

Public Assistance

Debris Management Plan Workshop Student Handbook

Supplement to FEMA P604/September 2009



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Introduction

The Federal Emergency Management Agency (FEMA) encourages State, Tribal, and local governments and private non-profit organizations to take a proactive approach to coordinating and managing debris removal operations as part of their overall emergency management planning efforts. Jurisdictions with a comprehensive debris management plan are better prepared to restore public services and ensure public health and safety in the aftermath of a disaster, and they are better positioned to receive the full level of assistance available to them from FEMA and other participating entities.

The core components of a comprehensive debris management plan incorporate best practices in debris removal, are tailored to the unique needs of the jurisdiction, and reflect the criteria the jurisdiction must follow in order to fully leverage the assistance available from FEMA and other sources. The FEMA Public Assistance (PA) Program developed this handbook to assist jurisdictions with debris management planning. The handbook presents a list of important considerations which should be addressed by jurisdictions as they complete the debris management planning process, and can be used by a jurisdiction for both the development of their first plan and the review of an existing plan. The handbook is designed to be used in concert with the Debris Management Plan Workshop content and guides developed by FEMA. Another key resource is the FEMA *Debris Management Guide*, FEMA 325, which contains detailed information on debris management considerations. When applicable, page numbers are included at the end of each consideration in the handbook that identify where the topic is covered in the *Debris Management Guide*.

Jurisdictions interested in obtaining this handbook and the Debris Management Plan Workshop materials it complements may download electronic copies of the documents from the FEMA Web site (www.fema.gov/government/grant/pa). Hardcopy versions of those documents are not offered. The *Debris Management Guide* may also be downloaded from the FEMA Web site, and a hardcopy version is available through FEMA. Jurisdictions interested in FEMA debris management training may contact their State emergency management office for information on offerings of FEMA training course E/G/L202, Debris Management Planning for State, Tribal, and Local Officials.

In addition to FEMA debris management documents and training, there are other excellent sources of information and technical assistance, such as the State emergency management office, the Environmental Protection Agency (EPA), and the United States Army Corps of Engineers (USACE). The State emergency management office in particular may be an excellent source of information specific to the local circumstances of individual jurisdictions.

While this handbook references certain key funding requirements specific to the FEMA PA Program, it is designed to address general debris management planning concepts applicable to any event, regardless of the availability of PA Program assistance.



This handbook is part of the technical assistance offered by FEMA on debris management planning. It does not establish PA Program funding criteria. Guidance regarding PA Program funding criteria can be found in the *Debris Management Guide* and other FEMA publications and policies available on the FEMA Web site.

I. Plan Development Process

The success of a debris management plan depends on a jurisdiction's commitment to efficient and effective plan development, implementation, and evaluation. An organized approach to the planning process should be established before work begins on development of the actual debris management plan document.



Where applicable, page numbers are included at the end of each item that identify where the topic is covered in the FEMA *Debris Management Guide*, FEMA 325

- 1.1 Identify existing documentation for the jurisdiction that will be used for the debris management planning process, e.g., documentation on solid waste management and emergency management.
- 1.2 Review the current authorities, policies, and procedures established by the jurisdiction for developing, formally approving, distributing, and maintaining planning documents.
- 1.3 Identify the organizational elements and individual personnel internal to the jurisdiction which should be involved in the planning process.
- 1.4 Identify the external entities and individuals which should be involved in the planning process, including resources which will provide targeted input on technical items such as debris forecasting and debris management sites.
- 1.5 Identify other entities and individuals which will not be directly involved in the planning process, but are stakeholders that will be engaged in some manner, such as by being afforded an opportunity to provide comments on a draft plan. For example, neighboring jurisdictions and regional authorities.



- 1.6 Clarify the roles and responsibilities of personnel involved in the planning process, including the designation of a lead individual with overall responsibility for plan development.
- 1.7 Verify that personnel involved in the planning process have the appropriate level of decision-making authority in the areas for which they may provide input.
- 1.8 Establish a protocol for communication and decision-making among the plan developers.

- 1.9 Establish a plan development schedule, including interim milestone dates and deliverables. The schedule should also address periodic formal review and updating of the plan once it is complete.
- 1.10 Develop a basic outline of the plan. A sample plan outline is included at the end of the handbook.



There are several online resources that offer useful reference material, such as the information on planning for disaster debris provided on the EPA Web site. Examples of plans prepared by other jurisdictions can also be located online.

- 1.11 Estimate the resources, such as staff time, that will be required for the planning process. Verify that necessary resources are available and make adjustments to the approach, as needed.
- 1.12 Identify to whom the plan will be distributed and in what formats it will be distributed (e.g., hardcopy, electronic copy).
- 1.13 Identify methods to test the effectiveness of the plan and build the capability of staff in using the plan, e.g., through incorporation of the plan into regular training and exercises.

ADDITIONAL PLAN DEVELOPMENT RESOURCES					
General Debris Management	http://www.fema.gov/government/grant/pa/demagde.shtm http://www.fema.gov/government/grant/pa/dmgbroch.shtm				
Federal Debris Removal Funding	http://www.fema.gov/government/grant/pa/policy.shtm http://www.fhwa.dot.gov/programadmin/erelief.cfm				
Debris Forecasting	http://www.fema.gov/plan/prevent/hazus/index.shtm http://www.englink.usace.army.mil				
Debris Management Plans	http://www.epa.gov/epaoswer/non-hw/debris-new/pubs/pndd.pdf http://www.fema.gov/plan/ehp/regioniii/debris.shtm				
Environmental Requirements	http://www.epa.gov/oecaagct/lcla.html http://www.epa.gov/garbage/debris.htm http://www.epa.gov/garbage/recycle.htm				
Health and Safety Requirements	http://www.osha.gov/				
FEMA Training	http://training.fema.gov				

II. Staff Roles and Responsibilities

Successful debris operations require collaboration between departments within a jurisdiction's organization and with the external agencies that have regulatory authority over debris management activities. It is crucial for these various internal and external stakeholders to be engaged in the planning process, and for the plan to establish an organizational structure for managing disaster debris which appropriately addresses the roles and responsibilities of the various stakeholders.



The organizational structure must achieve effective coordination between the various functional areas of the jurisdiction and effective coordination with external entities. The structure should be consistent with established organizational standards for the jurisdiction, such as the Incident Command System (ICS).

- 2.1 Determine which functional areas within the jurisdiction should be represented in the organizational structure and define the involvement of each. p. 46
- 2.2 Create an organizational structure consistent with the jurisdiction's general organization and emergency management organizational structure. p. 46
- 2.3 Identify specific titles for each position in the organizational structure and describe the responsibilities and required skills associated with each position. p. 46



2.4 Ensure the organizational structure provides coverage of the various functions associated with debris removal operations, including operations, administration, planning/engineering, contracting/procurement, public information, and legal. • pp. 46-50



FEMA has specific criteria regarding the cost documentation required in order to receive PA Program funding. If a jurisdiction intends to request PA Program funding, the debris management personnel with responsibility for the finance function need to be aware of and understand applicable FEMA documentation requirements.

- To ensure unity of command, the organizational structure should include a position that has primary decision-making authority and accountability for debris management activities, such as a Debris Project Manager.
 p. 46
- 2.6 Identify any external entities which should be represented in the organizational structure, and how coordination with them will occur. ◆ pp. 45-46
- 2.7 Identify how the organizational structure will be staffed (e.g., full-time employees, temporary hires, contractors) and the basis for the decision (e.g., availability, cost, required knowledge).
- 2.8 If external resources such as contractors or staff from other governmental entities will occupy any positions in the organizational structure, describe how the jurisdiction will retain appropriate overall management of operations.
- 2.9 Identify the protocol for communication and reporting within the organizational structure.



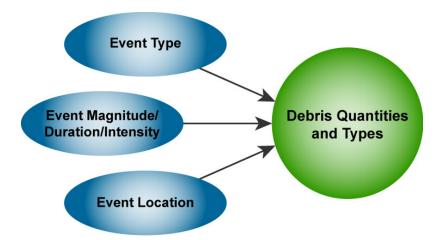
The communication protocol for debris management personnel must address how personnel will communicate and be mobilized immediately after the event, taking into consideration that typical means of communication may be impacted by the disaster event.

2.10 Identify any training that may be necessary for debris management personnel, e.g., regarding health and safety or debris monitoring.

III. Situation and Assumptions

Forecasting the types and quantities of debris generated by potential disaster events allows a jurisdiction to define the anticipated scope of their debris management operations, which can then be used to plan for the required response and recovery resources, the number and size of debris management sites, and the final disposition of disaster-generated debris.

- 3.1 Identify and prioritize the types, severities, and locations of disasters the jurisdiction is most likely to encounter. pp. 54-56
- 3.2 Determine the general terrain types and land use of the area which would be impacted by the disaster. ◆ pp. 57-58
- 3.3 Use the design disaster event and identified terrain type and land use information to forecast debris types and quantities. The forecasting method can use historical data and predictive modeling.
 pp. 58-61
- 3.4 Based on anticipated types, quantities, and locations of debris, determine the total debris management resource needs.



- 3.5 Compare the total debris management resource needs to the current resources which would be available after a disaster event and develop a strategy for meeting any anticipated shortfalls.

 Consider that the disaster event may impact the availability of both internal and external resources.
- 3.6 Describe how information will be gathered on estimated debris quantities and types after the event occurs. Describe the process for comparing that information to the design event, to determine how the plan components may need to be adjusted to account for the difference between forecasted and actual conditions.

IV. Debris Clearance and Collection

Clearance of disaster debris is a critical component of a jurisdiction's emergency response activities, and collection of disaster debris is an important aspect of the overall recovery of the community. The debris clearance and collection activities necessary to meet the debris management needs of the jurisdiction should be described in detail in the debris management plan.

- 4.1 Identify and prioritize the facilities within the jurisdiction which may be impacted by disaster debris. This includes critical facilities such as hospitals, shelters, facilities which provide basic government services, and critical travel routes.
 pp. 64-65
- 4.2 Identify and prioritize the response phase activities that will be necessary during and immediately after the event, such as pushing debris to the side of the road to allow access to critical facilities, or to allow first responders access to an impacted area. p. 64
- 4.3 Identify and prioritize the recovery phase activities that will be necessary after the response phase activities are complete, such as removal of remaining debris from public property and rights-of-way to facilitate the overall recovery of the jurisdiction. p. 65

Debris Management Priorities

Response

Immediate actions to address critical needs, such as clearing access for first responders.

Recovery

Actions necessary for overall recovery, such as removing and disposing of debris on public property.

- 4.4 Identification and prioritization of debris removal activities should consider variables such as population densities and access to services such as schools, commercial offices, and stores.
- 4.5 Identify concurrent response and recovery phase activities of other entities that may affect the jurisdiction, such as debris clearance activities completed by neighboring jurisdictions, the county, and the State department of transportation.
- 4.6 Determine the methods used to remove debris, such as curbside collection, community drop-off bins, and round-ups for specific debris types. For curbside collection, determine whether different debris types will be separated at the collection point or collected as mixed debris. pp. 65-66
- 4.7 Identify debris types which require special handling, such as household hazardous waste.

 ◆ pp. 67-68

- 4.8 Investigate the feasibility of debris recycling and determine what types of debris will be recycled. Describe how the debris collection method will address recycling activities.
- 4.9 Evaluate how the processing of debris after it is collected impacts the collection method. For example, if metal debris will be taken to a separate location for recycling, it may need to be collected separately at the curbside.
- 4.10 Planned debris hauling routes should consider variables such as hauling distances, traffic impacts, safety, noise, and dust.
- 4.11 Identify the environmental and other regulatory requirements applicable to debris collection locations, including environmental sampling and required control measures (e.g., dust control).



All applicable Federal, State, and local environmental and other regulatory requirements must be considered for all aspects of debris management, including debris clearance, collection, staging, reduction, recycling, and disposal. Examples of Federal requirements include the Clean Water Act, Resource Conservation and Recovery Act, National Historic Preservation Act, and Executive Orders 11988 (Floodplain Management) and 12898 (Environmental Justice). • pp. 6-10

- 4.12 Include a defined process for regularly evaluating the efficiency and effectiveness of the debris collection method and for making adjustments, as needed.
- 4.13 Describe the approach for monitoring debris clearance and collection activities, to confirm and document completion of required activities. The approach should clearly describe the qualifications and required number of monitoring personnel, the specific monitoring tasks, the procedure for correcting issues identified during monitoring, and the processes and forms used to document monitoring activities. Debris monitor training must also be addressed. pp. 105-115



It is very important for jurisdictions to effectively manage and monitor debris removal activities, to ensure that required tasks are completed in an efficient and effective manner, and in accordance with all applicable requirements. This includes activities accomplished with the jurisdiction's own resources and with contracted resources. Further, if a jurisdiction intends to request FEMA PA Program funding, they must provide sufficient documentation to confirm that adequate controls were in place to ensure compliance with PA Program funding requirements. Documentation on debris types, quantities, and claimed costs are of particular importance. • p. 105

V. Debris Management Sites

A jurisdiction's debris management needs may require the establishment of debris management sites. Debris management sites increase a jurisdiction's operational flexibility and capacity, and may be used to temporarily store, reduce, segregate, and process debris before it is taken to another location for reuse, recycling, or final disposal.

- 5.1 For non-recyclable debris, identify the locations of landfills and evaluate the debris types each is permitted to accept. Also, consider the daily, monthly, and overall permitted limits for the landfills, as well as capacity impacts resulting from concurrent disposal activities by other jurisdictions affected by the disaster.
- 5.2 Based on the forecasted debris types, quantities, and locations, determine the required number and general location of debris management sites, as well as their general size and the specific activities which will occur at the sites. pp. 72-74, 83-91
- 5.3 Develop evaluation criteria for selecting debris management site locations. Environmental and other regulatory requirements are critical factors to take into account.
 pp. 72-74





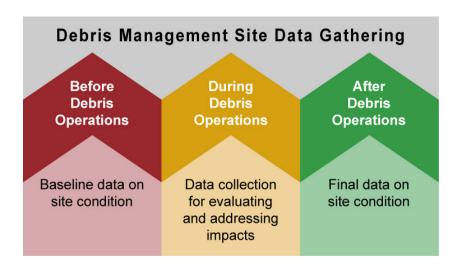
Due to cost and liability considerations, it is usually in a jurisdiction's best interest to locate debris management sites on property they own, as opposed to land owned by a private party. • p. 73

Due to cost, environmental, and other considerations, it is usually best to locate sites on previously developed property that lends itself to use as a debris management site, such as vacant lots. Ideally, debris management sites can be located within the footprint of an existing facility that is used for similar activities, such as an existing permitted landfill. • p. 74



5.4 Identify the approvals and permits required to establish a debris management site, including the permits and approvals required for specific debris management site activities, such as burning, grinding, recycling, and staging of household hazardous waste. • p. 76

- 5.5 Describe the baseline environmental survey information which will be gathered for a debris management site before operations begin on the site. If practical, the surveys should be completed for potential sites as part of the planning process prior to the disaster event. p. 75
- 5.6 Consider developing proposed site layouts for the debris management sites, addressing design criteria such as ingress and egress, traffic control, and placement and spacing of anticipated site activities. pp. 76-80
- 5.7 Identify the personnel required to staff the debris management sites and describe their responsibilities. p. 80
- 5.8 Include a defined process for regularly evaluating the efficiency and effectiveness of debris management site and final disposal activities and for making adjustments, as needed.
- 5.9 Describe the environmental sampling and other documentation that will be completed during debris management site operations to determine if the operations are adversely affecting the site and the surrounding environment. pp. 75-76
- 5.10 Describe the approach for monitoring debris management site and disposal activities, to confirm and document completion of required activities. pp. 105-115



- 5.11 Describe the activities which will be completed to close down debris management sites at the conclusion of debris operations, including remediation activities and documentation of the final condition of the sites. p. 81
- 5.12 If land for a debris management site will be leased from a private party, develop a template for the land lease agreement. The template should include a formal process for acceptance of the property by the owner after the conclusion of debris management activities. pp. 73, 76, 81

VI. Contracted Services

A jurisdiction may need to use contracted resources for debris management activities if the scope of debris operations is beyond the capabilities of the jurisdiction's other available resources. The debris management activities which may be accomplished with contracted resources and the process for procuring and managing those contracted resources should be identified in the debris management plan.

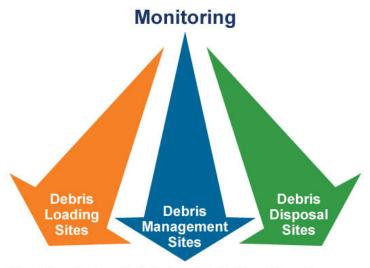
- 6.1 Identify which of the anticipated debris management activities may be completed using contracted resources. p. 93
- 6.2 Identify all Federal, State, and local procurement requirements applicable to contracts for debris management services. This includes required contract provisions appropriate to the contract type.
 pp. 93-96
- 6.3 Identify the procurement procedures which will be followed, including any procedures applicable to procurements accomplished under emergency circumstances. pp. 93-96



Jurisdictions should ensure their procedures for procuring debris management services comply with State and local procurement requirements. If a jurisdiction intends to request FEMA PA Program funding, Federal procurement requirements must also be followed. 44 CFR Part 13 addresses Federal procurement requirements applicable to PA Program funding. • p. 15

- 6.4 Determine which procurement methods (e.g., small purchase procedures, sealed bids) are most appropriate for which debris management services. This includes the criteria which will be used to evaluate potential contractors. pp. 16-17, 94-95
- 6.5 Determine which contract types (e.g., time and materials, unit price) are most appropriate for which debris management services. pp. 97-103
- 6.6 Develop draft general contract scopes of work for the different debris management activities which can be customized to meet the circumstances of a specific disaster event. p. 95
- 6.7 Develop a list of pre-qualified contractors for specific debris management activities before the disaster, based on appropriate criteria (e.g., insurance, bonding, specialized experience, past performance). ◆ p. 95
- 6.8 Evaluate whether the procurement of pre-event contracts for debris management services is a viable option. ◆ p. 95

6.9 Describe the process used to monitor contractor activities, including specific debris monitoring tasks, debris monitor staffing, and monitoring documentation that will be gathered. • pp. 105-115



Key Monitoring Points in Debris Handling Process



The level and type of debris monitoring activities required will depend on the contract type and scope of work. For example, a time and materials contract requires a focus on monitoring hours worked and equipment used, while a unit price contract requires a focus on monitoring the quantities and types of debris removed.

6.10 If contracted resources may be used for both debris removal and debris monitoring activities, describe how contractor conflicts of interest will be avoided. • p. 106

VII. Private Property Debris Removal and Demolition of Private Structures

Private property debris removal and demolition of private structures may be necessary for some disaster events. A jurisdiction's debris management plan should establish an approach for managing debris removal from private property and demolition of private structures, including identification of all applicable legal and documentation requirements and a defined process for fulfilling the requirements.

7.1 Describe the circumstances under which debris removal from private property and demolition of private structures will be necessary. • p. 117



Private property debris removal and demolition of private structures is generally ineligible for FEMA PA Program funding. Eligibility of debris removal from private property and demolition of private structures is determined by FEMA on a case-by-case basis. If a jurisdiction intends to request FEMA PA Program funding, their procedures should address applicable FEMA requirements. • p. 33

- 7.2 Identify the current laws, ordinances, and codes which define the authority and circumstances under which the jurisdiction may remove debris from private property or demolish private structures.
 pp. 34-35, 118
- 7.3 Establish the legal and administrative procedures the jurisdiction will follow when completing debris removal from private property, such as securing right-of-entry agreements from property owners and describing the scope of debris removal activities on each property. This includes a description of required documentation and sample forms. pp. 35-36
- 7.4 Establish the legal and administrative procedures the jurisdiction will follow when completing demolition of private structures, such as building inspections and condemnation notices. This includes a description of all required documentation and sample forms.
- 7.5 Describe the legal and administrative procedures the jurisdiction will follow for handling private vehicles and vessels, including the required documentation.
 pp. 29, 122

Private Property Debris Removal



7.6 Describe the process the jurisdiction will follow to recover costs associated with private property debris removal and demolition of private structures from property owners. Recovery of applicable insurance proceeds received by the owner is a key consideration. • pp. 39-40, 119

VIII. Health and Safety

A jurisdiction's plan should address the health and safety of all personnel involved in debris management activities, including the identification of applicable health and safety requirements and the processes that will be followed to meet those requirements.

- 8.1 Identify the Federal, State, and local health and safety laws and regulations applicable to debris management activities.
- 8.2 Describe the specific responsibilities of debris management personnel regarding health and safety, and identify the individual within the organizational structure with primary responsibility for ensuring compliance with health and safety requirements.
- 8.3 Identify the potential hazards associated with each of the debris management activities which will be completed by the jurisdiction. Consider hazards to both debris management personnel and other personnel, such as the general public. p. 123
- 8.4 Identify the hazard controls which will be used to reduce the risk of identified hazards to an acceptable level. This includes the identification of appropriate personal protective equipment.
 p. 123
- 8.5 Describe how information on health and safety requirements and procedures will be distributed to staff. This includes the training of staff on items such as identification of hazards and proper use of personal protective equipment. p. 123
- 8.6 Describe how compliance with health and safety requirements will be validated, and the process for taking corrective action if personnel or operations are found to be out of compliance. p. 123
- 8.7 Establish a protocol for reporting health and safety concerns and issues, as well as any incidents that occur.



8.8 Describe how the health and safety of contractor staff and other external personnel involved in the jurisdiction's debris management effort will be addressed. For example, by including a provision in contracts that requires compliance with minimum standards and specifies consequences for noncompliance.

IX. Public Information

An organized and effective approach to public information on debris operations helps ensure the general public receives the necessary information on debris management activities in the jurisdiction. Public information activities can share information that helps ensure public health and safety, provides instructions to the public regarding their role in managing the debris, and keeps the public informed of the overall status and progress of debris management activities.

- 9.1 Identify the individual or organizational element with primary responsibility for managing public information for the jurisdiction's debris management activities. p. 47
- 9.2 Identify how debris management personnel should handle contact with and inquires from the media and general public. p. 127
- 9.3 Identify the types of information which will need to be distributed to the public, such as debris collection schedules and the types of debris accepted at specific dropoff locations. pp. 125-126



- 9.4 Develop generic pre-scripted public information materials, such as sample language for announcements and content for printed materials.
- 9.5 Identify the mediums which will be used to distribute public information (e.g., television, Internet, fliers), taking into consideration that the disaster event may impact the accessibility of some mediums. This also includes the timing of communication and the frequency of updates. p. 127



The success of debris management activities that involve the general public is highly dependent on the effectiveness of a jurisdiction's public information effort. For example, for curbside debris collection, the public needs to know when debris has to be brought to the curbside and what types of materials will be picked up.

Debris Management Plan Outline

I. Staff Roles and Responsibilities

- A. Staffing Organizational Chart
- B. Roles and Responsibilities
 - 1. Staffing Assignments and Duties
 - 2. Administration
 - 3. Contracting and Procurement
 - 4. Legal
 - 5. Operations
 - 6. Engineering
- C. Emergency Communications Plan
- D. Health and Safety Plan and Procedures
- E. Training Schedule

II. Situation and Assumptions

- A. Design Disaster Event
- B. Forecasted Debris
 - 1. Forecasted Types
 - 2. Forecasted Locations

III. Debris Collection Plan

- A. Priorities
- B. Response Operations
- C. Recovery Operations
 - 1. Estimating Staff, Procedures and Assignments
 - 2. Collection Method
 - a. Curbside Collection
 - b. Collection Centers
 - 3. Collecting Hazardous Waste and White Goods
 - 4. Monitoring Staff and Assignments

IV. Debris Management Sites

- A. Site Management
 - 1. Site Manager
 - 2. Monitoring Staff and Assignments
 - 3. Safety Personnel
- B. Establishment and Operations Planning
 - 1. Permits
 - 2. Locations
 - a. Baseline Data for Each Location
 - b. Ingress/Egress for Sites
 - 3. Site Layouts
 - 4. Site Preparation

- 5. Volume Reduction Methods
 - a. Incineration
 - b. Grinding and Chipping
- 6. Recycling
- 7. Environmental Monitoring Program
- 8. Site Closure

V. Contracted Services

- A. Emergency Contracting/Procurement Procedures
- B. Debris Operations to be Outsourced
- C. General Contract Provisions
- D. Qualification Requirements
- E. Solicitation of Contractors

VI. Private Property Demolition and Debris Removal

- A. Condemnation Criteria and Procedures
 - 1. Legal Documentation
 - 2. Demolition Permitting
 - 3. Inspections
- B. Mobile Home Park Procedures
- C. Navigation Hazard Removal Procedures

VII. Public Information Plan

- A. Public Information Officer
- B. Pre-Scripted Information
- C. Distribution Plan

Appendices

- A. Maps of Jurisdiction and Priorities
- B. Staffing Assignment Maps
- C. List of Pre-Qualified Contractors
- D. Load Ticket
- E. Debris Monitor Reports
- F. Truck Certification List

Disaster recovery assistance is available without regard to race, color, national origin, sex, age, religion, disability, or economic status. Anyone who believes he/she has been discriminated against should contact the FEMA Helpline at 1-800-525-0321.

Report fraud, waste, and abuse to DHS Office of Inspector General on the Hotline at 1-800-323-8603.