stationed at the centers during the collection period to monitor and replace full bins, to ensure that debris materials are placed in the correct bins, and to ensure a collection center does not become a dumping ground for non-disaster-related debris.

The affected jurisdiction's legal counsel should investigate the liability issues that the site may present, especially if debris is being brought in and handled by the jurisdiction's residents. If the affected jurisdiction is unable to advise, the SEOC's legal counsel (OTAG) will provide guidance.

Collecting Hazardous Waste and White Goods

Household Hazardous Waste (HHW)

HHW may be generated as a result of a major emergency or disaster. HHW may consist of common household chemicals, propane tanks, oxygen bottles, batteries, and industrial and agricultural chemicals. These items will be mixed into the debris stream and will require close attention throughout the debris management process.

A separate staging area for HHW materials, contaminated soils, and contaminated debris should be established at each site. Materials should be removed and disposed of using qualified HHW personnel or contractors in accordance with local, state and federal regulations.

When possible, separate HazMat from other debris before removal. Arrange for HHW materials to be collected and segregated by properly trained personnel or contractors.

HHW mixed with other debris types will contaminate the entire load, which necessitates special disposal methods. Typically, the landfill requires special liners and a more intense permit standard. The disposal cost of HHW is generally higher than the disposal of other waste and the overall cost of debris disposal can escalate quickly if the HHW collection and disposal is not planned and executed with care.

KDHE, in coordination with the state and local governments, have developed Kansas Household Hazardous Waste (KHHW) programs throughout many counties in the state. The KHHW contact list is available at www.kdheks.gov/waste/download/HHWpointofcontact.pdf.

Pre-disaster planning should include training for hazardous waste response teams to collect, sort, store, and dispose of excessive quantities of KHHW. The planning staff may consider having emergency hazardous waste removal/disposal contracts in place or pre-qualifying contractors to perform the work. The planning staff may prepare generic

scopes of work that can be fine tuned with minimal effort, in order to begin recovery operations quickly.

White Goods

The planning staff needs to take special care in finding certified recycling centers that are permitted to take white goods. Refrigerants and other machine fluids are regulated by KDHE and can only be reclaimed by certified technicians and disposed of at a permitted facility. For information on the certification for refrigerant removal, contact the U.S. EPA CFC Outreach Program at 913-551-7848.

Freezers and refrigerators that are mixed with debris will usually contain food that quickly begins to rot if the weather conditions are warm or hot. Food may both be removed and bagged by owners for segregated disposal in a municipal solid waste landfill or the doors to these units may be taped shut and moved to the curb for pick-up. Freezers and refrigerators should be collected and staged for recycling at a location where the food can be removed and transferred to a roll-off container or dumpster which is subsequently taken to a municipal solid waste landfill. Food removal can take place at the same location that refrigerants (Freon or other CFCs) are recovered. It should be noted that the removal of rotting food may present insect, rodent, and odor challenges for personnel or contractors tasked with clean duties.

To avoid releases of refrigerants or oils, the collection of white goods should be accomplished carefully by manually placing the appliance on trucks or by using lifting equipment that will not damage the elements that contain the refrigerants or oils.

Having contracts or agreements in place prior to a disaster expedites the recovery efforts. Recycling scrap metals and parts from white goods presents an opportunity for local jurisdictions to offset the collection and disposal costs. This also reduces the amount of waste going to a landfill.

KDHE and EPA provide first response functions in cases of commercial, agricultural, industrial, and toxic waste spills. The Debris Management Plan should include supporting documents in case of a large contamination issue.

Electronic Waste (E-Waste)

To the extent possible, electronic wastes should be segregated from mixed debris for recycling or disposal at a municipal solid waste landfill rather than mixed with debris that is disposed of in a construction and demolition waste landfill. Electronic waste, also referred to as “e-waste,” consists of computers, televisions, video projectors, telephones, video games, and many other items that typically contain circuit boards and rechargeable batteries. E-waste recovery is important because there are generally some low levels of hazardous substances in these items as well as some valuable natural resources (e.g., gold and silver).

Unwanted E-waste should be moved to the curb by owners for special pick-up and transfer to a staging area for later recycling.

Monitoring Staff and Assignments

Monitoring debris removal operations achieves two objectives:

- a. Verifying that the work completed by the contractor is within the contract scope of work; and,
- b. Providing the required documentation for PA grant reimbursement.

Failure to document eligible work and costs may jeopardize PA grants. In federally declared disasters, FEMA periodically validates the local jurisdiction's monitoring efforts to ensure that eligible debris is being removed and processed efficiently.

Debris Monitoring Staff

Local jurisdictions can use force account resources, contractors, or a combination of both to monitor debris removal operations.

Force Account Resources

Local jurisdictions are encouraged to use their own employees to monitor debris removal operations. The local jurisdiction's employees are the most familiar with the jurisdiction and know the priorities of the local jurisdiction's Debris Management Plan. Force account employee costs are reimbursed based on the PA Program's labor cost policies for emergency work.

Debris monitors should have experience working on construction sites and be familiar with safety regulations, but it is not necessary to have professional engineers and other certified professionals perform these duties. Primarily, debris monitors should be able to estimate debris quantities, differentiate between debris types, properly fill out load tickets, and follow all site safety procedures.

Debris Monitor Roles

The primary role for debris monitors is to document the location and amount of debris collected. The key elements of information needed to verify the contractor's scope of work and determine eligibility are the:

- 1) Type of debris collected;
- 2) Amount of debris collected; and,
- 3) Original collection location.

The debris monitor's roles and responsibilities in the field include:

- 1) Measure and certify truck capacities (recertify on a regular basis);
- 2) Complete and physically control load tickets (in monitoring towers and the field);
- 3) Validate hazardous trees, including hangers, leaners, and stumps (use appropriate documentation forms);
- 4) Ensure that trucks are accurately credited for their load;
- 5) Ensure that trucks are not artificially loaded to maximize reimbursement (e.g., debris is wetted, debris is fluffed - not compacted);
- 6) Ensure that hazardous waste is not mixed in with loads;
- 7) Ensure that all debris is removed from trucks at the Debris Management Site (DMS);
- 8) Report to project manager if improper equipment is mobilized and used;

- 9) Report to project manager if contractor personnel safety standards are not followed;
- 10) Report to project manager if general public safety standards are not followed;
- 11) Report to project manager if completion schedules are not on target;
- 12) Ensure that only debris specified in the scope of work is collected and identify work as potentially eligible or ineligible;
- 13) Monitor site development and restoration of the DMS;
- 14) Ensure daily loads meet permit requirements;
- 15) Provide oversight so that work stops immediately in an area where human remains or potential archeological deposits are discovered; and,
- 16) Report to project manager if debris removal work does not comply with all local ordinances as well as state and federal regulations.

The local jurisdiction is responsible for ensuring that local jurisdiction-managed debris removal work (either force account or contract) being funded under the PA Program is eligible in accordance with PA Program criteria.

Local jurisdictions may request state/FEMA assistance with debris monitoring or monitor training.

Monitoring Methods for Debris Removal

Additional documentation requirements depend on how the debris is collected and processed. The following describes methods and systems to monitor and document work completed by force account resources and/or contractors. The planning staff should develop tools for their documentation duties. It is suggested that all three of the following tools be used to document all types of debris removal contracts – unit cost, lump sum, and time-and-materials contracts.

Debris Monitor Reports

Local jurisdictions should develop a debris monitoring report to make all reporting documents consistent regardless of who performs the work. Following are examples of debris monitor's reports. Local jurisdictions are not required to use this report; however, they should have a reporting document that captures the types of information if seeking PA reimbursement.

See attachments for the following forms:

- a) Tower Monitor Log;
- b) Roving Monitor Log; and
- c) Daily Issue Log

The debris monitoring report is important for monitoring time-and-materials contracts that may be used during the response phase of the operations. Monitoring documentation for time-and-materials contracts includes:

- a) Actual labor hours worked;
- b) Actual equipment hours operated;
- c) Type and specification of equipment used; and,

- d) The labor and equipment summary records provided by FEMA are often used by local jurisdictions as a starting point for their specific documentation needs and contract requirements.

See attachments for the following forms:

- a) FEMA Form 90-123, Feb 06; and
- b) FEMA Form 90-127, Feb 06

Truck Certification List

A truck certification list allows the monitor to identify the truck itself and its hauling capacity in a standardized manner. It is important to know the truck hauling capacity since debris, specifically vegetative debris, is often hauled and billed by volume. The standard list of requirements includes:

- a) Size of hauling bed in cubic yards;
- b) License plate number;
- c) Truck identification number assigned by the owner; and,
- d) Short physical description of the truck.

Monitors may need to be trained to measure truck capacities for certification purposes. Recertification of the hauling trucks on a random and periodic basis should be implemented for contract compliance and reimbursement considerations.

See attachments for the Truck Certification Form A and B.

Load Ticket System

See attachments for the following forms: Load Ticket Form

The term “load ticket” refers to the primary debris-tracking document. A load ticket system tracks the debris from the original collection point to the DMS or landfill. By positioning debris monitors at each point of the operations (collection, DMS, and/or final disposition), the eligible scope of work can be properly documented. This is how the local jurisdiction documents and tracks the debris from the initial collection location to the DMS and final disposal location. If the local jurisdiction uses a contract hauler, this ticket often verifies hauling activities and is used for billing purposes.

Traditionally, load tickets have been carbon paper tickets with at least four copies generated for one load of debris. More advanced tracking tools have been developed and used in the field to reduce human error and expedite funding. These computer-based systems often include the same information as a traditional load ticket.

Each monitor is responsible for populating specific areas of the load ticket. The following table lists the load ticket information and the portions of the ticket to be completed by the respective monitor.

Load Ticket Information	Monitor Ticket Responsibilities	
	Collection Point Monitor	DMS or Landfill Monitor
Preprinted ticket number	NOT APPLICABLE	
Contract number	Contracts may be identified by a number or name	
Prime contractor's name		
Date	X	
Truck number	X	
Truck driver's name	X	
Vegetation	X	
Construction & Demolition	X	
White Goods	X	
Household Hazardous Waste	X	
Other (required to be described applicable)	X	
Load Location	GPS or address preferred	
Loading date/time (departure from collection location)	X	
Loading Site Monitor name/signature	X	
Truck capacity in cubic yards or tons		X
Load Size, either cubic yards (percent of actual) or tons		X
Unloading location		X
Unloading date/time (arrival at disposal site)		X
Unloading site monitor name/signature		X

Each monitor keeps a copy of the load ticket, and the driver/contractor keeps two copies for billing purposes.

In computer-based systems, the collection monitor gathers the same information as in a traditional paper load ticket system and inputs this information into a handheld digital device. The collection monitor gives the hauler the information in a digital format (card or small driver). The monitor, stationed at the DMS or landfill, downloads the information, and completes the transaction in a manner similar to the traditional method. The monitor, stationed at the DMS or landfill, can then print a ticket for the hauler's billing purposes.

Forms can be found in the FEMA Public Assistance Debris Management Guide:
FEMA 325 Debris Management Guide - July 2007
<http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>

VII. DMS

The purpose of using temporary disposal DMS is to quickly and efficiently remove debris from roads and public rights-of-way to facilitate the recovery process. Temporary debris management sites should be used when it is not feasible or practical to take the debris directly to the recycler, landfill, or processor.

Things to consider when determining the need for one or more temporary debris management sites:

1. Distance to depositions is greater than 15 miles from the debris loading site; and
2. May assist with debris volume reduction. Temporary debris management sites are often great location sites to incinerate, separate debris for recycling, or reduce woody debris volume by chipping and grinding (mulching).

Advantages

- a. Flexibility of operations. The DMS may also include a collection center for the public's use;
- b. Facilitation of recycling and reduction of debris. Specific reduction, recycling, or segregation needs can be designed into the site; and
- c. Expedition of debris collection. Having a site for temporary storage and reduction allows time for local landfill site preparation before final disposal. The DMS may also be established at a location central to the disaster event, thereby reducing travel time from the disaster area to the disposal site.

Disadvantages

- a. Additional cost to handle the debris twice. Once to the DMS and the second time to final disposition;
- b. If local jurisdiction-owned land is not available, leasing land is expensive. Additional costs for proper planning, engineering, and permitting;
- c. Considerable time and effort required to complete environmental and historic preservation compliance reviews prior to establishing the site;
- d. Environmental review and potentially extensive site cleanup may be necessary to properly close the site; and
- e. DMS requires dedicated site management and staff for efficient operations, safety, and documentation considerations.

Identifying DMS sites before a natural disaster expedites debris removal and subsequent volume reduction and disposal action. Local debris management plans should develop and maintain current listings of potential debris storage and reduction sites.

KDHE/Bureau of Waste Management, *Solid Waste Facilities Database*, provides locations of permitted disposal sites: <http://www.kdheks.gov/environment/index.html>

Site Management

To meet overall debris management strategy goals and to ensure that the site operates efficiently, the management of the site should be under the direction of the local jurisdiction. Local

jurisdictions could use in-house personnel or contracted services to manage the site. In either situation, a site manager, debris monitors, and safety personnel are needed to ensure safe and efficient operations.

Site Manager

The site manager is responsible for supervising the overall day-to-day operations, maintaining daily logs, preparing site progress reports, and enforcing safety and permitting requirements during site operations. The site manager is also responsible for scheduling the environmental monitoring and updating the site layout. The site manager has oversight for monitoring the activities of the debris removal contractors and the onsite debris processing contractors to ensure they comply with the terms of their contracts.

Monitoring Staff and Assignments

Local jurisdiction monitors should be placed at ingress and egress points to quantify debris loads, issue load tickets, inspect and validate truck capacities, check loads for hazardous waste and perform quality control checks. The number of DMS monitors required will be based on the number of sites and type of activities conducted at each site.

The state Debris Management Unit may assist in providing onsite monitor training, and provide the necessary KDHE staff to assist with environmental issues. Solid waste managers are a valuable asset to the monitoring process, and should be involved with the local debris management team, and in debris removal and disposal strategy.

FEMA and the KDEM PA Program will be responsible for providing monitors to work in conjunction with the local monitors. FEMA and KDEM monitors will coordinate with the local jurisdiction and contractor on daily operations.

Safety Personnel

Safety personnel are responsible for traffic control and ensuring that site operations are in compliance with state and federal occupational safety regulations.

Establishment and Operations Planning

Permits

Local jurisdictions must acquire all necessary local, state, and federal permits necessary to operate a DMS. A listing of the permits should be part of the Debris Management Plan, and may include:

- 1) Waste processing and recycling operations permit;
- 2) Temporary land-use permits;
- 3) Land-use variances;
- 4) Highway use permitting;
- 5) Air quality permits;
- 6) Water quality permits;
- 7) Coastal commission land-use permits;

- 8) HHW permits;
- 9) Fire department permits.

Local jurisdictions should review existing permitted solid waste facilities and HHW facilities, in their debris management planning process, to determine if these facilities and operators have the capability and capacity to manage the waste created from a major natural disaster.

KDHE/Bureau of Waste Management can provide technical assistance with the necessary state permits required for the disposal of debris generated resulting from a natural disaster.

State and federal agencies must comply with all applicable regulations, laws, policies, requirements, and procedures.

Please reference ESF #3 concept of operations for other permitting that may be required (i.e. Right-of-Way permitting).

Locations

Local jurisdictions and the state debris management team, when evaluating DMS locations, must consider many factors. Below is a list of some key factors that should be taken into consideration:

- 1) Baseline Data Collection – This process is essential to documenting the condition of land before it is used as DMS. The following actions are suggested to document the baseline data on all sites:
 - a) Videotape and/or photograph the site;
 - b) Document physical features;
 - c) Investigation of historic significance; and
 - d) Sample soil and water;
- 2) Land ownership – Ideally the site should be owned by the local entity;
- 3) Access – Evaluate ingress and egress issues of the site;
- 4) Neighbors – If the site is located next to a residential community keep in mind the “not in my back yard” philosophy;
- 5) Whenever possible, avoid locating a DMS near schools, churches, hospitals, and other sensitive areas;
- 6) Environmental and Historic Preservation Concerns – A DMS should not be established in an environmentally or historically sensitive area;
- 7) Size and planned operations – Depending on operations at the site (i.e. temporary storage/separation or incineration and separation), a large site area may be required. Plan the space according to the processing method to ensure sufficient space for:
 - a) Processing equipment and the trucks to maneuver;
 - b) Material segregation to avoid contamination; and,
 - c) Materials that require special handling and transportation to a more appropriate recycling or disposal site;

Local jurisdictions should conduct a complete evaluation of locations in their debris management planning process, prior to an actual disaster.

Site Preparation

The information gathered during the baseline data collection becomes important to the design of the site. Additional concerns, such as site operations and closure criteria, need to be taken into consideration when the site is designed. Many of these issues will be addressed in planning, but will be implemented after the debris-generating event occurs.

The topography and soil/substrate conditions should be evaluated to determine the best site layout. When planning site preparation, the designer should consider ways to make site closure and restoration easier. Operations that modify the landscape adversely affect landscape restoration.

Local jurisdictions should have persons on the site preparation and planning team that are familiar with all local, state, and federal requirements.

Site Layout

The efficiency and the overall success of the DMS operations are determined by how the site is designed. Debris should be constantly flowing to incinerators and grinders, or recycled with the residue and mixed construction and demolition materials going to a landfill. Significant accumulation of debris should not be allowed to occur at temporary storage sites, due to environmental and safety concerns, such as the risk of fire. Moreover, permits for such sites usually impose maximum capacity restrictions. Additional debris management sites may be required if the actual debris quantities flowing into the site are greater than the site storage and processing capacity.

Site layout should be determined based on the debris management operational uses to be conducted at each site. Site layout at existing permitted locations may meet operational needs and require only minimal modifications.

Common operational uses are:

- 1) Reduction;
- 2) Recycling;
- 3) Tipping areas (unloading);
- 4) Loading areas for processed debris to go to its final disposition;
- 5) Drop-off centers for the general public (this may include vegetative, recycling, or construction and demolition debris);
- 6) HHW storage;
- 7) Monitoring tower locations at both the ingress and egress points; and,
- 8) Equipment, fuel, and water storage.

Other considerations include:

- 1) Separation, between all of the areas listed above, needs to be clearly delineated and defined;
- 2) Monitoring towers must be located at ingress and egress points and constructed of durable structural materials;
- 3) Water should be readily available at all times; and,
- 4) Traffic circulation needs to be well-defined throughout the entire site. The use of signage, and flag personnel to help direct traffic, may be necessary.

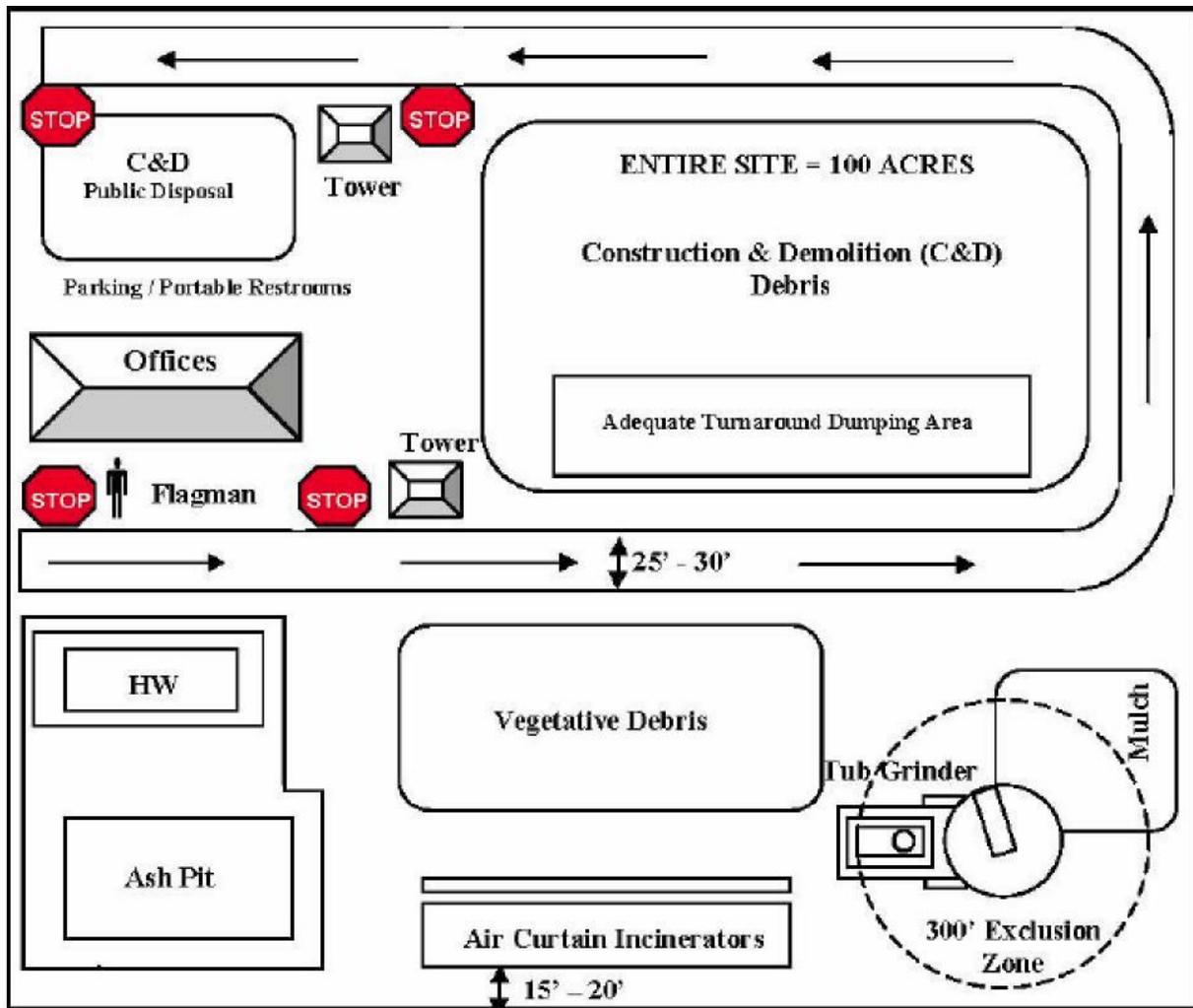


Figure 1 Sample DMS Layout

Volume Reduction Methods

This section provides guidelines on debris volume reduction methods including incineration, grinding and chipping, and recycling. Understanding the general make-up of debris from each local entity is an important factor when determining the most effective deposition for each area.

Essentially there are four options for debris deposition:

- 1) Incineration;
- 2) Chipping and grinding (mulching);
- 3) Recycling; and,
- 4) Landfill

All methods should comply with local ordinances and environmental regulations. A setback of at least 100 feet should be maintained between the debris piles and the incineration area.

Incineration

There are several incineration methods available. The local jurisdiction and the state Debris Management Unit should consider each method before selection and implementation as part of the overall volume reduction strategy. Local jurisdictions must contact KDHE to request a burn permit, pursuant to Kansas Air Quality Regulation **28-19-647. Exceptions to prohibition on open burning;**

- a) *Uncontrolled Open-Air Incineration*– Uncontrolled open burning is the least desirable method of volume reduction because it lacks environmental control. However, in the haste to make progress, waivers may be issued to allow this method of reduction early in a disaster. Only clean woody debris should be incinerated using this method. There can be environmental and local concerns associated with air pollution, since this type of burning has no smoke control;
- b) *Controlled Open-Air Incineration* – Controlled open burning is a cost-effective method for reducing vegetative debris in rural areas. Clean woody tree debris presents little environmental damage;
- c) *Air Curtain Pit Incineration* – Air Curtain Pit Burning offers an effective means to expedite the volume reduction process by substantially reducing the environmental concerns caused by controlled open-air burning; and
- d) *Portable Air Curtain Incineration* – Portable air curtain pit incinerator systems use the same methods as air curtain pit incinerator systems except the portable incinerators use a pre-manufactured pit rather than an on-site constructed earth/limestone pit. Portable air curtain incinerators are an alternative to air curtain pit burning. The units can be erected on site. The units are especially suited for locations with high water tables, sandy soils, or where materials are not available to build above ground pits.

NOTE: A proactive public information strategy should be included in any operation that uses incineration as a primary means of volume reduction. Local jurisdiction staff, environmental groups, and residents should be thoroughly briefed on the incineration methods being used, how the systems work, environmental standards, health issues, and the risks associated with each type of incineration.

Chipping and Grinding

Grinding and chipping woody debris is a good method for volume reduction, averaging a 75% reduction. Grinding and chipping is environmentally friendly, and the resulting product can be reused. Costs associated with double handling woody debris may be reduced by this method. The planning staff should investigate the opportunities, economics, and equipment to determine if this reduction method is appropriate for its jurisdiction.

The Debris Management Unit should work closely with local environmental and agricultural groups to determine if there is a market for mulch. Another source for disposal of ground woody debris may be an alternative fuel for industrial heating or for use in a cogeneration plant.

When contracting, the most important item to specify is the size of the mulch. This will be determined by the eventual use. If the grinding operation is strictly for volume reduction, size is not important.

Equipment

- a) Tub-grinders have production rates ranging from 160 to 340 cubic yards per hour for brush and yard waste.
- b) Brush chippers can be hauled or towed to the site of the downed vegetation and are ideal for use in residential areas.

Recycling

Recycling is an excellent option when it has been researched and adopted as part of the pre-disaster Debris Management Plan. It may also work following a disaster if identified early in the recovery stage. Recycling may present an opportunity to reduce overall cost.

Recycling reduces mixed debris volume before it is hauled to a landfill. Recycling is attractive and strongly supported since there may be an economic value to the recovered material if it can be sorted and sold. Metals, soil, wood and construction materials are prime candidates for recycling. A portable Materials Recovery Facility could be set up at the site.

Recycling has significant drawbacks if contracts are not properly written and closely monitored. One drawback is the potential environmental impact of the recycling operation. Specialized contractors should be available to bid on disposal of debris by recycling if it is well sorted. Contracts and monitoring procedures should be developed to ensure that recyclers comply with local, state and federal environmental regulations. (Reference FEMA Publication 325, Public Assistance Debris Management Guide, July 2007).

Common Recyclable Materials

- a) **Metals**- Tornadoes can cause extensive damage to mobile homes, sun porches, and green houses. Most of the nonferrous and ferrous metal debris is suitable for recycling. Metal maulers and shredders can be used to shred trailer frames, trailer parts, appliances, and other metal items. Ferrous and nonferrous metals are separated using an electromagnet and then sold to metal recycling firms. Metal may be sold to recoup cost or may also be salvaged by local firms which may offer to pick up metals once the debris pile is separated;
- b) **Soil** - Debris removal operations may include transporting large amounts of soil to the DMS. At the DMS, it may be combined with other organic materials that will decompose over time. This procedure can produce significant amounts of soil that can be sold, recycled back into the agricultural community, or stored onsite to be used as cover. In agricultural areas where chemical fertilizers are used heavily, recovered soil may be too contaminated for use on residential or existing agricultural land. It may be necessary to monitor and test the soil to ensure that it is not contaminated with chemicals. If the soil is not suitable for any agricultural or residential use, it may ultimately have to be disposed of at a permitted landfill;

- c) **Concrete, Asphalt, and Masonry Debris** - Concrete, asphalt, and masonry products can be crushed and used as base material for certain road construction products or as a trench backfill. Debris targeted for base materials needs to meet certain size specifications as determined by the end user;
- d) **Wood** – Wood debris from parks and rural areas may be ground or chipped into mulch; and
- e) **Tires** – Waste tires should be transported and disposed of at a KDHE approved facility.

KDHE Bureau of Waste Management, Solid Waste Program/Waste Tires, provides a list of *Permitted Waste Tire Facilities and Transporters: Permitted Waste Tire Facilities and Transporters (August 2006)* <http://www.kdheks.gov/waste/wastetires/wastetirepermitlistallAug06.pdf>

Landfill

If the local entity has sufficient access to equipment and is within a reasonable distance from a landfill that accepts woody and/or construction and demolition (C&D) debris, taking the debris directly to the landfill may be the most efficient and cost-effective direction. Landfills also may be an effective method when combined with one of the volume reduction methods outlined above (recycling, chipping and grinding, or incineration). Except in rare cases, some portion of debris generated will required deposition in a landfill.

There are generally two costs associated with landfill deposition. The first cost is the debris removal process which may involve a temporary DMS and/or volume reduction. The second cost is a tipping fee at the landfill. The tipping fee is a fee charged by the landfill based on weight or volume of debris deposited to cover their operating and maintenance costs. If tipping fees were charged by the landfill pre-disaster, those charges should be the same post-disaster, and may be eligible for reimbursement. Consult with the KDEM PA staff or FEMA debris specialist for eligible costs.

Dead Animal Disposal

It is probable that an event may necessitate the removal of large (i.e. livestock) and small (i.e. pets) dead animals as part of the debris management process. This effort should be coordinated with KDHE.

In cases where large numbers of animals are killed in a disaster, it may be desirable to utilize special preselected disposal areas that have been approved for animal burial by the KDHE Bureau of Waste Management. This approval process has taken place primarily to meet needs that would exist if a foreign animal disease struck state confined animal feeding operations or large dairies; however, the sites may be needed to address major natural disasters as well. KDHE has worked with the owners of these facilities to pre-select several hundred disposal sites throughout the state. KDHE would coordinate with the private owners or the animal facilities and other government officials to determine if a pre-selected disposal site is the best disposal method for the animal mortalities.

Environmental Monitoring Program

Local jurisdictions should use qualified environmental staff or contractors to perform the necessary environmental monitoring and documentation required to meet all local, state, and federal environmental requirements. KDHE should be contacted to provide the environmental requirements.

Site Closure

When the site operations are complete, the property must be restored to its original condition before returning the site to the property owner. Restoration of a site involves removing all traces of the operations and possible remediation of any contamination that may have taken place during the operations. The site, either local jurisdiction owned or leased, must be brought back to its environmental state, prior to it being returned to the owner.

Debris, processing equipment, storage tanks, protection berms, and other structures built on the site should be removed from the site upon completion of all debris removal and processing operations.

The final environmental site evaluation is an extension of the environmental monitoring program. Similar testing as completed in the baseline study will be conducted to confirm that the site has been returned to its pre-activity state. Test samples should be taken at the same locations as those of the initial assessment and monitoring program. However, if warranted, additional test samples may need to be taken at other locations on or adjacent to the site.

Based on the results of the testing, additional remediation may be required before the owner takes final acceptance of the site. The lease agreement should have provisions to release the local jurisdiction from future damages when the site is returned in its original condition or final acceptance is received from the owner.

Local officials and the Debris Management Unit must receive assurances from the contractor that all sites are properly remediated.

VIII. Contracted Services

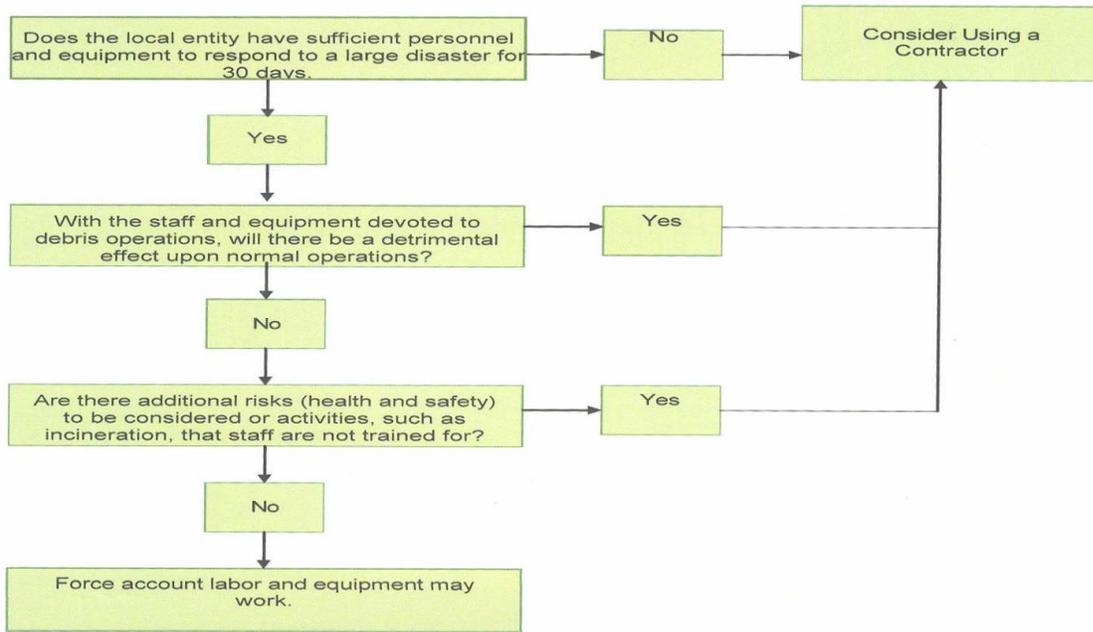


Figure 2 Deciding when to use a contractor

Emergency Contracting/Procurement Procedures

If the local jurisdiction has made a determination that the debris removal process is beyond the capabilities of its force account resources and mutual aid partners, it may be necessary to contract services. Contracts must be reasonable costs, generally competitively bid, and otherwise comply with federal, state, and local government procurement standards. Local jurisdictions contracting, procurement, and legal staff play a major role in this planning component of the Debris Management Plan. Staff should use the Debris Management Plan development as an opportunity to familiarize themselves with their contracting procedures, particularly in regard to emergency procurements. If the existing procedures do not have an emergency contracting/procurement provision, it should be developed and adopted prior to a disaster.

Soon after a following a disaster, debris must be removed from primary roads for public safety. Existing contracts that are based on time-and-materials may be used during this period. If it is necessary to set up short term contracts for operations under time-and-material contracts, the entity may want to place a cost ceiling on the contract. Time-and-material contracts should only be used during the response phase of the debris removal operations.

Contracts set up for long-term operations require the local entity follow its own and state procurement processes. Review of local procurement policies should be conducted during the planning process to ensure they will not hinder the ability to procure a contract for debris removal in a timely manner.

The most common types of contracts are:

- a. *Lump Sum*: Contract for work within a prescribed boundary with a clearly defined scope of work and total price.

- b. *Unit Price*: Contract for work on an item-by-item basis with total cost determined on unit basis. Unit Price contracts are used when the individual work tasks are known, but the total amount of work cannot be quantified. Unit Price contracts are the most common contract used for debris removal operations. Unit Price contracts are typically set up as cost per cubic yard, or cost per ton. FEMA will evaluate the unit price cost for reasonableness as compared to other local entities in the area.
- c. *Time and Materials*: Establishes hourly rates for labor and equipment that will be used to perform specific tasks. Contractors paid on actual time spent to perform the specified task, and for the usage of equipment and actual cost of materials used. This type of contract should be avoided, but may be allowed for work necessary immediately after disaster and after a determination that no other contract is suitable; it should include a cost ceiling or not-to-exceed provision.

The local jurisdiction may expedite procurement procedures for the purpose of public exigency; this does not mean that competitive proposals are not required. In many cases, an expedited process allows for shorter time frames for receiving competitive bid proposals.

Appendix G, FEMA RP9580.4, Fact Sheet: Debris Operations – Clarification: Emergency Contracting vs. Emergency Work, explains the emergency contracting procedures provided in 44 C.F.R. Part 13.36(d)(4)(i)(B)¹.

Prohibited Contracts - In accordance with 44 C.F.R. Part 13.36(f)(4), cost plus percentage of cost contracts shall not be used. Use of such contracts may result in FEMA limiting the grant to an amount determined to be reasonable based on the eligible work performed.

Contracts that are awarded by a local jurisdiction to debarred contractors are prohibited pursuant to 44 C.F.R. 13.35; thus, no federal funding can be awarded for eligible work completed.

The following should be considered when developing or approving contracts:

- a. FEMA does not certify, credential, or recommend contractors;
- b. Debris contractors do not have the authority to make eligibility determinations. Only FEMA can make an eligibility determination; and
- c. Contractors may include a fee for providing FEMA training in eligibility, documentation, and project worksheet development. Most of the training and information offered by a contractor is available *free* from FEMA or the state.

Local jurisdictions may enter into any contractual arrangements they wish. However, it should be noted that FEMA is not bound to local jurisdiction contractual obligations because it is not a party to those contracts. Local jurisdictions are strongly encouraged to work with state emergency management staff and FEMA to ensure compliance with the provisions of the PA Program, as well as other applicable statutes and regulations, if the local jurisdiction intends to seek PA grants. The local jurisdiction is responsible for payment of its contracted services regardless of whether such services are eligible for PA grant funding. If a contract is in place prior to the local jurisdiction's meeting with FEMA PA staff, the terms of the contract need to be

¹ Source: FEMA online at <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>

reviewed to ensure compliance with the federal procurement regulations and with the PA Program eligibility criteria. By doing so, it becomes easier for the local jurisdiction to provide FEMA with pertinent documentation to receive PA grant funding.

ESF #3 member agencies and/or the SEOC Logistics Branch will be consulted for emergency procurement of contractors to assist in time of emergencies.

Debris Operations to be Outsourced

The planning staff may find it necessary to contract for debris removal services if the magnitude of the disaster is beyond the capabilities of its force account resources, State resources, mutual aid agreements, and volunteer labor. Possible contracted services include:

- a. Collection, including clearance during response phase;
- b. Reduction or recycling;
- c. Hazardous waste handling, processing, and disposal;
- d. Hauling to final disposition;
- e. DMS activities;
- f. Demolition;
- g. Monitoring;
- h. Environmental studies; and
- i. Project management.

General Contract Provisions

There are two main areas of contracting that the local jurisdiction's staff should review in the contract development planning process. These include procurement procedures and general contract provisions. Other provisions and terms are determined by the type of contract being employed for a specific service.

Local jurisdictions may draft a contract prior to a disaster event. Once the extent of the disaster is known, the contract can then be finalized with the appropriate scope of work and advertised in a timely manner.

To protect the local jurisdiction's interests, specific items should be included in the contract to minimize potential conflicts with the contractor. These items include the basis of payment, the duration of the contract, the performance measures, an agreement to restore collateral damage, a termination for convenience, and a conflict resolution process.

Qualification Requirements

It is important that state and local jurisdictions secure contracts with reputable and qualified licensed contractors. Reference checks should be conducted, on a contractor's history of performance with the state's contracting licensing board and with the contractor's previous clients, before awarding contracts.

Appendix G, FEMA RP9580.201, Fact Sheet: Debris Removal - Applicant's Contracting Checklist is provided as guidance to assist PA local jurisdictions in the procurement process².

Solicitation of Contractors

Local jurisdictions should pre-qualify contractors that may provide any of the above services in the debris management planning process.

Local jurisdictions who have prequalified lists of persons, firms, or products must keep such lists current in order to ensure open and free competition during the bidding process, in accordance with 44 C.F.R. Part 13.36(c)(4), which states:

"Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period."

A local jurisdiction may request that FEMA review its procurement process to determine whether the process meets the standards set forth in 44 C.F.R. Part 13.36. FEMA finds the following four methods of procurement acceptable:

- a. *Small purchase procedures* procurement, an informal method for securing services or supplies that do not cost more than \$100,000 by obtaining several price quotes from different sources.
- b. *Sealed bids* procurement, a formal method where bids are publicly advertised and solicited, and the contract is awarded to the responsible bidder whose proposal is the lowest in price. This method is the preferred method for procuring construction contracts.
- c. *Competitive proposals* procurement, a method similar to sealed bid procurement in which contracts are awarded on the basis of contractor qualifications instead of on price. This method is often used for procuring architectural or engineering professional services. This method normally involves more than one source submitting an offer and is used when conditions are not appropriate for sealed bids.
- d. *Noncompetitive proposals* procurement, a method whereby a proposal is received from only one source. Noncompetitive proposals should only be used when the award of a contract is not feasible under small purchase procedures, sealed bids, or competitive proposals, and one of the following circumstances applies:
 - 1) The item is only available from a single source;
 - 2) There is an emergency requirement that does not permit a delay;
 - 3) Solicitation from a number of sources has been attempted; and,
 - 4) Competition is determined to be inadequate.

FEMA strongly discourages local jurisdictions from using a noncompetitive contract for debris removal operations. A contract may be regarded as noncompetitive if the local jurisdiction has only one responsive bidder. In this case the local jurisdiction is required to comply with 44 C.F.R. Part 13.36(f), which states in part:

² Source: FEMA online at <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>

“...A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.”

Attached to this document is the *“Current List of KDHE/State of Kansas Contracts that Could be Used to Perform Disaster Activities (January, 2008)”*.

IX. Private Property Demolition and Debris Removal (PPDR)

Public jurisdictions may undertake private property debris removal and demolition in extreme cases where public health, life, safety, and the economic recovery of the community-at-large are at risk. Local jurisdictions planning staff should establish procedures for this type of work in the event this becomes necessary.

The planning effort for PPDR and demolition includes the following:

1. Criteria for implementing PPDR and demolition operations;
2. Documentation requirements and procedures; and,
3. Inspection and demolition procedures.

Major emergencies or disaster may create health and safety concerns with respect to severely damaged private property. Dangerous structures should be the responsibility of the owner or local government to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will remain due to lack of insurance, absentee landlords, or abandoned property owners. Consequently, demolition or clearance of these properties may become a responsibility of the local officials with technical assistance from the state Debris Management Unit. Private property debris removal will require the cooperation of numerous local and state government entities. Throughout the planning process, the staff needs to establish how the private property owner will be included in decisions and operations.

The Kansas Debris Management Unit may provide technical assistance so that appropriate procedures are followed to maximize reimbursement. Private property demolition process and documentation must be submitted to the state PA staff and FEMA debris specialists for review. The federal coordinating officer must provide written approval prior to the start of demolition.

Appendix G, FEMA DAP9523.13, Debris Removal from Private Property, and FEMA DAP9523.4, Demolition of Private Structures, set forth the FEMA eligibility criteria and requirements that the planning staff should consider when developing the PPDR and demolition strategy³.

Condemnation Criteria and Procedures

³ Source: FEMA online at <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>

When a local jurisdiction assumes the responsibility to demolish structures, it must comply with its normal condemnation procedures. This normally requires a building safety official to contact the homeowner and assess and determine building structural integrity.

The local jurisdiction's normal building safety assessment should be used for the disaster condemnation criteria as well. Typically, any building or structure may be condemned if the building official determines it represents a hazard to the health and safety of the public or poses a threat to public rights-of-way. Following that determination, the local jurisdiction would then initiate condemnation proceedings.

Usually, owner notification and condemnation hearings are held to give the property owner time to correct the threat without government action. In some cases, liens are secured to enable jurisdictions to enforce the condemnation order. In this case, if the local jurisdiction performs the work, executing liens against the property allows the local jurisdiction to recoup the costs of demolition and debris removal from the property owner.

The local jurisdiction's normal procedures that require multiple notices to property owners, condemnation hearings, and liens may be expedited in the event of a catastrophic disaster presenting an immediate health and safety hazard. In the event of a disaster, it is helpful to have the local jurisdiction's laws, regulations, legal notices, and forms within the Debris Management Plan, for reference and use. The planning staff should review the condemnation criteria and procedures for the benefit of the Debris Management Plan.

Legal Documentation

Local jurisdictions should have laws, regulations, legal notices, and forms within the Debris Management Plan as reference for use in the event that demolition is necessary. Local jurisdictions usually have standard procedures that apply to its condemnation process. During the planning process, the local jurisdiction's legal counsel should review and update any documents needed to expedite the process after a disaster.

A local jurisdiction usually has standard procedures that apply to its condemnation process. During the planning process, the local jurisdiction may have its legal counsel review and update any documents for inclusion within the plan.

The following is a general list of documents that may be included in the plan.

- 1) *Verification of ownership* ensures that the proper site and owner are identified and the owner is aware of nature of the scheduled building assessment.
- 2) *A right-of-entry form* is signed by the homeowner and allows the building official to enter the property to complete the assessment. Right-of-entry form must include a hold harmless agreement that states the property owner promises he or she will not bring legal action against the local jurisdiction, the U.S. government, FEMA, USACE, and the USDA Forest Service, if there is damage or harm done to the property.
- 3) *Building official assessment* is the documentation of the damage to the structure and the description of the threat to public health and safety. This assessment often contains the building official's determination as to whether the structure should be condemned and/or whether it should be repaired or demolished. This may be an official structural assessment.

- 4) *Verification of insurance information* allows the local jurisdiction to pursue financial compensation if the property owner's homeowner insurance policy covers demolition and debris removal.
- 5) *Archeological review* outlines the archeological low-impact stipulations for demolition and debris removal activities and highlights the implications for the local jurisdiction if they fail to comply with the guidelines.
- 6) *Environmental review* ensures that adverse impacts to protected environmental resources are minimized or avoided when removing debris from the proposed site. These reviews should be acceptable to the appropriate resource agency. Wetlands and other water resources, HazMat, and endangered species habitats are among the resources of most frequent concern. Some jurisdictions may also have state or local requirements for the evaluation or assessment of impacts to natural resources.
- 7) *SHPO review* confirms that SHPO has been notified and correspondence has been received absolving the area of any historic significance.
- 8) *Photos* that show the disaster-damaged condition of the property prior to the beginning of the demolition work. This is generally one or more labeled pictures that confirm the address and identified scope of work on the property.

If it is determined that a structure needs to be demolished, additional documentation may be required, not only for the local jurisdiction's legal protection, but also for the public's health and safety during the demolition and debris removal operations.

- 1) *Letter or notice of condemnation* is a document signed by the building official that outlines the specific threat to public safety and health.
- 2) *Notice of demolition* is issued to inform the property owner when the demolition will begin; notices shall be posted so as to provide a reasonable period of time for personal property to be removed. The local jurisdiction should attempt to notify the property owner, if not already contacted, through direct mail and local media.
- 3) *Notice of intent to demolish* is normally for the public health and safety of the neighboring residents. This notice is conspicuously posted on the structure to be demolished.

Demolition Permitting

Local jurisdictions may have a demolition permitting process in place. The planning staff may want to use those demolition permit requirements during a disaster-related demolition project.

Common requirements for obtaining a demolition permit include a demolition plan, public notification, inspection requirements, and a hazardous waste report.

The demolition strategy may require the following information:

- a) Site map, to scale, showing the site with all structures and other features of interest.
- b) Site ingress and egress showing the fronting streets and planned route for the project. This may also include a movement of traffic strategy. Normal traffic will need to be diverted into other lanes.

- c) Site preparation documents illustrate any pre-demolition work that may be required. Examples include erosion control, vegetation removal, or utility pole adjustments.
 - d) Staging strategies show the sequence of events prior to, during, and after demolition of the structure.
 - e) Hazardous waste handling requirements detail if contents of the structure require dust suppression or wet demolition. These provisions also describe how hazardous waste or environmentally sensitive materials will be handled or disposed. This includes HHW and white goods. Asbestos requires specialized removal, handling, and disposal personnel and permits.
- Special documents or strategies may be required if the demolition of the building involves shoring, stabilizing structures, or any other special circumstances that may jeopardize another structure or the public's health and safety.

Once it has been established that the building is to be demolished and the required processes are underway, a notification to demolish notice is posted on the building.

Inspections

The local jurisdiction normally conducts regular inspections of demolition sites a few days prior to, the day of, during (occasionally), and upon completion of the operations. Inspectors generally take photographs at each site visit for their records. These inspections and verifications generally include:

- a) **Asbestos inspections** - Required for all structures prior to demolition. If friable asbestos containing materials are identified, the KDHE Asbestos Demolition Notification Form should be completed and submitted. KDHE Division of Health, Bureau of Environmental Health, *Asbestos Resources*, provides the following resources:

Kansas Licensed Asbestos Abatement Contractors
http://www.kdheks.gov/asbestos/download/Kansas_Asbestos_Licensed_Contractors_List.pdf

Consultant Services for Asbestos Abatement List
http://www.kdheks.gov/asbestos/download/consulting_list.pdf

Demolition Notification Form
<http://www.kdheks.gov/asbestos/download/demonot.pdf>

- b) **Occupancy inspection** is conducted immediately prior to demolition to ensure that no one is physically in the building.
- c) **Open void inspection** is performed if the structure has a basement that is to be filled. This inspection will be conducted once the above-grade structure is gone and the inspector can visually see the entire below-grade excavation.
- d) **Post-demolition inspection** is completed once the structure is demolished, the debris is removed, and the site graded.

The local jurisdiction may require that a report be prepared by demolition contractors for submission to the Kansas Department of Health and Environment describing all hazardous material management practices including the final disposal location of segregated hazardous waste, asbestos containing waste, and household hazardous waste."

Appendix F, *FEMA Demolition Checklist*⁴ is to be used for demolition activities for each structure being considered for demolition.

See attachments for copies of the "Private Property Checklist for Removal of Unsafe Structures/Demolition"

Mobile Home Park Procedures

Higher density situations, specifically mobile home parks, create an extensive amount of mixed debris in a relatively small area. The planning staff may consider the same procedures for individual sites, as a basis to be used in mobile home parks, but should expect a more intense operation.

The following documentation is required:

- a. Mobile home park site ownership;
- b. Mobile home operator;
- c. Individual mobile home ownership; and,
- d. Public or private streets.

As part of the planning exercise, the planning staff may investigate the legal responsibility for debris issues within the mobile home parks within its jurisdiction. The local jurisdiction should coordinate the potential PPDR and demolition operations with the park owners to expedite recovery after an event. Agreements need to be made with respect to the debris collection, location, separation of materials, and the amount of debris expected to be handled.

Navigation Hazard Removal Procedures

The state has several local, state, and federally operated lakes and reservoirs, many of which have publicly owned marinas. Some of these marinas have contracts with private operators to manage the facility.

Damage to publicly-owned marinas caused by a major disaster can include abandoned sunken boats and other debris that may impede navigation.

Local jurisdictions should coordinate with their local water patrol entity and/or water rescue team, if applicable, and with their legal counsel, local salvage contractors, commercial divers and certified surveyors to ensure that navigational hazards are removed safely and efficiently.

⁴ The referenced Demolition Checklist is found online at FEMA's website: <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>

In the absence of a local specialized water response resource, the Kansas Wildlife and Parks, the U.S. Coast Guard (USCG), and/or the USACE, or other federal resources, may provide support.

The two main challenges with navigation hazards are locating the debris and finding legal owners. Marinas can be inspected visually by a helicopter or boat. Sonar or dive teams may need to be employed for submerged vessels. A location or flotation marker may be helpful in order to keep vessel positions documented. The legal owner's information may be obtained by using the vessel's registration number and marina records.

X. Public Information Strategy

Public Information Officer

Counties within the state have local emergency operations plans that identify a process to be used to disseminate information during disaster response and recovery. State and local jurisdictions should rely on ESF #15 (External Communications) staff for developing a public information strategy to distribute information and educate citizens about the debris operations.

ESF #15 functions are required for successful dissemination of information to the public. The following should be accomplished:

- a. Develop and write the information in a clear, direct, and organized manner;
- b. Prepare information to be distributed;
- c. Develop process to distribute the information;
- d. Develop process to update, correct, revise, and redistribute information as operations progress; and,
- e. Establish a debris information center or a venue to address all concerns, questions, or complaints.

Pre-Scripted Information

Pre-scripted information may be developed that could be distributed, concerning topics such as:

- a. Debris pick-up schedules;
- b. Disposal methods and ongoing actions to comply with federal, state, and local environmental regulations;
- c. Disposal procedures for self-help and independent contractors;
- d. Restrictions and penalties for creating illegal dumps;
- e. Curbside debris segregation instructions;
- f. Public drop-off locations for all debris types; and,
- g. Process for answering the public's questions concerning debris removal.

Responses to questions pertaining to debris response and recovery, such as the following, can be pre-scripted. The following questions are possible:

- a. What is the pick-up system?
- b. Are there costs associated with debris collection?
- c. When will the contractor be in my area?
- d. Who are the contractors and how can I contact them?

- e. Should I separate the different debris materials and how?
- f. How do I handle HHW?
- g. If vehicles were removed to clear the right-of-way where is the disposal site located/ hours of operation/procedures, etc.?
- h. Where are collection centers for HHW and White Goods located, hours of operation, etc.?
- i. What if I cannot pay?
- j. What if I am elderly/disabled?
- k. Coordinate with local officials on reentry and repopulation of evacuees.

Information may need to be distributed in more than one language.

Distribution Strategy

The strategy for the distribution of public information may include the use of print (including newspapers, fliers, and posters), television, radio, internet, and community forums. During and after an emergency, more than one distribution method will be required to reach the public. Alternative methods of distribution should be considered, such as placing bulletin boards at various locations in the community (including shelters and food distribution locations) and posting public information fliers on the bulletin boards.

See attachments for the following forms:
Disaster Debris Cleanup Notice.

XI. Authorities and References

1. *Forms can be found in the FEMA Public Assistance Debris Management Guide: FEMA 325 Debris Management Guide - July 2007* <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>;
2. **Appendix G**, FEMA RP9580.4, *Fact Sheet: Debris Operations – Clarification: Emergency Contracting vs. Emergency Work*, explains the emergency contracting procedures provided in 44 C.F.R. Part 13.36(d)(4)(i)(B). <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>;
3. **Appendix G**, FEMA RP9580.201, *Fact Sheet: Debris Removal - Applicant's Contracting Checklist* is provided as guidance to assist Public Assistance local jurisdictions in the procurement process. <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>;
4. **Appendix G**, FEMA DAP9523.13, *Debris Removal from Private Property*, and FEMA DAP9523.4, *Demolition of Private Structures*, set forth the FEMA eligibility criteria and requirements that the planning staff should consider when developing the PPDR and demolition strategy. <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>;
5. **Appendix F**, FEMA *Demolition Checklist* is provided, and is to be used for demolition activities for each structure being considered for demolition: <http://www.fema.gov/pdf/government/grant/pa/demagde.pdf>
6. KDHE Bureau of Waste Management, *Solid Waste Facilities Database*, provides locations of permitted disposal sites: <http://www.kdheks.gov/environment/index.html>;
7. KDHE Bureau of Waste Management, Household Hazardous Waste site, provides a *Contact List for Household Hazardous Waste Facilities in Kansas*: Contact List for Household Hazardous Waste Facilities in Kansas. <http://www.kdheks.gov/waste/download/HHWpointofcontact.pdf>;

8. KDHE Bureau of Waste Management, Household Hazardous Waste site, Solid Waste Permits section, provides an application for the *Disposal of Solid Waste Resulting from Natural Disasters*: Disposal of Solid Waste Resulting from Natural Disasters. http://www.kdheks.gov/waste/apps/disposal_of_waste_from_natural_disaster.pdf; and
9. KDHE Bureau of Waste Management, Solid Waste Program, Waste Tires, provides a list of *Permitted Waste Tire Facilities and Transporters*: Permitted Waste Tire Facilities and Transporters (August 2006) http://www.kdheks.gov/waste/waste_tires/wastetirepermitlistallAug06.pdf.

Disposal of Dead Animals

- a. Disposal Options for Large Quantities of Dead Animals (SW 01-01) <http://www.kdheks.gov/waste/guidance/sw01-01.pdf>;
- b. Disposal Options for Small Quantities of Dead Animals (SW 94-01) 05-2004 <http://www.kdheks.gov/waste/guidance/sw94-01.pdf>; and
- c. The KHHW Program Contact List: www.kdheks.gov/waste/download/HHWpointofcontact.pdf.

Asbestos Resources

- a. Kansas Licensed Asbestos Abatement Contractors http://www.kdheks.gov/asbestos/download/Kansas_Asbestos_Licensed_Contractors_List.pdf;
- b. Consultant Services for Asbestos Abatement List http://www.kdheks.gov/asbestos/download/consulting_list.pdf; and
- c. Demolition Notification Form <http://www.kdheks.gov/asbestos/download/demonot.pdf>.

Support Forms

FEMA Form 90-123, Feb 06, available online at: <http://www.fema.gov/library/viewRecord.do?id=2729>

FEMA Form 90-127, Feb 06, available online at: <http://www.fema.gov/library/viewRecord.do?id=2734>

TRUCK CERTIFICATION FORM

General Information

Applicant: _____ Monitor: _____
Contractor: _____ Date: _____
Measurement Location: _____ County: _____
Declaration Number: _____

Truck Information

Make	Year	Color	License

Truck Measurements
Performed By: _____ Date: _____
Volume Calculated By: _____ Date: _____
Both Checked by: _____ Date: _____

Driver Information

Name: _____
Address: _____
Phone Number: _____

Owner Information

Name: _____
Address: _____
Phone Number: _____



Truck Identification



Truck Capacity



Photo

(See reverse for calculation worksheet)

TRUCK CERTIFICATION FORM

DUMP TRUCK

Measurements

Truck Measurements Length (L) = Width (W) ft = Height (H) ft =

Hoist Measurement Length₁ (L₁) ft = Width_H (W_H) ft = Height_H (H_H) ft =

 Length₂ (L₂) ft =

Radius Radius ft = Height (H) =

Calculations

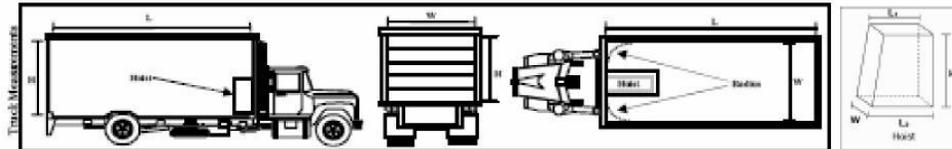
Bed Volume (Basic) (LxWxH)/27 = cyd

Hoist Volume ((L₁+L₂/2) x W_H x H_H)/27 = cyd

Radius Volume (3.14xR²xH)/27 = cyd

Cubic Yards

Total = cyd



EXTRA TRAILER

Measurements

Truck Measurements (Basic) Length (L) = Width (W) ft = Height (H) ft =

Hoist Measurement Length₁ (L₁) ft = Width_H (W_H) ft = Height_H (H_H) ft =

 Length₂ (L₂) ft =

Radius Radius ft = Height (H) =

Calculations

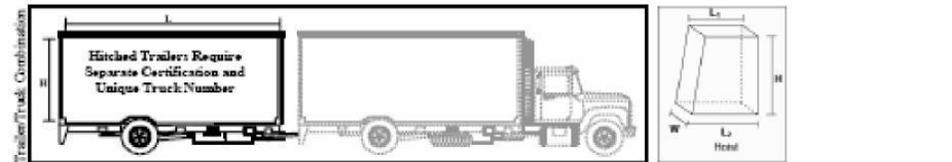
Bed Volume (Basic) (LxWxH)/27 = cyd

Hoist Volume ((L₁+L₂/2) x W_H x H_H)/27 = cyd

Radius Volume (3.14xR²xH)/27 = cyd

Cubic Yards

Total = cyd



ROUND BOTTOM TRUCK

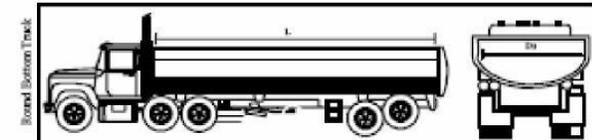
Measurements

Truck Measurements Length (L) ft = Diameter (D) ft =

Calculations

Approx. Volume (3.14 x (D/2)² x L) /27 = cyd (round bottom portion only)

Cubic Yards



Load Ticket		Ticket No. 0012345	
Municipality (Applicant)		Prime Contractor	
		Sub-Contractor	
Truck Information			
Truck No		Capacity	
Truck Driver (print legibly)			
Loading Information			
Loading	Time	Date	Inspector/Monitor
Location (Address or Cross Streets)			
When Using GPS Coordinates use Decimal Degrees (N xx.xxxxx)			
N		W	
Unloading Information			
Debris Classification		Estimated %, CYs, or Actual Weight	
<input type="checkbox"/> Vegetation <input type="checkbox"/> C&D <input type="checkbox"/> White Goods <input type="checkbox"/> HHW <input type="checkbox"/> Other* See Below			
Unloading	Time	Date	Inspector/Monitor
DMS Name and Location			
*Other Debris Explanation		Original: Applicant Copy 1: _____ Copy 2: _____ Copy 3: _____	

KDHE: Disposal of Solid Waste without a Permit, Disposal of Solid Waste Resulting from Natural Disasters

http://www.kdheks.gov/waste/forms/solidwaste/swlf250-disposal_of_waste_from_natural_disaster.pdf

Checklist

Removal of Unsafe Structures/Demolition – Private Property

Property Address: _____ Parcel # _____

ROE# _____

ROE <----> **Condemnation** (Circle One)

Pre-Demolition

1	Establish property management file for each parcel of private property. One (1) copy each for local and state records management.			
2	Provide Notice of Condemnation, if applicable			
3	Complete NHPA Section 106, NEPA, historic, SHPO reviews			
4	Obtain Right-of-Entry and Hold Harmless agreements			
5	Verify property description & ownership (i.e. Tax Assessor, legal description)			
6	Document property owner's insurance coverage for future recovery			
7	Notify lien holder(s), as needed, of intent to demolish			
8	Asbestos inspection performed.			
9	Public health inspection performed.			
10	Certified building and fire inspections performed.			
11	Provide public notification of condemnation/demolition			
12	Verify personal property removed from Demo site.			

Demolition Actions

13	Verify structure is unoccupied			
14	Cap well, water, sewer & septic lines. Electrical service disconnected. Propane tanks removed.			
15	All easements and underground utilities clearly marked on site by City/County/Utilities Provider.			
16	Remove/discard of asbestos, lead-based paint & other hazardous materials per MSDEQ/EPA requirements.			
17	Identify/remove/discard of all hazardous household waste(s) per MSDEQ/EPA requirements			
18	Record GPS coordinates. Photograph site before & after demolition			
19	Document actual demolition and removal of debris. Record all load ticket #s associated with removal of Structure.			

Complete documentation is compiled within the project file for each individual structure/property. I, the Authorized Applicant Official, certify that all processes and documentation referred to in this checklist are complete (except Item 19) prior to the demolition of the referenced structure.

Name (Print) _____ Title _____ Signature _____ Date _____

This 19-item checklist may be submitted to FEMA and the contractor for execution. FEMA will accept this checklist in the field for purposes of allowing the applicant to proceed on the basis that the applicant has fully certified the checklist and that the applicant has the complete documentation on file. An authorized applicant official must sign the checklist. The checklist must have this signature (dated) certifying that all documentation has been completed and is on file prior to executing any demolition activity.

DISASTER DEBRIS CLEANUP NOTICE

*Avoid placing debris over fire hydrants, gas meters
and in the street.*

***To help expedite clean-up efforts,
separate debris into piles:***

- **Trees and vegetation**
- **“White goods” (washing machines, refrigerators, air Conditioners, etc)**
- **Clean construction debris (such as 2x4’s and plywood)**
- **Metals**
- **Household Hazardous Waste (including paint, pesticides, cleaning products)**
- **Personal Property**

***We thank you for your cooperation through
these trying times. If you have any questions
please call***

(your local contact) *at*
