

E0202

Debris Management Planning for State, Tribal, Territorial and Local Officials



FEMA

Student Manual

October 2016
Version 2.0



E0202

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Tribal, Territorial and Local Officials**

Student Manual

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COURSE INTRODUCTION

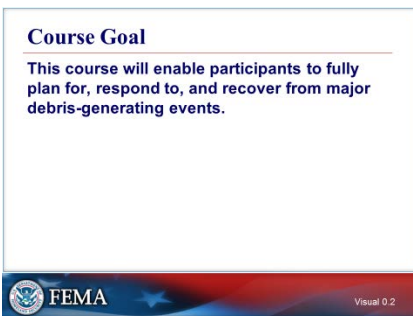
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Welcome, Administration, Introductions

Welcome

IMAGE INFO

Parkersburg, Iowa, May 28, 2008 -- [Field full of debris](https://www.fema.gov/media-library/assets/images/52756) in the aftermath of the EF-5 tornado that hit Parkersburg. Barry Bahler/FEMA - Location: Parkersburg, IA. Link available at: <https://www.fema.gov/media-library/assets/images/52756>

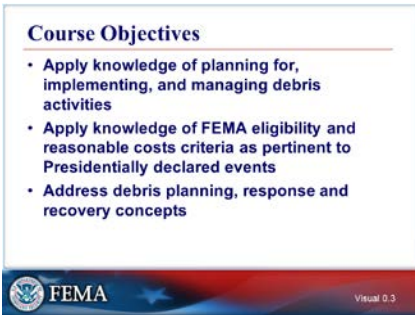
Introductions

- The Lead Instructor will ask the participants to introduce themselves.
- Each participant should give their:
 - Name.
 - Job title, organization.
 - Disaster experience (if any), length of time in position.
 - Current assignment.

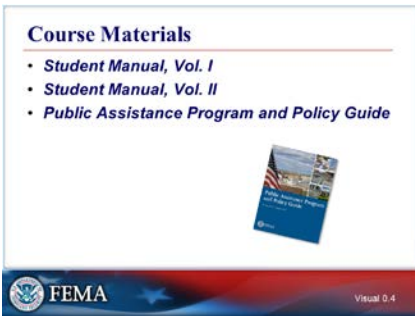
Course Goals and Description

Course Goal

The course will enable you to fully plan for, respond to, and recover from major debris-generating events.



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Course Objectives

Upon successfully completing this course, the participants will be able to complete the following tasks:

- Apply knowledge of planning for, implementing, and managing debris activities.
- Apply knowledge of FEMA eligibility and reasonable costs criteria as pertinent to Presidentially declared events.
- Address debris management planning, response and recovery concepts.

Course Materials

- *Student Manual, Vol I* (Student Manual):
 - Includes the slides and content presented in each unit.
 - Additional items in the Student Manual:
 - Lecture materials, including course slides, references to other publications, and space for notes.
 - Appendices, including other reference information utilized during lecture.
 - Acronyms and Glossary.
- *Student Manual, Vol II* (Student Activity Manual):
 - Contains both Group Activity and Individual Activity materials.
- *Public Assistance Program and Policy Guide* (FP 104-009-2, January 2016):
 - Describes Public Assistance Program operations and provides eligibility information.
 - Provides laws and regulations that govern the Public Assistance Program.
 - Outlines the basic policies that govern the Public Assistance Program and define important concepts (consistent with information provided in the PA Guide, but in a different format).

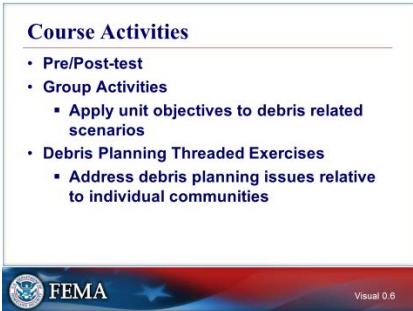


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Course Units

- Unit 1: Debris Management Planning.
 - Describes a Debris Management Plan and the importance of it.
 - Explains the Debris Management planning process.
 - Identifies Key Components of a Debris Management Plan.
- Unit 2: Situational Awareness Forecasting.
 - Discuss the various types of disaster events and their associated debris.
 - Describe a hazard analysis and how local demographics influence debris forecasting/modeling associated with it.
 - Discuss the various methods to forecast debris quantities.
- Unit 3: Eligibility and Special Considerations.
 - Discusses locating eligibility resources.
 - Evaluates eligibility of debris-related activities.
 - Explains why Special Considerations issues must be considered for debris-related activities.
 - Discusses how to identify and initiate resolution of Special Considerations issues.
- Unit 4: Operations and Implementation.
 - Identifies Debris Operation priorities.
 - Describes uses and criteria for a Debris Management Site.
 - Discusses disposal options and volume reduction method.
- Unit 5: Debris Contracting.
 - Identifies PA Program funding requirements for applicant contracts.
 - Describes different procurement methods.

- Describes different contract types.
- Unit 6: Debris Monitoring.
 - Describes the importance of debris monitoring and identifies FEMA, State/Tribal/Territorial and applicant monitoring responsibilities.
 - Describe the FEMA debris monitoring process, including monitoring techniques and issues.
- Unit 7: Health and Safety.
 - Describes Applicant, State/Tribal/Territorial, FEMA and other stakeholder health and safety responsibilities.
 - Identifies strategies for addressing health and safety issues
- Unit 8: Public Assistance Overview.
 - Identifies State/Tribal/Territorial roles and responsibilities in the Grant Life Cycle.
 - Identifies Grantee/Recipient and subgrantee/subrecipient documentation requirements for reimbursement.
 - Identifies various components of closure and audits.
- Unit 9: Public Information.
 - Describes the public information officer role
 - Describes information to be distributed
 - Establishes procedures to distribute the information
 - Identifies procedures to update, correct, revise and redistribute information as operations progress
 - Addresses establishing a venue to address all concerns, questions, and complaints .
- Unit 10: Course Conclusion.
 - Demonstrates student knowledge of the course learning objectives through a post test.



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- Identifies areas for improvement for students base on post-test results.

Course Activities

- Pre/Post Test.
 - A pre-test will be administered to measure participants current knowledge of Debris Management Planning
 - A post-test will be administered to measure participant knowledge growth concerning Debris Management Planning.
- Group Activities.
 - Most course units include a group activity that provides participants with the opportunity to apply individual unit objectives to debris-related scenarios.
 - Participants will work in groups to complete the activities, but each participant will be responsible for documenting his/her solutions in their individual Student Activity Manual.
- Debris Management Planning Threaded Exercise.
 - At the end of most units, participants will have the opportunity to respond to a set of questions applying unit concepts, which will assist them in addressing situational awareness and analysis in their own jurisdiction.




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Evaluation

- Each participant will complete a Course Evaluation Form.
- Complete this form at the end of each section and/or day.

Pre-Course Assessment

- Assess familiarity, knowledge, and general experience with Debris Planning
- Complete the course pre-test
- You have 25 minutes



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Pre-Course Assessment



Pre-Course Assessment

- Pre-Course Assessment Activity.
 - This assessment is designed to gauge prior knowledge of Debris Management Planning. The intent is not to assess the specific knowledge of an individual, but to assess the class as a whole.
 - This assessment will help the instructors tailor the course content and focus on areas of general strengths and weaknesses.
 - Participants will work individually, but the activity will be reviewed as a class.
 - It is not necessary to include names on the document.
- Group Activity Review.
 - Discuss disputed answers briefly, but remind participants that the material will be covered in later units of the course.
 - Collect the assessments after they have been marked.

Questions?



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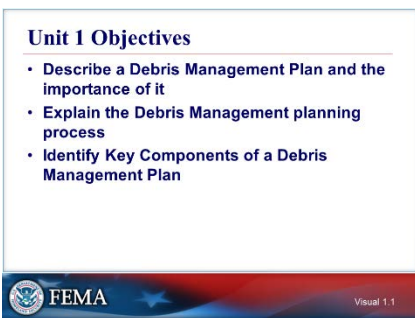
Questions?

UNIT 1: DEBRIS MANAGEMENT PLANNING

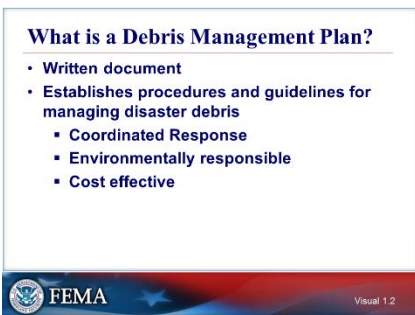
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Unit 1: Debris Management Planning

This unit focuses on the debris management planning process and its phases.

Unit 1 Objectives

- Describe a Debris Management Plan and the importance of it.
- Explain the debris management planning process.
- Identify Key Components of a Debris Management Plan.

Debris Management Plan and Importance

What is a Debris Management Plan?

- 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.



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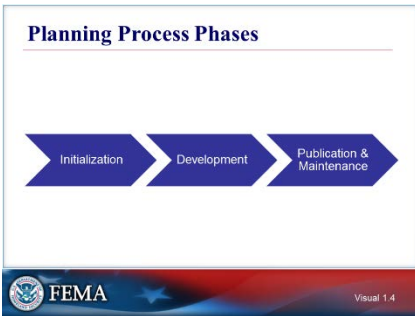
Importance of Having a Plan

- Major disasters during the last decade have raised questions regarding response delays and significant environmental impacts due to the debris generated.
- Medical care, transportation of victims or relief teams, fire fighting, provision of shelter, food, clothing, and water supplies have been delayed due to transportation difficulties as a result of debris-blocked roads.
- The removal of debris is a critical aspect of the jurisdiction's long term economic recovery and return to normalcy.
- In some cases, the amount of debris generated by some disasters was equivalent in volume to years, if not decades, of normal solid waste production in the affected jurisdictions.
- Landfill capacities were overwhelmed; roads were damaged by trucks hauling debris; tons of waste were burned; and some disposal sites were established without adequate environmental consideration, including the disposal of hazardous wastes.
- The financial and environmental costs were devastating. The lesson learned is that, in order to protect people, debris removal planning should be based on a systematic approach, whereby every component is functional in itself and is coordinated into a cohesive working response.

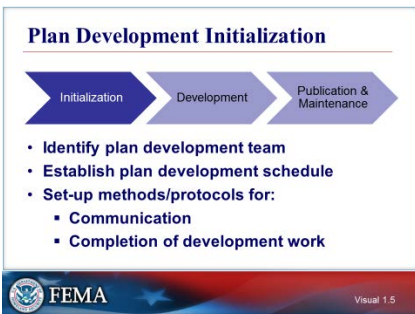
IMAGE INFO

<http://www.fema.gov/media-library/assets/images/52732>

Suffolk, Va., 4/30/08 -- [Debris litters the neighborhood](#) and homes are missing. The Highpoint subdivision suffered major damage after an F-3 tornado touched down here Monday. Many homes were either completely destroyed or condemned. Photo By: Liz Roll/FEMA - Location: Suffolk, VA. Link available at: <http://www.fema.gov/media-library/assets/images/52732>



Visual 1.4



Visual 1.5

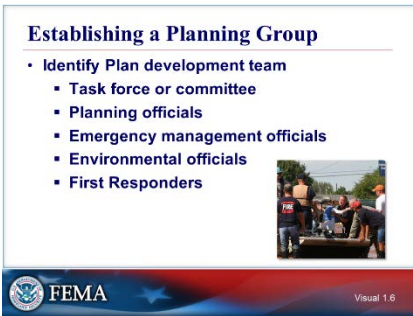
Planning Process Phases and Elements

Planning Process Phases

- There are many ways to produce an Debris Management Plan.
- The planning process that follows is flexible and allows communities to adapt it to varying characteristics and situations.
- While not ideal, if time is a constraint, steps can be minimized or skipped in order to accelerate the process.
- Small communities can follow just the steps that are appropriate to their size, known risks, and available planning resources.
- At each step in the planning process, jurisdictions should consider the impact of the decisions made on training, exercises, equipment, and other requirements.

Plan Development Initialization

- Initialization is the first phase of the planning process. This phase includes identifying the team, establishing a plan development schedule, and completing development work.
- 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.
- 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.
- Establish a protocol for communication and decision-making among the plan developers.



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- 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.

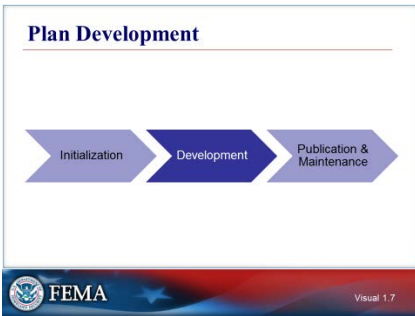
Establishing a Planning Group

- Identify internal and external departments, agencies and individuals that may be directly involved in debris operations.
- 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.
- A planning group:
 - Facilitates successful coordination following a disaster event.
 - Includes personnel within the Local government and representatives from external agencies.
- To implement debris operations quickly, it is important for the planning group to have a clear understanding of their roles and responsibilities, before, during, and after a disaster.
- The planning process should include a review of functions and responsibilities for implementing debris operations within the jurisdiction.
- Successful debris operations require collaborative efforts between departments within the Local government and with specific external agencies that have regulatory authority over debris operations.

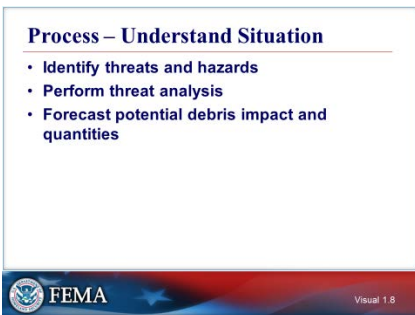
IMAGE INFO

Kingfisher, Okla., August 18, 2007 -- A child is lifted from a rescue boat by a first responder after his family lost everything due the flooding caused by Tropical Storm Erin. Following any disaster it is the local first responders (fire, police and USandR) who bring aide and comfort to

victims and perform rescue operations. Patricia Brach/FEMA - Location: Kingfisher, OK. Image available at: <http://www.fema.gov/media-library/assets/images/51586>



Visual 1.7



Visual 1.8

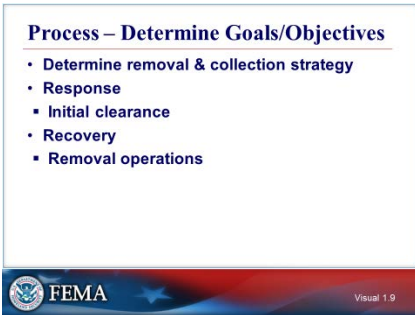
Plan Development

Plan Development is the second phase of the planning process. This phase includes identifying threats and hazards; performing a threat analysis, and forecasting potential debris impact and quantities.

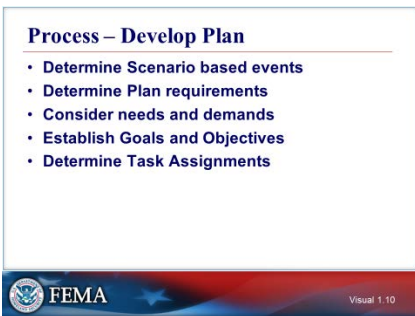
Process – Understand Situation

Effective risk management depends on a consistent comparison of the hazards a particular jurisdiction faces.

- Typically performed through a threat/hazard identification and risk assessment process that collects information about threats and hazards.
 - Assigns values to risk for the purposes of:
 - Determining priorities.
 - Developing or comparing courses of action.
 - Informing decision-making.
- Depending on the resources available and leadership, a jurisdiction could conduct an in-depth process—cataloging everything from specific asset vulnerabilities to emergency personnel staffing levels and capabilities.
- Often this level of analysis is not possible or practical; in such cases, jurisdictions should conduct a risk assessment of achievable and appropriate scale and scope.



Visual 1.9



Visual 1.10

Process – Determine Goals/Objectives

- Clearance of disaster debris is a critical component of a jurisdiction's emergency response activities.
- Collection of disaster debris is an important aspect of the overall recovery of the jurisdiction.
- 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.

Process – Develop Plan

- Review the Hazard Analysis.
 - Potential event types/scenarios.
 - Associated debris types that will be encountered.
- 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.
- Based on anticipated types, quantities, and locations of debris, determine the total debris management resource needs.
- 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.
- Determine Operational Priorities.



Visual 1.11

Debris Plan Components

- The content of each Plan will vary depending on State, Tribal, Territorial and local:
 - Ordinances.
 - Zoning.
 - Locations of area-critical infrastructure.
 - Emergency services.
 - Disposal locations.
 - Other localized factors.
- Following 12 elements are the basic components of a comprehensive Plan:
 - Debris Management Plan Overview.
 - This section of the Plan should include a discussion explaining the Plan's purpose and its overarching goals. It should also include a brief discussion about how the Plan was developed; who participated in the Plan development (effort should be made to include all internal departments and external entities that may be involved with the debris removal operations); and whether the Plan is officially adopted by the governing body.
 - Events and Assumptions.
 - Forecasting the type and quantity of debris is essential to the debris removal planning process. The Plan should identify the types and severity of disasters that are most likely to occur along with the types and anticipated quantities of debris that may be generated. It should also identify the type of handling that would be necessary to safely manage the debris. The Plan should describe the general terrain types, land use, and accessibility for the areas which would most likely be impacted by the disaster and how these characteristics may affect debris operations.

- Debris Collection and Removal.
 - o A debris collection strategy establishes a systematic approach for the efficient removal of debris so that the jurisdiction can recover quickly after a disaster. The clearance and collection of disaster debris should be structured to meet response and recovery priorities. As such, the Plan should identify and prioritize facilities that will be impacted by disaster debris. It should also define the priorities during both the response and recovery phase operations and describe the coordination process with other entities responsible for managing debris. The Plan should identify roles and responsibilities for all functions involved (e.g., Public Works, Finance, Solid Waste Departments, etc.). Additionally, the Plan should address the methods that will be used to remove debris (i.e., curbside collection, community drop-off bins, etc.).
- Temporary Debris Management Sites and Disposal Locations.
 - o The Plan should identify locations where the disaster debris will be segregated, reduced and disposed and/or whether it will be recycled. The Plan should address traffic circulation at each of the disposal sites, disposal capacity and how debris will be managed if there is a lack of landfill capacity.
- Debris Removal on Private Property.
 - o Debris removal from private property is generally the responsibility of the individual property owners; however, when it is in the public interest to remove debris, the recipient or subrecipient may act to abate the threat. The Plan should identify the circumstances under which the recipient or subrecipient will take such action and identify the enabling laws that allow government to intercede in private property matters. The Plan should also provide

discussion on the specific steps it will undertake to obtain permissions to enter on the private property and how it will recoup costs (such as insurance proceeds) for the debris removal.

- Use and Procurement of Contracted Services.
 - o The Plan should discuss the circumstances when contracted services will be required and describe the types of debris operations that will be contracted. The Plan should describe the process and procedure for acquiring competitively procured contracted services. All contracts must comply with Federal procurement requirements (i.e., competitive bidding), as outlined in Title 2 Code of Federal Regulations (CFR) Part 200; Federal requirements may be more stringent than State or local requirements (See also Recovery Fact Sheet 9580.201 Debris Contracting Guidance).
- Use of Force Account Labor.
 - o The Plan should clearly define the types of work that will be performed by force account labor.
- Monitoring of Debris Operations.
 - o Debris monitoring helps ensure that the debris removal contractors are performing the agreed upon scope of work as per the contract and helps to maintain the required documentation for FEMA PA reimbursement. The Plan should include details as to how the recipient or subrecipient will monitor its debris removal contractor at pickup sites, Debris Management Sites/Temporary Debris Storage and Reduction Sites and final disposal areas. Specifically, the Plan should discuss who will perform the monitoring and describe each monitoring task.



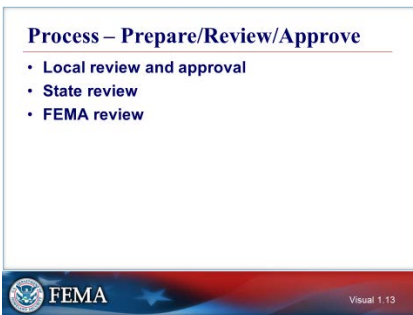
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Plan Components (Cont'd)

- Health and Safety Requirements.
 - o Debris operations involve the use of heavy equipment and numerous types of trucks, which can pose safety hazards to emergency workers and the public. In addition to safety hazards, exposure to certain types of debris can pose potential health risks to emergency workers and the public. The Plan should include specific details as to how workers and the public will be protected and discuss the specific measures for adherence to safety rules and procedures.
- Environmental Considerations and Other Regulatory Requirements.
 - o The removal and disposal of certain types of debris have impact on the human and physical environment. Successful debris operations depend on compliance with Federal, State and local environmental laws. The Plan should identify all debris operations that may trigger compliance with environmental and historic preservation laws. It should also identify how compliance will be attained.
- Public Information.
 - o The dissemination of debris removal information is critical to the effective and efficient removal of disaster debris. The Plan should include a public information strategy to ensure that residents receive accurate and timely information about the parameters, rules, and guidelines for debris removal.
- Identification of Debris Removal Contractors.
 - o The recipient or subrecipient must identify at least one or more debris contractors that it has pre-qualified to perform debris operations. A pre-qualified contractor is one that has been identified and evaluated by a local government and has been determined to be capable to

perform debris removal work (e.g., capabilities, bonding, insurance, availability). Identification of these qualifications should be done in conjunction with drafting the debris management plan, which should include specific contract requirements and explain how contractor qualifications are established. The purpose of having a pre-qualified contractor is to have a list of qualified contractors to compete the work. A pre-qualified contractor does not constitute a stand-by contractor. Subrecipients must still comply with Federal procurement requirements (i.e., competitive bidding), as outlined in 2 CFR Part 200.

- Annexes.

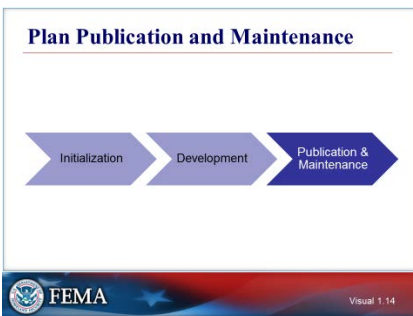


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Process – Prepare/Review/Approve

- The planning team develops a rough draft of:
 - The basic plan.
 - Functional annexes.
 - Hazard-specific annexes.
 - Other parts of the plan as appropriate.
- The recorded results provide an outline for the rough draft. As the planning team works through successive drafts, the members add necessary tables, charts, and other graphics.
- The planning team prepares and circulates a final draft to obtain the comments of organizations that have responsibilities for implementing the plan.
- Following these simple rules for writing plans and procedures will help ensure that readers and users understand their content:
 - Keep the language simple and clear by writing in plain English. Summarize important information with checklists and visual aids, such as maps and flowcharts.

- Avoid using jargon and minimize the use of acronyms.
- Use short sentences and the active voice. Qualifiers and vague wording only add to confusion.
- Provide enough detail to convey an easily understood plan that is actionable. The amount of detail a plan should provide depends on the target audience and the amount of certainty about the situation.
- Format the plan and present its contents so that its readers can quickly find solutions and options. Focus on providing mission guidance and not on discussing policy and regulations. Plans should provide guidance for carrying out common tasks, as well as enough insight into intent and vision so that responders can handle unexpected events. However, when writing a plan, “stay out of the weeds.” Procedural documents (e.g., SOPs/SOGs) should provide the fine details.



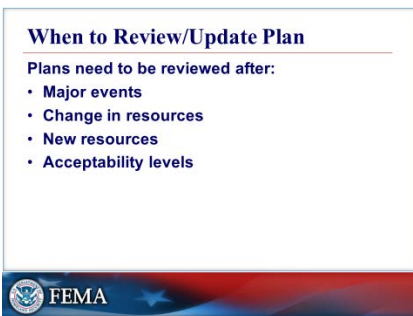
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Publication and Maintenance Phase

This step closes the loop in the planning process. It focuses on adding the information gained by exercising the plan to the research collected and starting the planning cycle over again.

- Note, planning is a continuous process that does not stop when the plan is published. Plans should evolve as lessons are learned, new information and insights are obtained, and priorities are updated.
- Planning teams should establish a process for reviewing and revising the plan.
- Reviews should be a recurring activity. Some jurisdictions have found it useful to review and revise portions of their Debris Management Plans every month.

- Many accomplish their reviews on an annual basis.
- In no case should any part of the plan go for more than two years without being reviewed and revised.
- Teams should also consider reviewing and updating the plan after the following events:
 - A major incident.
 - A change in operational resources (e.g., policy, personnel, organizational structures, management processes, facilities, equipment).
 - A formal update of planning guidance or standards.
 - A change in elected officials.
 - Each activation.
 - Major exercises.
 - A change in the jurisdiction's demographics or hazard or threat profile.
 - A change in the acceptability of various risks.
 - The enactment of new or amended laws or ordinances.



Visual 1.15

When to Review/Update Plan

Teams should also consider reviewing and updating the plan after the following events:

- A major incident.
- A change in operational resources (e.g., policy, personnel, organizational structures, management processes, facilities, equipment).
- A formal update of planning guidance or standards.
- A change in elected officials.
- Each activation.
- Major exercises.



Visual 1.16



Visual 1.17

- A change in the jurisdiction's demographics or hazard or threat profile.
- A change in the acceptability of various risks.
- The enactment of new or amended laws or ordinances.

Process – Implement and Maintain

- Planning group should have an understanding of the plan approval and acceptance process internally and externally.
- Establish what level of effort will be required to train staff on plan components, areas of responsibility and operational activation of plan during an event.
- Review and update process, annually at minimum.



Activity 1.1: Debris Management Planning Threaded Exercise

Purpose of Activity

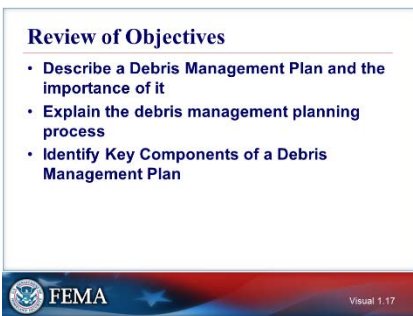
This activity provides the opportunity to respond to a specific set of questions, which will assist you in addressing debris management planning in your own jurisdiction.

Group Activity Setting

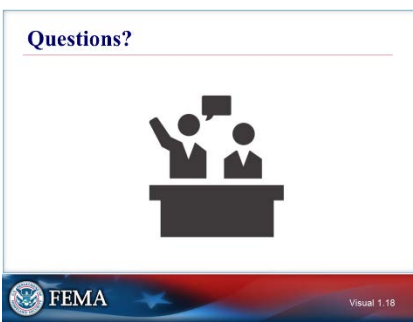
- Participants will complete this activity individually, followed by a class discussion.

Overview of Activity

- You will have 10 minutes to answer the questions.
- Following individual work, you will have the opportunity to discuss and share your answers.



Visual 1.18



Visual 1.19

Review of Objectives

- Describe a Debris Management Plan and the importance of it.
- Explain the Debris Management planning process.
- Identify Key Components of a Debris Management Plan.

Questions?

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ACTIVITY 1.1

DEBRIS MANAGEMENT PLANNING THREADED EXERCISE

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Respond to the following questions for your own jurisdiction:

1. Would a Debris Management Plan be beneficial for your jurisdiction? Why?

2. What departments within your agency are responsible for debris removal? Solid Waste disposal? Demolition? Public Information?

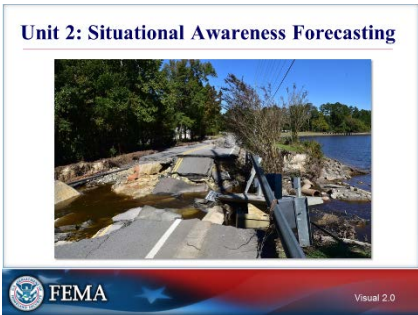
3. What local ordinances in your jurisdiction apply to debris management activities?

4. What departments within your agency should participate in the development of a Debris Management Plan?

5. 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.

UNIT 2: SITUATIONAL AWARENESS FORECASTING

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Visual 2.0

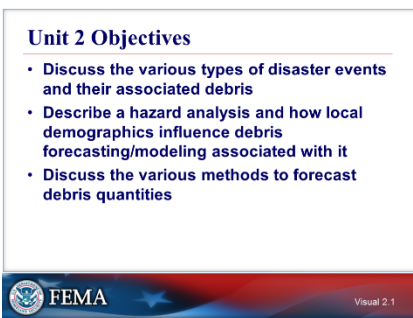
Unit 2: Situational Awareness Forecasting

- This unit provides:
 - Typical types of disasters and resulting debris.
 - Photo examples of typical debris situations that may be encountered in actual disasters.
 - A discussion of general issues that should be considered in debris planning and issues that have arisen in recent disasters.
- An activity where you will assess potential debris issues based on the type and magnitude of the event. This unit focuses on disaster event types and their associated debris issues, hazard analysis, and forecasting and modeling.
- Overview of a Debris Management Plan.
 - Debris quantities in natural events are increasing.
 - Natural disasters are becoming more numerous and generating unprecedented amounts of debris.
 - More development is present in disaster-prone areas.
 - Large and more complex buildings, homes, and mobile home parks result in larger quantities of debris.
 - Recent disasters.
 - Initial estimates of debris after Hurricane Andrew was 20 million cubic yards—enough to fill a football field a mile high—and took 6 months to remove.
 - In Puerto Rico, after Hurricane Georges, disaster-related debris amounted to 5 million cubic yards.
 - To effectively prepare for and respond to debris-related issues, it is necessary to have an understanding of the types of debris that are generated in the various disasters.

IMAGE INFO

Columbia, SC, October 18, 2015 -- [A piece of Lake Elizabeth's levee](#) broke and destroyed part of Wilson

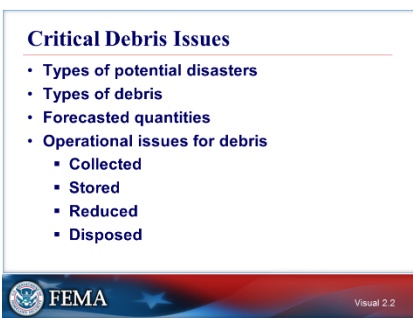
Blvd, there are detour signs in the neighborhood. Residents are eligible for Individual Assistance in Bamberg, Berkeley, Calhoun, Charleston, Clarendon, Colleton, Darlington, Dorchester, Florence, Georgetown, Greenwood, Horry, Kershaw, Lee, Lexington, Orangeburg, Richland, Sumter and Williamsburg counties. Deadline is December 4, 2015. Link available at: <http://www.fema.gov/media-library/assets/images/110844>



Visual 2.1

Unit 2 Objectives

- Discuss the various types of disaster events and their associated debris.
- Describe a hazard analysis and how local demographics influence debris forecasting/modeling associated with it.
- Discuss the various methods to forecast debris quantities.

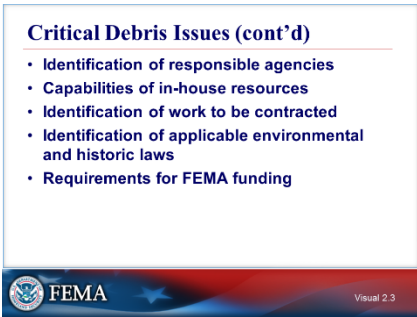


Visual 2.2

Event Types and Issues

Critical Debris Issues

- Understanding the potential magnitude of debris by forecasting the magnitude or level of the event is critical for planning a coordinated response of resources.
- The response and recovery operations of a debris generating event will have multiple operational issues or considerations that have to be addressed.

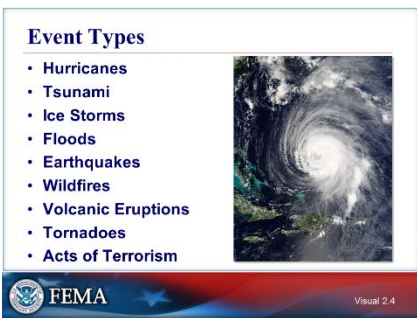


Visual 2.3

Critical Debris Issues (cont'd)

Additionally, the jurisdiction must identify how the work will be organized, performed, and managed:

- Identify agencies available to assist in the debris efforts and what their responsibilities will be.
- Identify the capabilities of in-house resources and how they can best be used.
- Identify the types of work that should be contracted.
 - What types of contracts will be most appropriate for the type of work?
- Identify the Federal, State/Tribal/Territorial, and local environmental and historic preservation laws that might apply to the anticipated work.
- Identify the types of documentation that may be required to support FEMA funding.
 - In large disasters, Federal funding may be available through FEMA.
 - It is in the communities' best interest to develop their debris management strategy to consider FEMA requirements for funding.



Visual 2.4

Event Types

- The following series of slides illustrates the characteristics of common disaster types.
 - These characteristics influence the type and magnitude of debris that is generated.
- Many disasters generate the same types of debris, however, the mix of debris will vary between disaster types.
- There are other disaster types:
 - Tsunami.
 - Volcanoes.
 - Acts of terrorism.
- Other types of disasters occur less frequently.

- Straight-line winds.
- Microbursts.
- Their effects are similar to some of the disasters described.

IMAGE INFO

Atlantic Ocean, September 12, 2003 -- [Satellite photograph of Hurricane Isabel](#) east of the Bahamas in the Atlantic Ocean. The Hurricane made landfall near Ocracoke Inlet in North Carolina on September 18th as a Category 2 storm. NOAA New Photo. Link available at: <http://www.fema.gov/media-library/assets/images/57704>



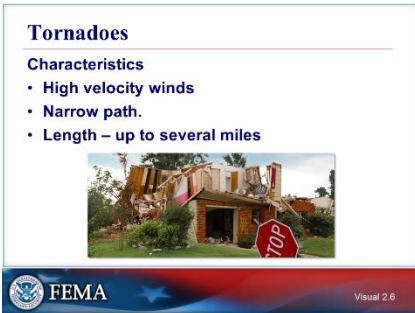
Visual 2.5

Hurricanes

- Characteristics of a hurricane:
 - High velocity winds—ranging from 74 m.p.h. to more than 155 m.p.h.
 - Storm surge – Is the most destructive effect of a hurricane.
 - Wave action—usually precedes hurricane winds, causing severe damage of beaches and seaside structures and buildings.
 - Inland flooding—may occur even where winds do not reach hurricane force.
- The effects of a hurricane can be devastating to both coastal and inland areas as depicted in recent hurricanes.
- Hurricanes can cause large quantities of every type of debris. Heavy rainfall can cause mass flooding, and high winds can become tornadoes causing additional damage to inland areas.
- Significant damage may occur to buildings, above-grade utilities, roadways, and vegetation.

IMAGE INFO

Oak Bluffs, Mass., Oct. 29, 2012 -- [Hurricane Sandy pounds the Massachusetts coast](#) topping Seaview Ave. in Oak Bluffs, Oct. 29, 2012. (Photo courtesy of The



Visual 2.6

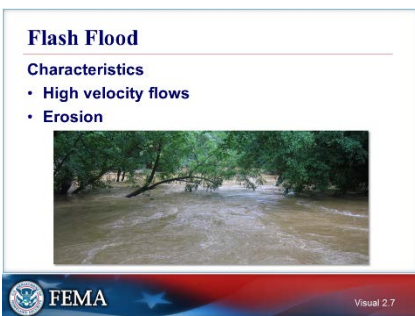
Vineyard Gazette/Sam Low). Link available at: <http://www.fema.gov/media-library/assets/images/69106>

Tornadoes

- Characteristics of a tornado:
 - High velocity winds—from 40 m.p.h. to more than 300 m.p.h.
 - Narrow path of impact.
 - Length of impact—up to several miles.
- The high winds of a tornado can debark trees, throw vehicles several hundred feet, and severely damage structures from wood-framed to reinforced concrete.
- Significant quantities of building rubble and uprooted vegetation can result from a tornado.
- Due to the high winds and tornado effects, debris is typically mixed and widely scattered.

IMAGE INFO

Birmingham, Ala., July 23, 2011 -- [Severe tornado damage inflicted](#) on a residential home on Lamplighter Lane in Pratt City (Birmingham) on April 27, 2011. Photo by Christopher Mardorf / FEMA. - Location: Birmingham, AL. Link available at <http://www.fema.gov/media-library/assets/images/60246>



Visual 2.7

Flash Flood

- Characteristics of flash floods:
 - High velocity flows—destroying structures, vegetation, and infrastructure.
 - Erosion.
- Most areas of the country have experienced natural disasters in flooding.
 - Structural damage may occur from high velocity flow and forces from sediment transport.

IMAGE INFO



Visual 2.8

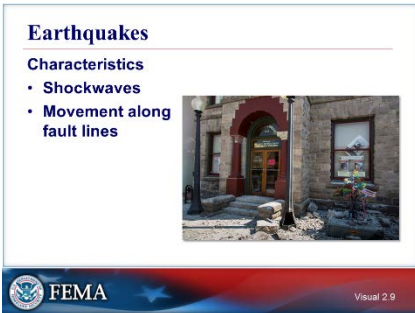
Germantown, Md., June 27, 2006 -- [Floodwaters flow](http://www.fema.gov/media-library/assets/images/50366) rapidly along Seneca Creek as record rains continue to fall across the Mid-Atlantic region. Flash floods are snarling traffic and closing some government buildings across the area. Aaron Skolnik/FEMA - Location: Germantown, MD. Link available at: <http://www.fema.gov/media-library/assets/images/50366>

Riverine Flood

- Characteristics of a riverine flood:
 - Slow rise and fall of water elevation over a period of time.
 - Inundation.
 - Sediment.
- Most areas of the country have experienced natural disasters in flooding.
- Structural damage may occur from flood saturation and sediment accumulation.
- Floods are often the most difficult disaster events relative to debris.
 - Often, all possessions are destroyed.
 - o Clothes, furniture, personal effects.
 - o Carpet, sheetrock, wood.
 - Debris is put out for collection in waves for long periods of time.
 - o As water levels recede.
 - o Emotionally difficult to part with items.
 - o Some (particularly the elderly) may need assistance in moving objects.

IMAGE INFO

Davenport, Iowa, May 5, 2001 -- [Flooding from the Mississippi River](#) surrounds John O'Donnell Stadium in Davenport's downtown green space, while flood-fighting efforts successfully protect the ball field. Photo by Anita Westervelt/FEMA News Photo. - Location: Davenport,



Visual 2.9

IA. Link available at <http://www.fema.gov/media-library/assets/images/36768>

Earthquakes

- Characteristics of earthquakes:
 - Shockwaves—a series of long rolling actions or rapid vibration.
 - Movement along fault lines—both vertical and horizontal can cause ground displacement up to several feet.
 - Aftershocks for several days or even weeks.
- Although relatively infrequent compared to the other disaster types, the effects are usually devastating.
- Most large earthquakes occur on the west coast, but other areas of the country are also prone to earthquakes, perhaps to a lesser degree.
 - New Madrid earthquake in the Missouri-Tennessee-Arkansas-Kentucky area.
 - Major earthquakes have occurred in South Carolina and New England.
 - Puerto Rico and the Virgin Islands are in earthquake-prone zones.
 - San Andreas fault on the West Coast.
- Damages include:
 - Building and infrastructure damage.
 - Damage to equipment and personal property from collapsed walls and roofs.
 - Sediment from earthquake-induced landslides .

IMAGE INFO

Napa, CA, September 9, 2014 – [Earthquake damage](#) to the historic Romanesque Goodman Library building in the City of Napa, California, which was struck by a 6.0 earthquake at 3:20 a.m. on August 24, 2014. The Goodman Library was donated to the City of Napa by philanthropist George Goodman in 1901 and is the longest continually operating library in the State of

California. The building was seismically stabilized and retrofitted with assistance from FEMA in 2004-2005. FEMA supports state, local and tribal governments in their efforts to recover from natural disasters and mitigate hazards. Photo by Christopher Mardorf / FEMA. Link available at: <http://www.fema.gov/media-library/assets/images/98642>



Visual 2.10

Wildfires

- Characteristics of wildfires:
 - Extensive burn areas.
 - Possible flooding and mudslides.
- Damages resulting from wildfires include.
 - Loss of vegetation.
 - Damaged homes and buildings.
 - Landslides and mudslides on burnt slopes when rains follow the fire.
- Wildfires can produce a significant amount of debris with the increase of houses in woodlands.

IMAGE INFO

Lakewood, Colo., August 4, 2008 -- [Fire crews from all over Denver](#) set up to protect homes from the Green Mountain fire. Photo Michael Rieger/FEMA - Location: Lakewood, CO. Image available at <http://www.fema.gov/media-library/assets/images/53415>



Visual 2.11

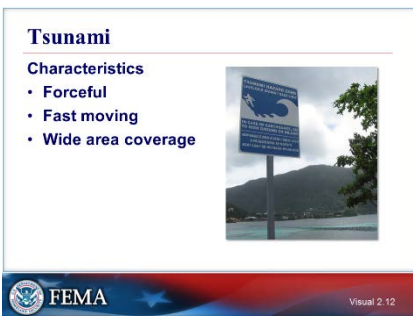
Ice Storms

- Characteristics of ice storms:
 - Catastrophic accumulation of ice and snow.
 - Significant damage to vegetation.
 - Travel is difficult—roads may be closed as a result of fallen trees and limbs.

- Power is disrupted and not easily repairable— utility poles and wires may be severely damaged and become debris.
- Continued cold weather may impede restoration of utilities.
- Combined with snow accumulation and rapid warming, flooding may occur.
- Communities susceptible to ice storms must plan for extensive vegetative debris removal and reduction.

IMAGE INFO

Washington Park, Kansas City, MO, January 31, 2002 -- [A heavy layer of ice](#) blanketed the region, bringing down trees, power and telephone lines. Photo by Linda Winkler/ FEMA News Photo. - Location: Washington Park, MO. Image available at: <http://www.fema.gov/media-library/assets/images/40693>



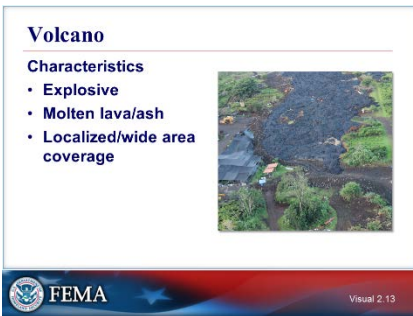
Visual 2.12

Tsunami

- Tsunamis can occur anywhere where you have coastal exposure.
- Characteristics of a tsunami include:
 - Forceful.
 - Fast Moving.
 - Wide Area Coverage.
- A tsunami is very similar to storm surge damage as caused by a hurricane.
- It can be more devastating, faster moving and can flow inland farther.
- The receding waters pull debris back which can result in more marine debris problems.

IMAGE INFO

Pago Pago, American Samoa, Sep. 28, 2012 -- [Purchase of emergency signage](#) as part of "Tsunami Ready" designation. - Location: Pago Pago, AS. Image available at: <http://www.fema.gov/media-library/assets/images/69257>



Visual 2.13

Volcano

Characteristics include:

- Explosive.
- Molten lava/ash.
- Localized wide area coverage.

IMAGE INFO

Photo taken during a [helicopter flyover](#) of the Hawaii Island, Monday, November 10, 2014. Image available at: <http://www.fema.gov/media-library/assets/images/100013>



Visual 2.14

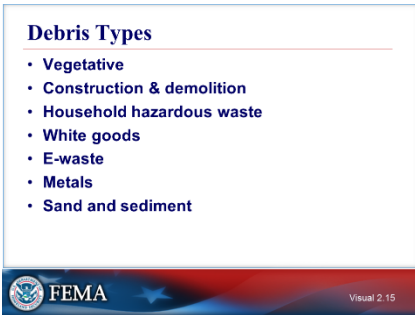
Act of Terrorism

Characteristics include:

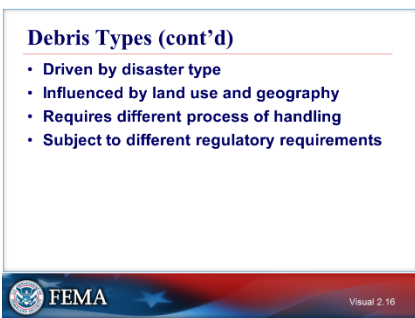
- Random.
- Unpredictable.
- Could produce conventional and unconventional debris.

IMAGE INFO

New York City, N.Y., September 16, 2001 -- [FEMA Urban Search and Rescue teams](#) work to clear rubble and search for survivors at the World Trade Center. Photo by Andrea Booher/ FEMA News Photo - Location: New York City, NY. Image available at: <http://www.fema.gov/media-library/assets/images/38884>



Visual 2.15



Visual 2.16



Visual 2.17

Debris Types

- The following slides identify the characteristics of debris generated by the various disaster types.
- As indicated earlier, many of the debris types will be generated by more than one disaster type, however, the magnitude and mix of the debris will vary between disasters.

Debris Types (cont'd)

- The following slides identify the characteristics of debris generated by the various disaster types.
- As indicated earlier, many of the debris types will be generated by more than one disaster type, however, the magnitude and mix of the debris will vary between disasters.

Vegetation

- Vegetative debris includes:
 - Trees.
 - Brush.
 - Limbs.
- Vegetative debris will be generated from most disaster types:
 - Hurricanes and Tornadoes—significant quantities.
 - Floods.
 - Wildfires.
 - Ice Storms—some of the largest amounts of vegetative debris come from ice storms.

- Vegetative debris will be found both on public and private property, and will be found within streets, often blocking vehicle traffic.

IMAGE INFO

A Bridgeton, MO, [dump truck leaves](#) for another load of tree debris. The area was one of the hardest hit following the April 22, 2011 tornado. The city, to date, has filled 10 of the 40 acres of the park. The debris collection and eventual disposal will be funded mostly by FEMA. Jace Anderson/FEMA - Location: Bridgeton, MO. Image available at <https://www.fema.gov/media-library/assets/images/59011>



Visual 2.18

Soil/Mud/Sand

- Sediment and sand will result primarily from flooding events (floods and hurricanes).
 - Areas with unconsolidated or loose soil material may become almost a river of sediment during flood conditions.
 - Sediment flow conditions can be highly destructive and dangerous.
- Wildfires and earthquakes may also generate landslides and mudslides, resulting in the deposition of sand and rocks.
- Sediment flow combined with high velocity floodwater may cause extensive structural damage. Both the sediment and structural debris will require disposal.

IMAGE INFO

Laguna Canyon, Calif., 3/3/1998 -- Laguna Canyon, where the [El Nino rains swept mud down hills](#), killing one and leaving others with mud filled homes. Photo by DAVE GATLEY/FEMA News Photo - Location: Laguna Canyon, CA. Image available at: <http://www.fema.gov/media-library/assets/images/36631>



Visual 2.19

Sandbags

- Sandbags used to protect against flooding remain after floods recede.
- Removal of sandbags must be handled cautiously—they can be contaminated with pollutants from flooded sewage treatment plants, pesticides, herbicides, chemicals, and hydrocarbons. The sandbags must be tested and disposed of properly.

IMAGE INFO

Iowa City, Iowa, June 16, 2008 -- [Sandbags protect the Lindquist Center](http://www.fema.gov/media-library/assets/images/52921) College of Education building at the corner of Burlington and Madison Streets. Water from the cresting Iowa River filled a tunnel that runs to the University of Iowa power plant, now shut down due to high water. Photo by Greg Henshall / FEMA - Location: Iowa City, IA. Image available at: <http://www.fema.gov/media-library/assets/images/52921>



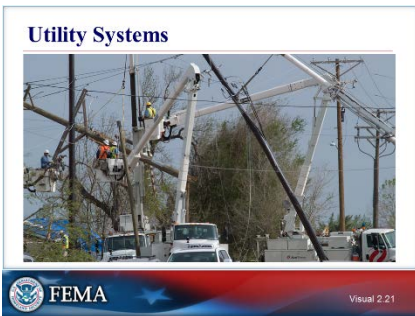
Visual 2.20

Construction and Demolition

- Construction and Demolition (C&D) material is generated by damaged structures and can be present in most types of disasters to varying degrees (hurricanes, tornadoes, floods, and earthquakes).
- C&D materials may include disaster-damaged building materials and damaged contents.
- Some C&D materials can be recycled.
- The structure use and building materials must be evaluated to consider the potential presence of asbestos and other potentially hazardous materials.

IMAGE INFO

Moore, Okla., July 29, 2013 -- The beginnings of a [new construction stands](http://www.fema.gov/media-library/assets/images/72136) tall amidst the vacant lots in the aftermath of the May, 22 EF-5 tornado, and shows Oklahoma's strength in moving forward. Dominick Biocchi/FEMA - Location: Moore, OK. Image available at <http://www.fema.gov/media-library/assets/images/72136>



Visual 2.21

Utility Systems

- In addition to building damage, construction debris may include utility systems such as utility poles, wiring, conduits and other items from power, telephone, cable TV, and other utilities.
 - These damages should be expected in all types of disasters, with a significant concentration from ice storms.
 - It is necessary to coordinate closely with appropriate utility companies to define jurisdictional responsibilities and to encourage cooperation to expedite recovery.

IMAGE INFO

Windsor, Colo., May 23 2008 -- [Utility workers](#) start to repair downed power lines to restore power to the town of Windsor. Photo Michael Rieger/FEMA - Location: Windsor, CO. Image available at: <https://www.fema.gov/media-library/assets/images/52728>



Visual 2.22

Furnishings

- Household furnishings and personal effects will become debris as a result of many disasters.
- If residents do not have sufficient time to move contents, as would be the case in tornadoes, flash floods, and earthquakes, the quantities of personal effects will be significant.
- Quantities increase when roofs are damaged during rain events.
- Household furnishings normally make up the second wave of debris that will come to the right-of-way.
- Rugs, furniture, and mattresses should be treated as mixed debris and taken directly to a landfill.
- Debris becomes mixed by:
 - Uncontrolled collection and disposal.

- Disaster effects such as high winds from hurricanes and tornadoes.
- Roadside debris piles often contain a mixture of debris types.
- Separation of the mixed debris is often not cost effective. Most often the debris is taken directly to the landfill.

IMAGE INFO

Seaford, N.Y., Nov. 11, 2012 -- [A survivor of Hurricane Sandy](http://www.fema.gov/media-library/assets/images/67161) brings ruined furniture to the curb in Seaford New York. FEMA provides assistance to eligible disaster survivors. FEMA is working with state and local officials to assist residents who were affected by Hurricane Sandy. Howard Greenblatt/FEMA - Location: Seaford, NY. Link available at <http://www.fema.gov/media-library/assets/images/67161>



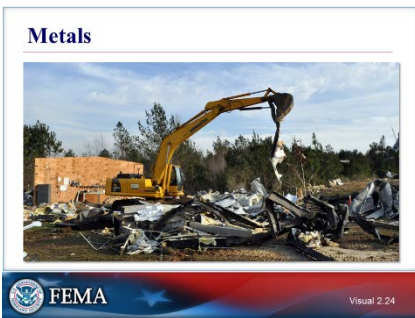
Visual 2.23

Household Hazardous Waste

- Household Hazardous Waste (HHW) may result from flooding conditions, as well as from other disasters that result in damage to residences.
- HHW may be mixed in with personal property debris.
- Every effort should be made to segregate HHW from the debris stream at the curbside as these materials require special handling and disposal.
- HHW includes such items as:
 - Paint.
 - Solvents.
 - Cleaning supplies.
 - Insecticides.
 - Pool chemicals.
 - Propane.
 - Gasoline.
 - Oils.

IMAGE INFO

Tuscaloosa, Ala., May 14, 2011 -- [Survivors of the April tornados](#) are starting to cleanup debris. Hazardous waste like this, along with large appliances, construction material, electronics, household garbage, and wood and vegetative debris must be separated and placed near the curb for removal. FEMA photo/Tim Burkitt - Location: Tuscaloosa, AL. Link available at: <http://www.fema.gov/media-library/assets/images/58918>



Visual 2.24

Metals

- Metal debris may include:
 - Roofing.
 - Mobile homes.
- Some metals might be suitable for recycling.

IMAGE INFO

Oak Grove, Miss., Feb. 20, 2013 -- [The high school lost](#) its field maintenance building and the indoor batting building as well as signs and lights - but the school only suffered minor damage. FEMA's Public Assistance Program will be accepting applications for grants to assist in the restoring of public buildings damaged by the tornado Photo by Marilee Caliendo/FEMA - Location: Oak Grove, MS. Link available at: <http://www.fema.gov/media-library/assets/images/69494>

**White Goods**

- White metals may include:
 - Refrigerators.
 - Freezers.
 - Washers.
 - Dryers.

Visual 2.25

- White goods, such as refrigerators, stoves, washers, dryers, etc., should be segregated and recycled if possible.
- Care must be exercised to ensure that refrigerants are removed from cooling units by a certified air-conditioning technician.

IMAGE INFO

Tuscaloosa, Ala., May 14, 2011 -- [Cleanup](#) of the debris is happening in Alabama. Large appliances must be separated, along with construction material, electronics, hazardous waste, wood, and household garbage for proper removal. FEMA photo/Tim Burkitt - Location: Tuscaloosa, AL. Image available at <http://www.fema.gov/media-library/assets/images/58899>



Visual 2.26

Vessels/Boats

Removal of boats and vessels requires coordination with the appropriate governing authorities; generally, removal and disposal of vessels is the owner's responsibility.

IMAGE INFO

Empire, La., October 25, 2005 - This [bridge in Empire](#), LA is still closed almost 60 days after Hurricane Katrina came through the area. Efforts are currently underway to remove these vessels from the highway. Robert Kaufmann/FEMA - Location: Empire, LA. Link available at <http://www.fema.gov/media-library/assets/images/47341>



Visual 2.27

Vehicles

- Disposal of vehicles has become a BIG issue in disasters.
- Removal and disposal of vehicles should be coordinated with the appropriate governing authorities.
- Removal and disposal of vehicles is generally the responsibility of the owner.

IMAGE INFO

Moore, Okla., May 26, 2013 -- These [unrecognizable hulks of metal](#) are what's left of cars parked near the Medical Center after the deadly May 20 EF-5 tornado destroyed the Center. FEMA is here to help individuals and the jurisdiction recover. George Armstrong/FEMA - Location: Moore, OK. Link available at <http://www.fema.gov/media-library/assets/images/71105>



Visual 2.28

Animal Carcasses

- Disposal of animal carcasses can be an issue in disasters, especially in floods.
- Often times, a storm will cause a farmer to not have access to the animals which can cause additional deaths.
- Farmers and/or animal owners should be responsible for the disposal of their animals, but when large numbers of animals are affected, it may be beyond the means of the farmer to properly dispose of them.
- Additionally, particularly in floods, animals may have washed into trees and onto public and private property. To determine ownership of these animals is often impossible.
- In a large-scale flood, wild animals will also be a problem for collection as well as disposal.
- Disposal of animals presents an environmental/health issue:

- The health and safety of those conducting the cleanup, as well as the citizens at large, must be considered.
- Long-term environmental impacts of disposal must be considered.
- The traditional method for disposal is burying. However, for large numbers, this may present a health issue. Composting and incineration are also effective means of disposal, but must be evaluated against environmental regulations.

IMAGE INFO

WALLACE, N.C., 09/28/1999 -- Nearly [750,000 turkeys](#) were lost to flooding in Duplin Co. alone as well as 100,000 hogs. This poultry farm in Wallace lost over 23,000. The owner, Alan Reynor, lost at least \$85,000 plus cleanup costs. He also lost 2,500 hogs and his corn crop. Photo by DAVE GATLEY/FEMA News Photo - Location: WALLACE, NC. Link available at <http://www.fema.gov/media-library/assets/images/35698>

Hazard Analysis

Threat – Hazard Analysis

Definition: Assessment of Risk present in a particular environment and classification of exposure according to their estimated degree of risk.



Visual 2.29

IMAGE INFO

San Antonio, Texas, May 15, 2012 -- Region 6 Dep. [Federal Preparedness Coordinator](#), Randy Meshell, gives a presentation on Threat Hazard Identification and Risk Assessment during the Third Annual FEMA Region 6 Preparedness Workshop. FEMA/ Earl Armstrong - Location: San Antonio, TX. Link available at <http://www.fema.gov/media-library/assets/images/64542>

Hazard Analysis

- Identify potential debris generating events
- Develop hazard profiles
- Quantify and prioritize debris issues
- Identify responsible agencies
- Identify applicable environmental and historic laws

Visual 2.30

Events and Assumptions

- Disaster event characteristics
 - Type of event
 - Magnitude, duration, intensity
 - Location (land use and terrain)
- Determine likely type, size, and extent of potential disaster
 - Typically based on historical data
 - Consider all potential scenarios

Visual 2.31

Composition of Disaster Debris

Disasters generate a variety of different types of debris

Type of Disaster	Typical Debris Streams									
	Debris Scattered Over Large Areas	Debris Scattered Over Small Areas	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)	Debris Scattered Over Small Areas (High Priority)
Hurricanes/Typhoons	X	X	X	X	X	X	X	X	X	X
Tsunamis	X	X	X	X	X	X	X	X	X	X
Tornadoes	X	X	X	X	X	X	X	X	X	X
Floods	X	X	X	X	X	X	X	X	X	X
Earthquakes	X	X	X	X	X	X	X	X	X	X
Wildfires	X	X	X	X	X	X	X	X	X	X
Ice Storms	X	X	X	X	X	X	X	X	X	X
Severe Storms/High Winds	X	X	X	X	X	X	X	X	X	X
Acts of Terrorism	X	X	X	X	X	X	X	X	X	X

Visual 2.32

Hazard Analysis

Elements of performing a Hazard Analysis as it relates to a debris generating event.

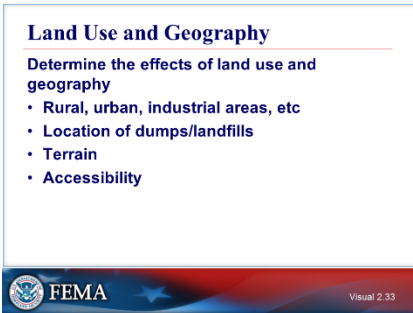
- Identify potential debris generating events.
- Develop hazard profiles.
- Quantify and prioritize debris issues.
- Identify responsible agencies.
- Identify applicable environmental and historic laws.

Events and Assumptions

- “Location” refers to land use and terrain types; urban vs. rural conditions, as examples.
- In addition to this Workshop, the State can be an excellent source of guidance and technical assistance for the development of a Debris Management Plan.
- Historical data is most often used to determine the design event for hurricanes, tornadoes, ice storms, wildfires, and floods. The design disaster event should take into account historic events and additional research.

Composition of Disaster Debris

- Typically, disasters generate a mix of different types of debris. Different handling and disposal methods are required for particular debris types and impact the scope of work of the debris management plan.
- Managing debris containing hazardous, household hazardous, medical, and infectious materials requires various specialized handling and disposal methods.
- Planning Staff should consider the proper handling and disposal methods for each type of debris that

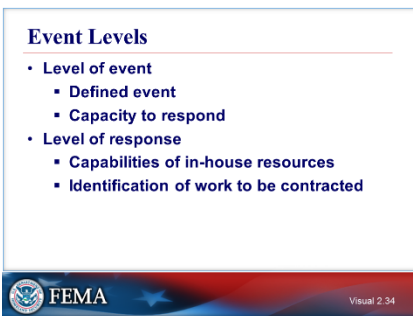


Visual 2.33

could be generated during each disaster event when preparing debris management plans.

Land Use and Geography

- Understanding the local land use provides information as to the types of debris that will be generated and offers insight as to the type of handling that would be necessary to safely manage the debris.
 - For example, rural areas may have more vegetative debris; whereas, urban residential areas may have more construction and demolition debris. Industrial areas may have special environmental concerns compared to parks/recreation areas.
- Evaluating accessibility and terrain of various locations within a jurisdiction is critical to determining the types of debris collection programs that should be undertaken.
- Remote areas may require safely storing the debris until accessibility is established. Finding debris contractors, recyclers, or disposal in remote areas may be challenging.
- To promote expedient recovery efforts, planners should identify and maintain lists of available recyclers, debris contractors, and disposal facilities.
- The development of relative sampling based on land use classification will vary depending on the classification.



Visual 2.34


Event Levels

- An event and the level of an event may overwhelm in-house resources and response capabilities.
- Determination of capacity to respond is important in understanding capabilities and the need to contract additional resources or services.

Resource Inventory/Needs Assessment

Compare existing resources to anticipated needs and address any shortfalls

- Force account labor/temporary labor
- Force account equipment
- Mutual aid
- Volunteers
- Contracted services
- Recycling/disposal capacity
- Subject matter experts/technical advisors
- Local and regional resources





Visual 2.35

Forecasting/Modeling

Debris forecasting

- Pre-disaster plan development
- Projection of quantities and types based on a designed scenario or event

Visual 2.36

Resource Inventory/Needs Assessment

- Some Local governments may have a limited quantity of resources and service commitments following the disaster.
- They may need to rely on private contractors to remove, collect, and manage debris for reuse, resource recovery, reduction and disposal.
- Others may opt for a combination of their own resources and contract, depending on the types and quantities of debris.

Forecasting/Modeling

Forecasting/Modeling

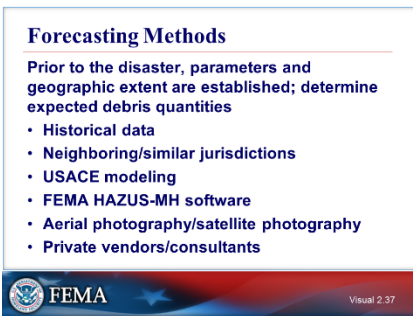
Debris forecasting is normally a pre-disaster technique used to *predict* debris quantities.

- Certain planning assumptions must be made concerning the type and magnitude of debris-generating events.
 - For instance, the plan would assume that a specific type of event, such as a Category 4 hurricane, will affect the jurisdiction with resulting large quantities of vegetative and construction and demolition debris.
- The plan may assume a range of debris-generating events from small floods and tornadoes to similar catastrophic events.
- Debris Forecasting can also be used to determine the type and number of stand-by contracts required to remove and dispose of the predicted debris.
- In order to forecast debris prior to debris events, some basic information should be gathered:
 - Prior event(s) should be selected from your jurisdiction or from jurisdictions who have experienced the type of disaster you have forecasted for your jurisdiction.

- Key staff members responsible for debris activities should be interviewed to determine procedures that were effective and those that were not.
- An analysis of any effect in changes to the way your jurisdiction would be able to respond to such events as an increase or decrease in your jurisdiction's engineering or solid waste department staff could also make a difference in your response capability.

IMAGE INFO

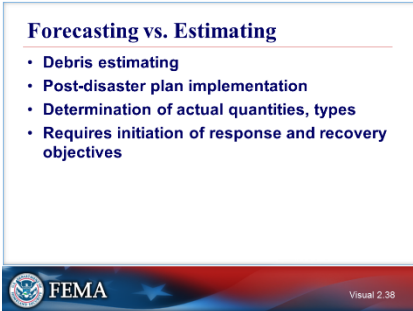
Miami, Fla., August 25, 2011 -- [Senior Hurricane Specialist Daniel Brown](#) develops a current forecast for the path of Hurricane Irene in anticipation of her arrival on the United States Eastern Seaboard. FEMA will use this forecast information to prepare emergency supplies and resources in strategic locations. David Fine / FEMA - Location: Miami, FL. Link available at <http://www.fema.gov/media-library/assets/images/60914>



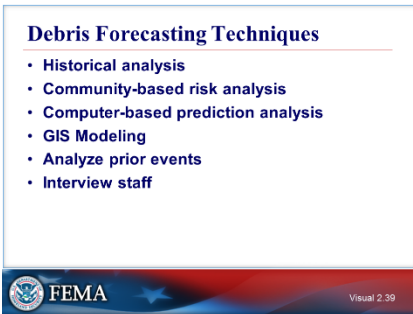
Visual 2.37

Forecasting Methods

- Historical records provide a basis for forecasting disaster-generated debris and can be used for planning purposes.
- Previous contracts for debris removal, recycling activities, volume-reduction processing, and landfill disposal records should be reviewed thoroughly to determine the quantity of disaster debris that was generated for a particular disaster event.
- If previous disaster data is not available, assumptions may be made from neighboring government's experience, USACE modeling (for hurricanes), or HAZUS (for earthquakes).
- USACE emergency management staff has developed a modeling methodology designed to forecast potential amounts of hurricane-generated debris.
- The use of remote sensing information (aerial photographs, satellite data, etc.), either alone or in combination with field surveys, may be of significant



Visual 2.38



Visual 2.39

use in forecasting the amount, mix, and extent of debris.

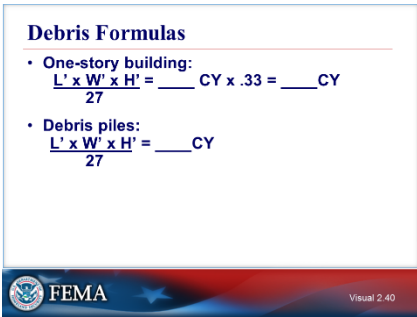
Forecasting vs. Estimating

- Forecasting refers to pre-event actions for planning and potential impacts.
- Estimating refers to post-event actions for determining actual event results and debris quantities.
- Estimating requires the initiation of a response and determination of recovery objectives for subsequent removal and processing.

Debris Forecasting Techniques

Debris forecasting is normally a pre-disaster technique used to *predict* debris quantities.

- Certain planning assumptions must be made concerning the type and magnitude of debris-generating events.
- For instance, the plan would assume that a specific type of event, such as a Category 4 hurricane, will affect the jurisdiction with resulting large quantities of vegetative, construction, and demolition debris.
- Or, the plan may assume a range of debris-generating events from small floods and tornadoes to similar catastrophic events.
- Debris Forecasting can also be used to determine the type and number of stand-by contracts required to remove and dispose of the predicted debris.



Visual 2.40

Debris Formulas

- B is a multiplier that takes into account areas that are not solely single-family residential. Built into this factor is the offsetting commercial insurance requirement.
- S is a storm precipitation multiplier that takes into account the fact that storms that have heavy precipitation will generate more vegetative debris because of the uprooting of complete trees.
- Estimating Aids—Buildings: The following information will assist you in determining the amount of debris from destroyed buildings, homes, and debris piles:

- One-story building formula:

$$\frac{L' * W' * H'}{27} = CY * .33 = CY$$

- o To estimate the amount of debris generated by a building, multiply the building length, width, and height in feet by a constant of 0.33 to account for air space in the building, and divide the resulting number by 27 to convert from cubic feet to cubic yards:

- Single Family Residence Formula:

$$W' * S * 0.20 * VCM = CY \text{ of debris}$$

- o Formula for estimating debris associated with demolished single family residence:
 - Length and Width must be in feet
 - S= number of stories in the building
 - 0.20 = Constant based on study data
 - VCM = Vegetative cover multiplier
 - VCM is the vegetative characteristic: 1.1 for light, 1.3 for medium, and 1.5 for heavy. (The 0.33 factor accounts for the “air space” in the house)

- Debris piles:

$$\frac{L' * W' * H'}{27} = CY$$

- Reminders: The following reminders may be of assistance when performing debris estimates:


- Look beyond the curb into side and backyards and at the condition of the homes. Most debris in these areas will eventually move to the curb.
- Wet storms will produce more personal property debris (household furnishings, clothing, rugs, etc.) if roofs are blown away.
- Look for hanging debris such as broken limbs after an ice storm.
- Flood-deposited sediment may be compacted in place. Volume may increase as debris is picked up and moved.
- Using aerial photographs in combination with ground measurements will help determine if there are any voids in the middle of large debris piles.
- Treat debris pile as a cube, not a cone, when performing estimates.

Debris Quantities Table

- This chart and calculations are inclusive of the structure and contents
- Vegetative Cover Multiplier (Yard Waste)

Typical House	None	Light (1.1)	Medium (1.3)	Heavy (1.5)
1000 SF	200 cy	220 cy	260 cy	300 cy
1200 SF	240 cy	264 cy	312 cy	360 cy
1400 SF	280 cy	308 cy	364 cy	420 cy
1600 SF	320 cy	352 cy	416 cy	480 cy
1800 SF	360 cy	396 cy	468 cy	540 cy
2000 SF	400 cy	440 cy	520 cy	600 cy
2200 SF	440 cy	484 cy	572 cy	660 cy
2400 SF	480 cy	528 cy	624 cy	720 cy
2600 SF	520 cy	572 cy	676 cy	780 cy

Formula for one story structure: $\frac{\text{square feet} \times 8 \text{ feet}}{27} \times .20 \times \text{VCM} = \text{cy}$




Visual 2.41

Debris Quantities Table

- The table in the slide can be used to estimate debris quantities for a totally destroyed typical home.
- A vegetative debris multiplier is also included.
- Amount of personal property (as debris) from average flooded residence without a basement: 25-30 cy.
- Amount of personal property (as debris) from average flooded residence with a basement: 45-50 cy.
- Remember, these values are for a single-story home (please note the height used in the formula is 8 feet).
- If the structure had blown away or you did not know the square footage of the building, measure the area of the floor slab if still in-place and then use the table. Similarly, once a square footage has been generated from a floor slab, multiply by the number of floors, if that can be determined, from the homes in the surrounding neighborhood.
- As far as the vegetative cover multiplier goes, one just has to develop a sense of what heavy vegetation is. A new home could be considered to have had little or no vegetative cover, for instance.

USACE Flood Debris Model


- Used to calculate debris quantity from a flood event only when the structure is not destroyed
- Formula: Square footage x .02 = cubic yards of debris
- 2400 sq. ft. x .02 = 48 cubic yards



Visual 2.42

Debris Forecasting Historical Values

- Mobile home
 - Single wide = 290 CY
 - Double wide = 415 CY
- Flooded homes - personal property on right of way
 - Slab on grade home 25-30 CY
 - Home with basement 45-50 CY



Visual 2.43

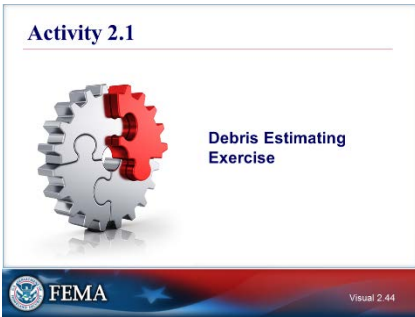
- **NOTE:** For multiple-story buildings, multiply the debris from one story by the number of stories; however, the vegetative cover should be determined by using the multiplier from a one-story facility.

USACE Flood Debris Model

- This formula is used to calculate the volume of personal property/furnishings as a result of flooding damage to a structure.
- Formula: Square footage x .02 = cubic yards of debris.
- 2400 sq. ft. x .02 = 48 cubic yards.

Debris Forecasting Historical Values

- These values are based on historical amounts typically generated.
- Mobile home values are for complete structure and contents.
- Mobile home.
 - Single wide = 290 CY
 - Double wide = 415 CY
- Flooded home values are typical debris volumes as a result of damaged structures from a flooding event.
- Flooded homes - personal property on right of way.
 - Slab on grade home 25-30 CY
 - Home with basement 45-50 CY



Visual 2.44



Activity 2.1: Debris Estimating Exercise

Purpose of Activity

To provide you the opportunity to practice developing timely, accurate, and consistent debris estimates.

Group Activity Setting

- You will complete this activity in groups but will also enter answers in your individual Activities Manual.
- The scenario will be reviewed by the class as a whole.

Overview of Activity

- You will have 45 minutes to answer the questions.
- Use all resources, including the Student Manual and *Public Assistance Program and Policy Guide (PA Guide)*.

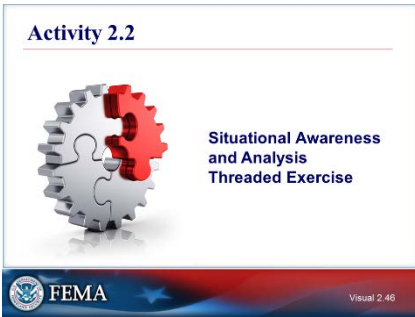


Visual 2.45



Activity 2.1 Image

This visual is part of Activity 2.1.



Visual 2.46



Activity 2.2: Situational Awareness and Analysis Threaded Exercise

Purpose of Activity

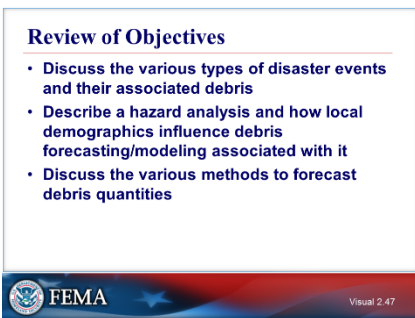
This activity provides you the opportunity to respond to a specific set of questions, which will assist you in addressing situational awareness and analysis in your own jurisdiction.

Group Activity Setting

- You will complete this activity individually, followed by a class discussion.

Overview of Activity

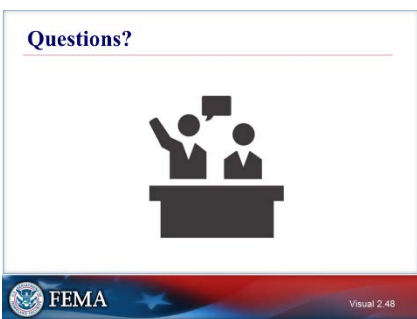
- You have 10 minutes to answer the questions.
- Following individual work, you will be asked to share your answers with the class.



Visual 2.47

Review of Objectives

- Discuss the various types of disaster events and their associated debris.
- Describe a hazard analysis and how local demographics influence debris forecasting/modeling associated with it.
- Discuss the various methods to forecast debris quantities.



Questions

Visual 2.48

Visual 2.32 Description:

Chart shows types of disasters and their associated typical debris streams.

Hurricanes/Typhoons – typical debris streams include: vegetative, construction and demolition (C&D), personal property/household items, hazardous waste, household hazardous waste (HHW), white goods, soil mud and sand, vehicles and vessels, putrescent, electronic waste, and sandbags

Tsunamis - typical debris streams include: vegetative, construction and demolition (C&D), personal property/household items, hazardous waste, household hazardous waste (HHW), white goods, soil mud and sand, vehicles and vessels, putrescent, electronic waste, and sandbags

Tornadoes – typical debris streams include: vegetative, construction and demolition (C&D), personal property/household items, hazardous waste, household hazardous waste (HHW), white goods, vehicles and vessels, putrescent, electronic waste, and sandbags

Floods – typical debris streams include: vegetative, construction and demolition (C&D), personal property/household items, hazardous waste, household hazardous waste (HHW), white goods, soil mud and sand, vehicles and vessels, putrescent, electronic waste, and sandbags

Wildfires – typical debris streams include: vegetative, construction and demolition (C&D), personal property/household items, hazardous waste, household hazardous waste (HHW), white goods, soil mud and sand, vehicles and vessels, and electronic waste

Ice storms – typical debris streams include: vegetative and hazardous waste

Severe storms/high winds – typical debris streams include: vegetative, construction and demolition (C&D), soil mud and sand

Acts of Terrorism – typical debris streams include: construction and demolition (C&D), hazardous waste, vehicles and vessels, putrescent, and electronic waste

ACTIVITY 2.1

DEBRIS ESTIMATING EXERCISE

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Activity Instructions

- Use the activity scenario information and the course reference materials to calculate the estimated debris quantities and associated removal costs for Gotham County's debris removal project
- Work in groups to complete the activity; however, each participant is responsible for documenting their work on the activity in their Student Manual
- Groups should be careful to budget their time appropriately so that they have time to complete the scenario
- Document all assumptions and calculations used to develop the estimate
- Each group should be prepared to share their answers with the class
- The instructors will monitor the work of participants and answer questions, as needed
- After participants have completed the activity, the instructor will review it with the class

Scenario

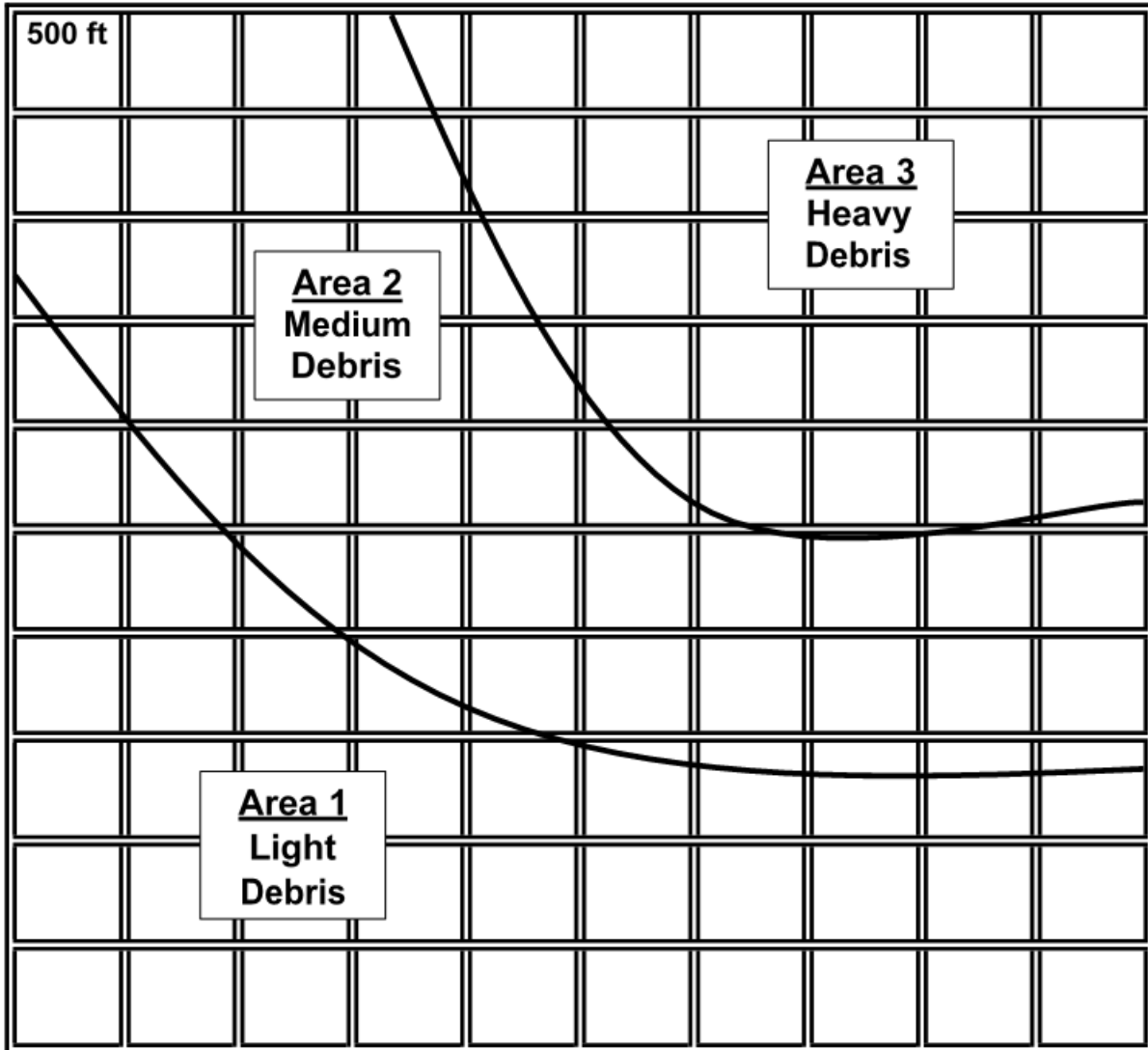
You are the Debris Manager for Gotham County, an eligible applicant. The County has requested that a PW be prepared for the removal and disposal of vegetative and personal property debris from the neighborhood of Woodburg, and would like your assistance in calculating the debris quantities and removal costs. The following information is provided for your use in calculating the debris quantities and removal costs.

- A diagram of the neighborhood that divides the neighborhood into the following three areas, based on the amount of vegetative debris: Area 1 – light debris; Area 2 – medium debris; and Area 3 – heavy debris. Area 2 has roughly twice as much vegetative debris as Area 1, and Area 3 has roughly three times as much vegetative debris as Area 1.
- A photograph showing the typical quantity of vegetative debris that was brought to the public right-of-way in Area 1 of the neighborhood.
- The statement that all the homes in the neighborhood were flooded to a depth of 3 feet on the first floor. None of the homes in the neighborhood have basements. The County expects that residents will soon be placing disaster-related personal property debris from inside the homes on the public right-of-way, for collection by the County.
- The statement that the County intends to contract out the debris removal and disposal. The County also provided the following historical information on debris removal and disposal costs:
 - Vegetative debris removal: \$4.50/CY
 - Personal property debris removal: \$5.50/CY
 - Disposal of vegetative and personal property debris at County landfill: \$20/ton

You have seen enough of the County's debris situation to confirm that their information fairly represents the quantities and types of debris in the neighborhood. Additionally, you've verified that the historical cost information provided by the County is reasonable.

Woodburg Neighborhood Debris Diagram

The diagram below shows the Woodburg neighborhood street layout. Woodburg residents have been placing their disaster-related vegetative debris on the public right-of-way, for collection by the County. Each block is 500 feet in length. On average, there are 16 single-family homes on each block in the neighborhood (4 homes per each side of the block).



Photograph Showing Typical Quantity of Vegetative Debris



Debris Estimate Calculation Sheet

1. Estimate the total quantity of vegetative debris
 - a. Use the diagram to estimate the number of blocks in each area:
 - i. Area 1: light debris =
 - ii. Area 2: medium debris =
 - iii. Area 3: heavy debris =
 - b. Use the diagram and photograph to determine the quantity of debris per block for each area:
 - i. Assume debris pile measures 3 feet high and 3 feet wide
 - ii. The length of a block in the neighborhood is 500 feet
 - iii. There are four sides to a block
 - iv. Round your answer to the nearest full unit
 - v. Area 1:
 - vi. Area 2 (twice as much debris as Area 1):
 - vii. Area 3 (three times as much debris as Area 1):
 - c. Calculate the total quantity of debris per area and for the entire neighborhood:
 - i. Area 1:
 - ii. Area 2:
 - iii. Area 3:
 - iv. Total vegetative debris:

2. Estimate the total quantity of personal property debris
 - a. There are 100 blocks in the neighborhood.
 - b. There is an average of 16 homes per block (4 homes per side of each block).
 - c. The average amount of personal property debris generated by a single-family home without a basement is 25-30 CY. Assume a value of 30 CY/home.
 - i. Total personal property debris:

3. Estimate the cost to remove and dispose of the vegetative and personal property debris.
 - a. Assume the historical costs provided by the County include all activities necessary to remove and dispose of the vegetative and personal property debris.
 - i. Vegetative debris removal: \$4.50/CY
 - ii. Personal property debris removal: \$5.50/CY
 - iii. Disposal of vegetative and personal property debris at landfill: \$20/ton
 - b. Assume the vegetative debris consists of softwoods and has a volume to weight conversion factor of 4 CY/ton.
 - c. Assume that mixed debris has a volume to weight conversion factor of 4 CY/ton and that construction and demolition debris has a conversion factor of 2 CY/ton.
 - d. Assume the conversion factor for personal property debris is an average of the conversion factors for mixed debris and construction and demolition debris, or 3 CY/ton.
 - i. Vegetative debris removal:
 - ii. Personal property debris removal:
 - iii. Vegetative debris disposal:
 - iv. Personal property debris disposal:

Total estimated cost =

ACTIVITY 2.2

SITUATIONAL AWARENESS AND ANALYSIS THREADED EXERCISE

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Respond to the following questions for your own jurisdiction:

1. Describe the types of disasters that place your jurisdiction at risk. Identify the types and severity of incidents most likely to occur along with the types and anticipated quantities of debris that may be generated,

2. Describe the types of debris that you will need to plan for following a disaster.

3. Which departments in your State/Local government could be designated to prepare debris quantities and mix estimates:
 - a. Prior to disaster (forecasting)?

 - b. After a disaster (estimating)?

4. What are the demographics for your jurisdiction that you need to consider when developing your plan? Include a description of the general terrain types, land use, and accessibility for the areas that would most likely be impacted by the incident and how these characteristics may affect debris operations.

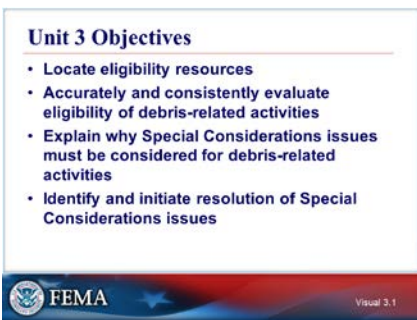
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UNIT 3: ELIGIBILITY AND SPECIAL CONSIDERATIONS

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Visual 3.0



Visual 3.1



Visual 3.2

Unit 3: Eligibility and Special Considerations

This unit focuses on general eligibility criteria. The unit will also address special considerations in relation to debris removal eligibility.

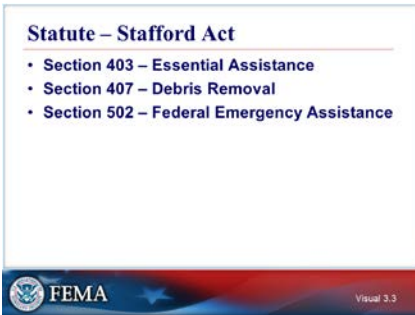
Unit 3 Objectives

- Locate eligibility resources.
- Accurately and consistently evaluate eligibility of debris-related activities.
- Explain why Special Considerations issues must be considered for debris-related activities.
- Identify and initiate resolution of Special Considerations issues.

Governing Documents

Governing Documents

- The documents that govern eligibility and their hierarchy are as follows:
 - The statute (Stafford Act) authorizes the PA Program.
 - Regulations (44 Code of Federal Regulations [CFR]) implement the statute.
 - Policies are written to apply the statute and regulations to specific situations.
- Debris Technical Specialists must be familiar with the governing documents used to make eligibility determinations and their hierarchy.
- All eligibility determinations must be supported by the governing documents.
- A goal of FEMA is to provide consistent interpretation of



Visual 3.3

the law, regulations, and policy among the 10 FEMA regions and across disaster declarations.

Statute – Stafford Act

- Stafford Act Section 403, Essential Assistance.
 - Authorizes assistance to perform emergency work.
 - Discusses the assistance that may be provided to meet immediate threats to life and property resulting from a major disaster.
 - Specific activities include: debris removal work; clearance of roads; demolition of unsafe structures; provision of technical assistance; and general reduction of immediate threats.
- Stafford Act Section 407, Debris Removal.
 - Authorizes assistance to perform debris removal.
 - Discusses the removal of debris from public and private lands.
 - Establishes the Federal share as no less than 75 percent of eligible costs.
 - Discusses expedited grant payments to State and local governments.
 - Specifies timeframe for providing assistance, i.e., no less than 50 percent of the estimated Federal share of assistance will be provided within 60 days of the date of the estimate or 90 days of the applicant's request for assistance.
- Stafford Act Section 502, Federal Emergency Assistance.
- Authorizes Direct Federal Assistance for debris removal.

References

Stafford Act Section 403, 407, and 502.



Visual 3.4

Sandy Recovery Improvement Act

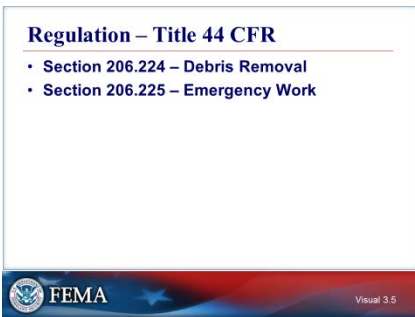
- The Sandy Recovery Improvement Act of 2013 (SRIA) and the accompanying Disaster Relief Appropriations Act, 2013 authorizes several significant changes to the way FEMA may deliver federal disaster assistance to survivors.
- It also implemented several Alternate Procedures and Pilot Programs for implementation. These alternate procedures and pilots have defined implementation periods, after which they are re-evaluated for potential permanent implementation. Among the more significant are:
 - PA Permanent Work Alternative Procedures: subgrantees can accept grants based on fixed, capped estimates, which may be provided by applicants' licensed engineer and validated by independent expert panel. This includes the use of all or part of the excess grant funds for cost-effective activities that reduce the risk of future damage, hardship, or suffering from a major disaster and other activities to improve future Public Assistance operations or planning.
 - Debris Removal Program Alternative Procedures: This offers a package of cost share adjustments, reimbursement for force account, and retention of program from recycling to speed debris removal and encourage pre-disaster debris management planning. (Authorized through June 2016). This includes:
 - Use of a sliding scale to determine the Federal share for removal of debris and wreckage, based on the time it takes to complete debris and wreckage removal.
 - Use of program income from recycled debris without offset to the grant amount.
 - Cost-share incentive to a state, tribal or local government to have a debris management plan approved by FEMA and have pre-qualified one or more debris and wreckage removal contractors before the date of declaration of the major disaster.
 - Dispute Resolution/Arbitration: The Dispute

Resolution Pilot Program allows Public Assistance applicants for all disasters declared on or after October 30, 2012 an option to request binding arbitration for certain projects with an amount in dispute of over \$1 million after first appeal, instead of pursuing a second appeal under FEMA's Public Assistance Program. (authorized through Dec 2015).

- SRIA required the FEMA Administrator to complete an analysis to determine whether an increase in the Public Assistance grant program small project threshold is appropriate. This analysis had to consider the following factors: cost-effectiveness, speed of recovery, capacity of grantees, past performance, and accountability measures. As a result, the Small Project threshold was amended for disasters declared on or after October 1 of each year. (2015 - minimum \$3,050, maximum \$121,800).
- The SRIA also authorized Tribal governments to request a declaration of an emergency or major disaster. Previously Tribal groups were treated as local governments and thus not permitted to directly request disaster declarations from the Federal government. Under this change, FEMA is required to consider the unique circumstances of tribes when it develops regulations to implement the provision.

References

- [Robert T. Stafford Disaster Relief and Emergency Assistance Act](#), as amended (including the Sandy Recovery Improvement Act of 2013 updates) – Link available at:
<https://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=3564>
- [Sandy Recovery Improvement Act of 2013](#) Fact Sheet – Link available at: <http://www.fema.gov/media-library-data/1404155047131-873c772998b1e1f9b8962fcb59e42d39/SRIA+Overview+Fact+Sheet+and+Status+Updated+June+30+2014.pdf>



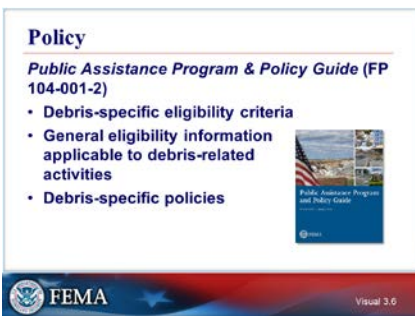
Visual 3.5

Regulation – Title 44 CFR

- 44 CFR 206.224, Debris Removal.
 - Allows for debris removal from public and private property if determined by FEMA to be in the public interest.
 - Defines the circumstances under which debris removal is in the public interest.
 - Prohibits the provision of assistance for debris removal from areas used for crops and livestock, or unused areas.
 - Prohibits direct assistance to individuals and private organizations, with the exception of eligible private nonprofit (PNP) organizations.
- 44 CFR 206.225, Emergency Work.
- Includes Emergency Protective Measures criteria used in determining eligibility of demolition activities.

References

44 CFR 206.224 and 206.225.



Visual 3.6

Policy

- *Public Assistance Program and Policy Guide*, FP 104-009-2 (January 2016) contains general eligibility information applicable to debris-related activities.
 - Includes discussion of debris-specific eligibility criteria.
 - Contains a summary of general eligibility information applicable to debris-related activities.
 - Includes a summary of many debris-specific policies, including:
 - Demolition of Private Structures.
 - Hazardous Stump Extraction and Removal Eligibility.
 - Debris Operations – Hand-Loaded Trucks and Trailers.
 - Debris Removal from Private Property.
 - Rehabilitation Assistance for Levees and Other

Flood Control Works.

- Debris Removal Authorities of Other Federal Agencies.
- Determinations on FEMA appeals for debris-related projects are a valuable reference regarding application of FEMA policy.
 - FEMA Headquarters-level appeals are posted on the FEMA Web site.
 - It must be understood that the appeal decisions apply specifically to the conditions described in the appeal analysis.
- FEMA management at a JFO may seek interpretation and clarification of published eligibility guidance from FEMA Headquarters.
- Formal guidance from FEMA Headquarters on the interpretation and clarification of published eligibility guidance is general in nature and may be applied across disaster declarations.

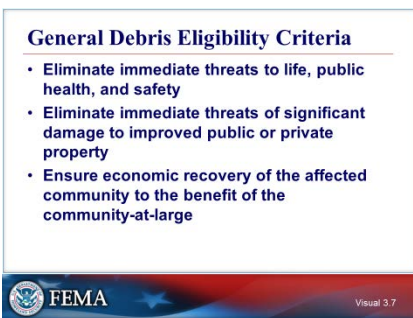
References

- <http://www.fema.gov/public-assistance-policy-and-guidance>
- <http://www.fema.gov/appeals/> (PA Program second appeals database)

General Eligibility Criteria

General Debris Eligibility Criteria

- Both the Stafford Act and 44 CFR state that FEMA may provide assistance for debris removal activities if they are in the public interest. Specifically, 44 CFR §206.224 states that debris removal is in the public interest when such removal is necessary to:
 - Eliminate immediate threats to life, public health, and safety.
 - Eliminate immediate threats of significant damage to improved public or private property.
 - Ensure economic recovery of the affected community to the benefit of the community-at-large.



Visual 3.7

- 44 CFR 206.224 also references the mitigation of risks by removing damaged structures; however, this provision relates to demolition activities completed under the FEMA hazard mitigation program, as opposed to demolition activities accomplished under the PA Program.
- The words “immediate threat” represent a key term.
 - The debris must pose an immediate threat to be eligible for removal.
 - In the context of the PA Program, “immediate threat” describes imminent danger or the threat of additional damage or destruction from an event that could reasonably be expected to occur within 5 years.

References

- Stafford Act Section 407.
- 44 CFR 206.221 and 206.224.



Visual 3.8

Basic Eligibility Criteria

To facilitate evaluation of projects against PA Program eligibility criteria, FEMA divides eligibility into the following building blocks:

- Applicant eligibility.
- Facility eligibility.
- Work eligibility.
- Cost eligibility.

References

- 44 CFR 206.224(a).
- *Public Assistance Program and Policy Guide*, FP 104-009-2, pp. 9.

Applicant and Facility Eligibility



Visual 3.9



Visual 3.10

Applicant and Facility Eligibility

Debris-related activities must be completed by an eligible **applicant** and the **facility** involved must be eligible.

Applicant Eligibility

- Examples of eligible applicants include:
 - State and local governments and their agencies.
 - Federally recognized Tribal governments.
 - Certain PNP entities that provide certain services of a governmental nature.
- No assistance will be provided directly to an individual or private organization (with the possible exception of eligible PNPs), or to an eligible applicant for reimbursement of an individual or private organization, for the cost of removing debris from their own property.
- States and some Tribal governments serve as the Grantee as well as an applicant.
- All eligible PNPs may apply directly to FEMA through the State for emergency work assistance for debris-related activities, regardless of whether their facility is deemed to provide “critical” or “non-critical” services under the Stafford Act.

References

- Stafford Act Section 102 (*PA Guide*, p. A-8).
- 44 CFR 206.222 and 206.224(c) (*PA Guide*, pp. B-22, B-23).
- *Public Assistance Program and Policy Guide*, FP 104-009-2, pp. 9-18.



Visual 3.11

Applicant Eligibility (Cont'd)

- A community development district may qualify as an eligible applicant and be responsible for an eligible facility.
 - When access to a community development district facility is restricted by gates or other security systems, the eligibility of debris-related activities is limited to removal of debris from roadways within the community to create an emergency path of travel, provided that the work is performed or contracted by an eligible State or local government applicant with legal authority to complete the work.
 - An exception is community development districts established for the purpose of road maintenance, which may complete the work themselves and apply for assistance as an applicant.
- Certain other entities formed to serve a public purpose that receive direction and a majority of their funding from the State or one or more political subdivisions of the State, may be eligible for assistance.
- Homeowners' associations do not typically qualify as eligible PNPs.
- If access to the community is restricted through the use of gates or other security systems, debris removal work in the community is subject to specific restrictions.

References

Public Assistance Program and Policy Guide, FP 104-009-2 pp. 15-16.



Visual 3.12

General Facility Eligibility

- A facility is defined as:
 - Any publicly or PNP-owned building, works, system, or equipment (built or manufactured).
 - Certain improved and maintained natural features.
- An eligible applicant must be legally responsible for the repair of the damaged facility or the performance of eligible emergency services, such as debris removal, at the time of the disaster.



Visual 3.13

- Special attention should be given to confirming legal responsibility for debris removal from applicant-leased facilities and applicant facilities under construction.
- The facility must be in active use at the time of the disaster.

References

Public Assistance Program and Policy Guide, FP 104-009-2 pp. 15-18.

General Facility Eligibility (Cont'd)

- Eligible facilities may include:
 - Public property, including public buildings.
 - Public rights-of-way.
 - Certain PNP facilities, such as those used for providing educational, medical, emergency, and utility services.
- For PNP applicants, debris-related activities are only eligible for eligible PNP facilities.
 - For example, debris removal from a PNP recreational facility or PNP cemetery is ineligible.
 - Debris Technical Specialists should confirm the eligibility of PNP applicants and facilities prior to initiating the project formulation process.
- Debris removal from ineligible PNP facilities may be eligible if FEMA determines that the work is in the public interest and it is accomplished by a State or local government applicant with responsibility for the work.

References

Public Assistance Program and Policy Guide, FP 104-009-2, p. 15-18.



Visual 3.14

Ineligible Facilities

- An applicant's unimproved property or undeveloped land is ineligible.
 - An exception to this restriction involves debris-related activities that are necessary to address an immediate threat to life, public health or safety, or improved property.
- Federal property or facilities where another Federal agency has the authority to provide assistance are ineligible.
 - Examples include flood control works that fall under the authority of the Natural Resources Conservation Service (NRCS), and Federal-Aid roads that fall under the authority of FHWA.
- Facilities not located in the designated disaster area are ineligible.
- Land used for agricultural purposes is ineligible.

References

- 44 CFR 206.201(c).
- *Public Assistance Program and Policy Guide*, FP 104-009-2 pp. 16-18.



Visual 3.15

Roads

- Public roads and rights-of-way are eligible facilities, provided the applicant is legally responsible for the facility and it doesn't fall under the authority of another Federal agency.
 - The size of rights-of-way may vary between and within jurisdictions, and should be verified.
- Debris removal work on Federal-Aid roads that is covered under the FHWA ER Program is ineligible for PA Program funding.
- Roads on Tribal lands may fall under the authority of FHWA and be subject to the restrictions on Federal-Aid roads.
- Consultation with the Bureau of Indian Affairs may be necessary to determine who has responsibility for roads

located on Tribal lands.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 15-18.



Visual 3.16

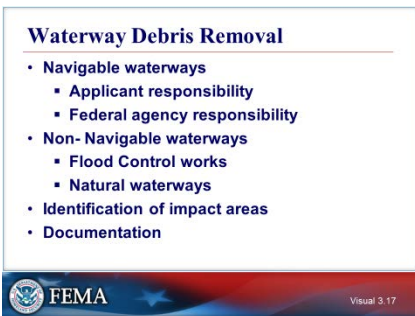
Water Control Facilities

- Water control facilities are built for the following purposes:
 - Channel alignment.
 - Recreation.
 - Navigation.
 - Land reclamation.
 - Maintenance of fish and wildlife habitats.
 - Interior drainage.
 - Irrigation.
 - Erosion prevention.
 - Flood control.
 - Examples of potentially eligible facilities include:
 - Dams and reservoirs.
 - Levees.
 - Lined and unlined engineered drainage channels.
 - Canals.
 - Aqueducts.
 - Sediment basins.
 - Shore protective devices.
 - Irrigation facilities.
 - Pumping facilities.
 - A clear understanding of terminology such as “water control facility” and “flood control work” is important.
- A water control facility may be eligible if it is the legal responsibility of an eligible applicant and assistance for

debris-related activities does not fall under the authority of another Federal agency.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 15-18.



Visual 3.17

Waterway Debris Removal

- Debris removal from waterways that is necessary to eliminate the immediate threat to life, public health and safety, or improved property is eligible.
- Removal of debris in a waterway that does not meet this criterion is not eligible, even if the debris is deposited by the incident.
- EPA and USCG have the specific authority to remove hazardous materials. EPA is responsible for removing such material from inland water zones and USCG is responsible for coastal water zones.
- Navigable Waterways.
 - If the Applicant has legal responsibility for maintenance of a navigable waterway, removal and disposal of debris that obstructs the passage of vessels is eligible to a maximum depth of 2 feet below the low-tide draft of the largest vessel that utilized the waterway prior to the incident.
 - Any debris below this zone is not eligible unless it is necessary in order to remove debris extending upward into an eligible zone.
 - If a tree is still rooted to an embankment and is floating or submerged, the cost to cut the tree at the water's edge is eligible.
 - Debris removal from federally maintained navigable waterways is ineligible. USCG and the U.S. Army Corps of Engineers (USACE) have specific authorities for removal of hazardous substances, vessels, and other obstructions from federally maintained navigable waterways.
- Non-navigable Waterways, Including Flood Control Works and Natural Waterways.
 - Debris deposited by the incident may obstruct a

natural waterway (that is, a waterway that is not improved or maintained) or a constructed channel, including flood control works.

- In these cases, removal of the debris from the channel is eligible if the debris poses an immediate threat, such as when the debris:
 - Obstructs, or could obstruct, intake structures.
 - Could cause damage to structures, such as bridges and culverts.
 - Is causing, or could cause, flooding to improved public or private property during the occurrence of a 5-year flood.
- Removal of the obstruction is eligible even in streams where debris removal would also be eligible under the NRCS Emergency Watershed Protection Program (EWP) unless NRCS provides assistance for the debris removal.
- Debris removal from flood control works that are under the specific authority of is not eligible for PA funding, even if NRCS does not have sufficient funding or does not provide assistance.
- For flood control works that are eligible for the USACE Rehabilitation and Inspection Program (RIP), debris removal is eligible for PA funding. USACE does not reimburse Applicants for debris removal, but conducts this activity directly when necessary.
- Identifying Debris Impact Locations.
 - The Applicant is responsible for identifying debris deposited by the incident that poses an immediate threat. Random surveys to look for debris are not eligible. However, if the Applicant identifies an area of debris impacts and demonstrates the need for a survey to identify specific immediate threat, FEMA may provide PA funding for the survey in that location.
- Documentation.
 - For FEMA to determine that debris removal from waterways is eligible, the Applicant must provide documentation that:



Visual 3.18

- Establishes legal responsibility.
 - Includes the basis of the immediate threat determination.
 - Identifies locations, types, and quantities of debris.
- Demonstrates the debris claimed was deposited by the incident and was not pre-existing.

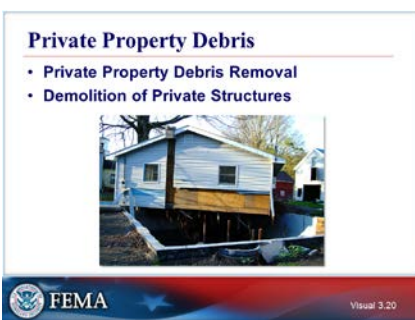
Unimproved Features

- Unimproved features are generally ineligible, as debris located on them does not generally pose an immediate threat.
- Examples of unimproved features include natural streams, unused areas, and wilderness areas.
- Ineligible unimproved features may include unimproved features located on land that is the responsibility of an eligible applicant.
- For an unimproved feature to be eligible for debris removal work, the debris must present an immediate threat.
 - For example, debris in a natural stream may cause flooding from a future storm. If such flooding would cause an immediate threat of damage to improved property, removal of the disaster-related debris may be eligible, but only to the extent required to protect against the immediate threat.
- Debris that does not pose a threat is ineligible for removal.
 - For example, miscellaneous debris, such as minor vegetation and rubble, is ineligible.
- In certain circumstances, NRCS may also have authority to clear streams of debris.
- Compliance with environmental Special Considerations is a key concern when applicants complete debris removal activities from unimproved features.

References



Visual 3.19



Visual 3.20

Public Assistance Program and Policy Guide, FP 104-009-2 p. 15-18.

Other Facilities

- Examples of other potentially eligible facilities include:
 - Parks and recreational facilities.
 - Public marinas and harbors.
 - Beaches.
 - Utilities.
- Eligible facilities must meet the basic criteria applicable to facility eligibility.
 - Legal responsibility of an eligible applicant.
 - In active use at the time of the disaster.
 - Does not fall under the authority of another Federal agency.

References

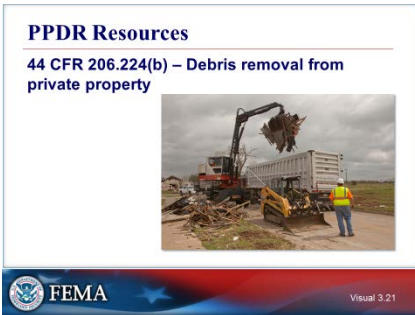
Public Assistance Program and Policy Guide, FP 104-009-2 p. 15-18.

Private Property

Private Property Debris

IMAGE INFO

Prattsville, N.Y., October 5, 2011 -- [After hurricane Irene](#) dumped torrential rains on the communities, severe flooding occurred along the Grand Gorge river and inundated structures. Some of the structures were moved from their foundations or swept away in extreme cases. FEMA provided individual assistance to the disaster survivors. Adam DuBrowa/ FEMA - Location: Prattsville, NY. Link available at: <https://www.fema.gov/media-library/assets/images/62675>



Visual 3.21



Visual 3.22

PPDR Resources

- 44 CFR 206.224(b), Debris removal from private property.
- Authorizes PA Program funding for debris removal from private property when it is determined to be in the public interest.

IMAGE INFO

Moore, Okla., May 31, 2013 -- [Personal property debris](#) removal in Moore neighborhood. The area was struck by a F5 tornado on May 20, 2013. Andrea Booher/FEMA - Location: Moore, OK. Link available at: <https://www.fema.gov/media-library/assets/images/71519>

PPDR Eligibility

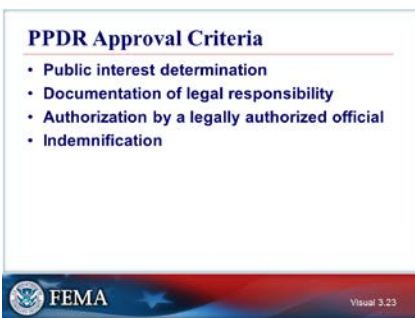
- PPDR is generally ineligible for PA Program funding.
 - Generally, debris removal from private property following a disaster is the responsibility of the property owner.
- For PPDR to be eligible, it must be in the public interest.
 - Large-scale disasters may deposit enormous quantities of debris on private property over a large area resulting in widespread immediate threats to the public-at-large.
- A State or local government seeking PA Program assistance for PPDR work within a designated area should, prior to commencement of work, submit a written request for reimbursement to, and receive approval from, FEMA.
 - Applicants may take actions that they deem necessary to eliminate immediate threats on private property prior to receiving FEMA approval and potentially be eligible for PA Program funding; however, applicants risk jeopardizing PA Program funding by not complying with the pre-approval process.
- Applicants must take reasonable steps to prevent a duplication of benefits and verify that insurance coverage or any other source of funding does not exist

for debris removal work accomplished on each property.

- Applicable insurance proceeds must be used as the first source of funding, with PA Program funding covering the remainder of the eligible costs, if PPDR is approved for the property.

IMAGE INFO

Yorba Linda, Calif., December 12, 2008 -- This home in Hidden Hills is [one of 180 homes that were destroyed](#) in Orange County by the November wildfires. More than 30,000 acres burned during these wildfires. FEMA/Michael Mancino - Location: Yorba Linda, CA. Link available at: <https://www.fema.gov/media-library/assets/images/54919>



Visual 3.23

PPDR Approval Criteria

An applicant's request for approval of PPDR must contain the following information:

- **Public Interest Determination:** The applicant must substantiate that PPDR is in the public interest by including information supporting one of the following:
 - Immediate Threat to Life, Public Health, and Safety Determination: The basis of a determination by the State, county, or municipal government's public health authority or other public entity that has legal authority to make such a determination that disaster-generated debris on private property in the designated area constitutes an immediate threat to life, public health, and safety.
 - Documentation should include a description of conditions and associated immediate threat assessment and analysis.
 - This is the most common public interest determination made by applicants for eligible PPDR work.
 - Immediate Threat to Improved Property Determination: The basis of the determination by the applicant that the removal of disaster-generated debris is cost effective.
 - Ensure Economic Recovery of the Affected

Community Determination: The basis of the determination by the applicant that the removal of debris from commercial properties will expedite economic recovery of the community-at-large.

- Generally, commercial enterprises are ineligible for debris removal.
- **Documentation of Legal Responsibility:** The applicant must provide a detailed explanation documenting their authority and legal responsibility at the time of the disaster to enter private property to remove debris, and confirmation that all legal processes and permission requirements (e.g., right-of-entry) for such action have been satisfied.
 - The eligible applicant requesting assistance must demonstrate the legal basis as established by law, ordinance, or code.
 - Codes and ordinances cited must be germane to the condition representing an immediate threat, and not merely define the applicant's uniform level of services.
 - Typically, solid waste disposal ordinances are considered part of an applicant's uniform level of services; however, some may confer legal responsibility.
 - States and local governments ordinarily rely on condemnation and/or nuisance abatement authorities to obtain legal responsibility prior commencing debris removal work.
 - The applicant's legal responsibility to address an immediate threat must be independent of any expectation that PA Program funding will be provided for PPDR.
 - Legal responsibility is not established solely by the applicant obtaining signed rights-of-entry and hold harmless agreements from property owners.
- **Authorization for Debris Removal from Private Property:** Confirmation that a legally authorized official of the requesting applicant has ordered the exercise of public emergency powers or other appropriate authority to enter private property and remove debris, in order to remove/reduce threats to life, public health, and safety.
- **Indemnification:** The applicant indemnifies the Federal



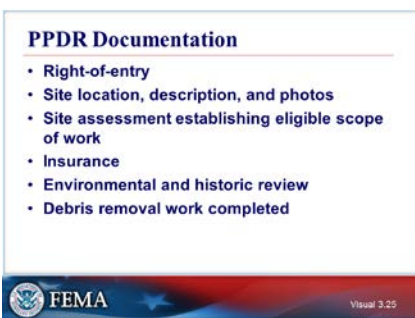
Visual 3.24

government and its employees, agents, and contractors from any claims arising from the removal of debris from private property.

PPDR Approval Procedure

The general procedure for PPDR requests is as follows:

- An applicant requests PPDR approval by submitting a PPDR request package to FEMA through the State.
 - The package must include documentation satisfying all of the PPDR approval criteria.
- The State and FEMA review the applicant's request package to determine if all of the required documentation is included in the request.
 - The review will be coordinated with FEMA Office of Chief Council (OCC).
- The request package will be forwarded to FEMA for approval, through the State Coordinating Officer (SCO), along with the State's recommendation for approval or denial of the request.
 - Incomplete request packages will be returned to the applicant, by the State, with the deficiencies identified.
- FEMA will approve or disapprove, in writing, each PPDR request submitted by the SCO.
- Upon receiving approval, the State and applicant may begin working with FEMA to initiate project formulation and determine the eligible scope of work for individual properties.



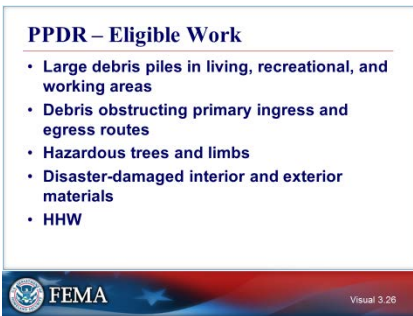
PPDR Documentation

Examples of documentation that is required to establish eligibility for PPDR include:

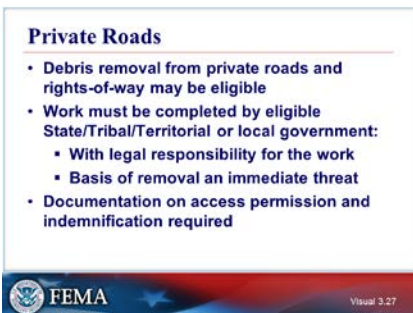
- A fully executed right-of-entry for each property that includes a hold harmless agreement and indemnification applicable to the project scope of work.
 - Personnel must not enter private property prior to the execution of a right-of-entry, even if it is just to

Visual 3.25

- conduct an assessment of eligible PPDR activities.
- Site location (e.g., address, parcel number, global positioning system [GPS] coordinates), description, and photos.
 - Site assessments establishing the eligible scope of work for individual properties.
 - Site assessment form.
 - Typically, site assessments are conducted by FEMA; however, in some cases, an applicant may complete site assessments, with FEMA providing final validation.
 - Information on insurance coverage for the properties.
 - State and local governments must take reasonable steps to prevent duplication of benefits, and verify that insurance coverage or any other source of funding does not exist for PPDR work and the demolition of private structures.
 - Typically, the rights-of-entry used for PPDR and demolition of private structures have a clause that states that a private property owner will repay an applicant the amount of insurance proceeds received for any PPDR or demolition work performed.
 - The right-of-entry form used by the applicant may also include space for the private property owner to list insurance information (e.g., insurer, policy number) for verification purposes.
 - Documentation demonstrating that the appropriate environmental and historic review requirements have been met.
 - PPDR must satisfy compliance review requirements as established by 44 CFR Parts 9 and 10 and all other applicable Federal Environmental and Historic Preservation (EHP) requirements.
 - This includes documentation that the property has obtained clearance for PPDR work from the State Historic Preservation Office (SHPO) and FEMA EHP.
 - Documentation on the actual PPDR work completed, such as quantities and types of debris removed, and photos of the site after conclusion of PPDR activities



Visual 3.26



Visual 3.27

PPDR – Eligible Work

Eligible PPDR work may include the removal of:

- Large piles of disaster-generated debris in the living, recreational, and working areas of properties in urban, suburban, and rural areas, including large lots.
- Disaster-generated debris obstructing primary ingress and egress routes to improved property.
- Disaster-damaged limbs and leaning trees in danger of falling on improved property, primary ingress or egress routes, or public rights-of-way.
 - Trees must meet FEMA hazardous tree criteria to be eligible.
 - Limbs must meet FEMA hazardous limb criteria to be eligible.
 - Stumps must meet FEMA hazardous stump criteria to be eligible.
- Debris created by the removal of disaster-damaged interior and exterior materials from improved property.
- HHW (such as household cleaning supplies, insecticides, herbicides, etc.).

Private Roads

- Private roads - any non-public road for which a subdivision of the State is not legally responsible to maintain.
- Private roads include roads owned and maintained by homeowners' associations, including gated communities, and roads for which no entity has claimed responsibility.
 - Local police, fire, and emergency medical entities may use these roads to provide services.
- Debris removal from private roads, including debris moved to rights-of-way by residents, may be eligible, if the work is completed by an eligible State or local government applicant with legal responsibility for the work, and on the basis of removing an immediate threat.

- Pre-approval by FEMA for debris removal from private roads, as established for individual residential properties, is not required; however, all applicable PA Program eligibility requirements must be met.
- When homeowners' associations restrict access to services and facilities with gates and other security systems, the systems and facilities cannot be considered open to the general public, and are ineligible for PA Program funding.
 - Removal of debris from roadways within the area of restricted access to create an emergency path of travel is eligible if performed or contracted for by an eligible State or local government entity with legal responsibility to do the work.
- Documentation of legal responsibility, permission to access the property (e.g., right-of-entry), and indemnification of the Federal government are still required.
- Typically, only State and local governments have the legal responsibility to remove immediate threats posed by disaster-generated debris on the roads.
 - Private roads owned or operated by a homeowners' association or gated community are not considered eligible PNP facilities.



Visual 3.28

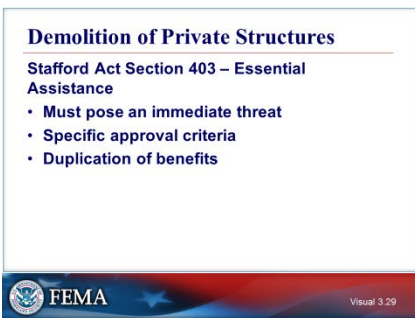
PPDR – Ineligible Work

Ineligible PPDR work includes the removal of:

- Debris from vacant lots, forests, heavily wooded areas, unimproved property, and unused areas.
- Debris from agricultural lands used for crops or livestock.
- Concrete slabs or foundations on grade.
- Reconstruction debris consisting of materials used in the reconstruction of disaster-damaged property.
- Privately owned vehicles, whether or not insured.
 - Private vehicles and vessels are discussed in further detail in the following slide.
- Old white goods (refrigerators, washers, dryers, etc.) located on private property awaiting proper disposal

before the disaster.

- Old tires, batteries, or any other equipment/material located on private property awaiting disposal before the disaster.
- Other equipment or material stored on the property or awaiting disposal before the disaster.
- Damaged swimming pools and basements.
- Debris from commercial property.
 - Removal of debris from commercial property, including debris from the demolition of commercial structures that is moved to the right-of-way, is generally ineligible, as it is assumed and expected that commercial enterprises retain insurance that can and will cover the cost of debris removal.
 - Small amounts of commercial debris that is in the right-of-way and mixed with other debris streams may be eligible.
 - Industrial parks, golf courses, commercial cemeteries, apartments, condominiums, and mobile homes in commercial trailer parks are generally considered commercial property by FEMA.



Visual 3.29

Demolition of Private Structures

- Stafford Act Section 403, Essential Assistance, authorizes PA Program assistance for the demolition of unsafe structures that endanger the public.
- Private structures must be determined to be unsafe and pose an immediate threat in order to be eligible for demolition by an applicant with legal responsibility for the work.
- Applicants must take reasonable steps to prevent duplication of benefits, and verify that insurance coverage or any other source of funding does not exist for the demolition and subsequent debris removal work accomplished on each property.
 - Applicable insurance proceeds must be used as the first source of funding, with PA Program funding covering the remainder of eligible costs, if demolition is approved for the property.

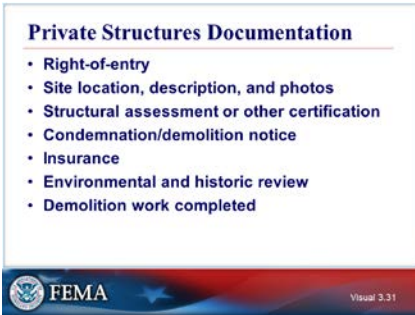


Visual 3.30

- Note: Approval criteria for demolition of private structures are covered in the following slide.
- Stafford Act Section 403 is distinct from Stafford Act Section 406, under which an applicant may undertake demolition activities as part of eligible permanent work, and is distinct from Stafford Act Section 407, which authorizes debris removal activities on public and private property.

Private Structures Approval Criteria

- For the demolition of a privately owned structure and subsequent removal of demolition debris to be eligible, the following conditions must be met:
 - The structure was damaged and made unsafe by the declared disaster.
 - The applicant certifies that the structure is unsafe and poses an immediate threat to the public, provides a detailed explanation documenting its legal responsibility to enter private property to demolish an unsafe structure, and confirms that all legal processes and permission requirements (e.g., rights-of-entry) for such action have been satisfied.
 - The applicant confirms that a legally authorized official has ordered the exercise of the appropriate authority to remove an immediate threat by demolition of unsafe structures and removal of demolition debris.
 - The applicant indemnifies the Federal government and its employees, agents, and contractors from any claims arising from the demolition activities.
 - The work is completed within the deadlines for emergency work established by the PA Program.
- The PA Group Supervisor must concur that the demolition is in the public interest.
- FEMA will consider alternative measures to eliminate immediate threats posed by disaster-damaged unsafe structures, including fencing unsafe structures and restricting public access, when evaluating requests for demolition.

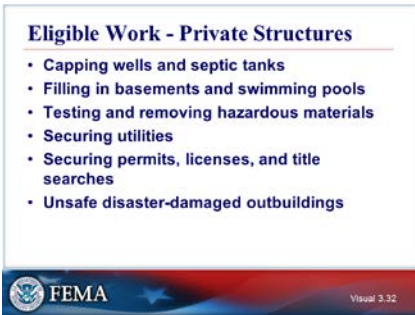


Visual 3.31

Private Structures Documentation

Documentation used to establish eligibility of private structure demolition includes:

- An executed right-of-entry for each property that includes a hold harmless agreement and indemnification applicable to the project scope of work.
 - FEMA personnel must not enter private property prior to the execution of a right-of-entry, even if it is just to conduct an assessment of eligible demolition activities.
- Site location (e.g., address, parcel number, GPS coordinates), description, and photos.
- Certification based on applicable codes that establishes the structure as unsafe.
- Notice of condemnation/demolition for the structure.
- Information on insurance coverage for the structure.
 - Applicants must take reasonable steps to prevent a duplication of benefits.
 - Typically, rights-of-entry used for PPDR and demolition of private structures state that the private property owner will repay the applicant applicable insurance proceeds.
 - The right-of-entry form may include space for the owner to list insurance information.
- Documentation demonstrating fulfillment of environmental and historic review requirements.
- Documentation on demolition work completed, such as quantities of debris and photos.

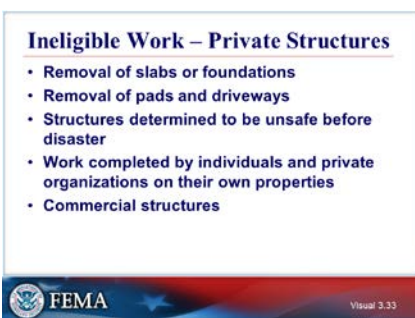


Visual 3.32

Eligible Work - Private Structures

Eligible work related to the demolition of private structures may include, but is not limited to:

- Capping wells.
- Pumping and capping septic tanks.
- Filling in basements and swimming pools.
 - Consideration should be given to the relative cost effectiveness of other methods that would eliminate the immediate threat posed by below-grade structures such as basements or swimming pools (e.g., the installation of fencing).
- Testing and removing hazardous materials from unsafe structures, including asbestos and HHW.
- Securing utilities (electric, phone, water, sewer, etc.).
- Securing permits, licenses, and title searches.
 - Fees for permits, licenses, and titles issued directly by the applicant are ineligible unless it can be demonstrated that the fees are above and beyond administrative costs.
- Demolition of disaster-damaged outbuildings such as garages, sheds, and workshops determined to be unsafe.



Visual 3.33

Ineligible Work - Private Structures

Ineligible work related to the demolition of private structures includes:

- Removal of slabs or foundations, except in very unusual circumstances, such as when disaster-related erosion under slabs on a hillside causes an immediate public health and safety threat.
- Removal of pads and driveways.
- Removal of structures condemned as safety hazards before the disaster.
- Demolition work completed by individuals and private organizations (except for eligible PNPs) on their own properties.

- Demolition of commercial structures.
 - Demolition of commercial structures is generally ineligible, as it is assumed and expected that commercial enterprises retain insurance that can and will cover the cost of demolition.
 - In some cases as determined by the FCO, the demolition of commercial structures by a State or local government may be eligible if it is in the public interest.
 - Apartments, condominiums, and mobile homes in commercial trailer parks are generally considered commercial structures by FEMA.

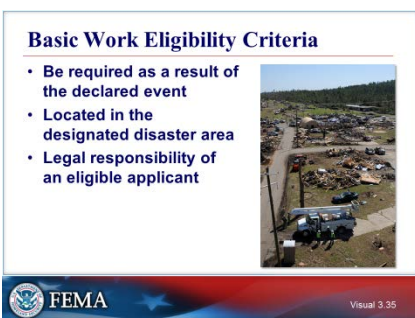
Work and Cost Eligibility

Work Eligibility

- Debris-related activities must meet the established criteria for eligible **work** in order to qualify for PA Program funding.
- For an item of work to be eligible, it must be completed by an eligible **applicant** and the **facility** must be eligible.



Visual 3.34



Visual 3.35

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 18-20.

Basic Work Eligibility Criteria

General work eligibility criteria are specified in 44 CFR 206.223. All three of the following criteria must be met for an item of work to be eligible:

- The work must be required as the result of the declared disaster event.
- The work must be located within the designated disaster area (with the exception that sheltering and evacuation activities may be located outside the designated area).
- The work must be the legal responsibility of an eligible

applicant.

References

- 44 CFR 206.223.
- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 18-20.

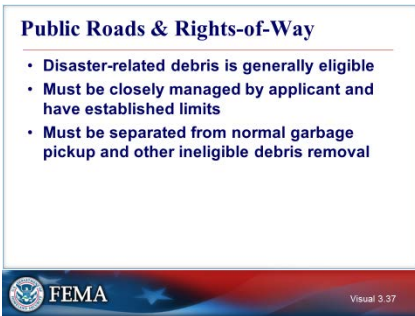


Visual 3.36

Basic Work Eligibility Considerations

- Debris removal work must meet the public interest criteria covered earlier in the unit in order to be eligible.
 - A possible exception to the public interest requirement is eligible debris removal work completed by an eligible applicant to restore an eligible facility, such as the removal and disposal of destroyed building contents; however, this work is usually included as part of the eligible scope of work for the PW covering permanent restoration work on the facility.
- Damage caused by negligence on the part of the applicant after the event is ineligible.
 - For debris-related work, the issue of negligence usually arises in the context of damage caused to facilities in the course of debris removal.
 - Damage caused by an applicant's actions, if unavoidable, may not necessarily be negligence, especially in cases where damage occurs during emergency response efforts.
- Normal maintenance items that existed prior to the disaster are ineligible.
 - For debris-related work, the issue of maintenance usually arises in the context of debris removal from debris basins and other structures that require removal of debris as part of their routine maintenance.
 - The applicant must demonstrate that the damage and subsequent debris removal work is required as a result of the declared event.

References



Visual 3.37

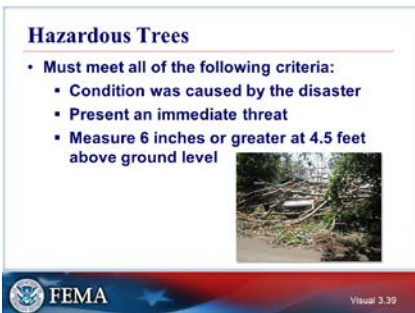
- 44 CFR 206.224.
- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 42-56.

Public Roads and Rights-of-Way

- Disaster-generated debris on public property and rights-of-way is generally eligible.
 - Debris blocking streets and highways is considered an immediate threat because it blocks passage of emergency vehicles or it blocks access to emergency facilities.
 - Debris cleared from roads and highways, including the travel lanes and shoulders, roadside ditches, drainage features, and maintained right-of-way, may be eligible.
 - If residents move disaster-generated debris to public rights-of-way, removal of the debris by an eligible applicant with the legal responsibility for maintaining the right-of-way may be eligible.
 - Right-of-way debris removal activities must be closely managed by the applicant and have established limits.
 - Eligibility of alternative methods of right-of-way debris removal by applicants, such as placing roll-off bins throughout the community, is evaluated on a case-by-case basis.
- Specific restrictions on eligible debris removal from rights-of-way include:
 - Federal-Aid roads where debris removal activities fall under the authority of FHWA.
 - Debris must be separated from normal garbage pickup and other ineligible debris.
 - Reconstruction debris placed on the right-of-way is ineligible as Category A debris removal work. The cost of removing debris resulting from reconstruction activities, such as scrap lumber and drywall, should be included as part of the cost of reconstruction.
 - Foundations and slabs-on-grade generally do not present a health or safety hazard to the general



Visual 3.38



Visual 3.39

public. Foundation debris removed for reconstruction purposes, even when placed on the right-of-way, is generally ineligible.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 42-56.

Vegetative Debris

- Disaster-related vegetative debris collected by an applicant from public property and public rights-of-way is generally eligible, including vegetative debris brought to the right-of-way by individual residents.
- Specific additional criteria apply to the removal of trees, limbs, and stumps determined to be hazardous, which are discussed in detail on the following slides.

References

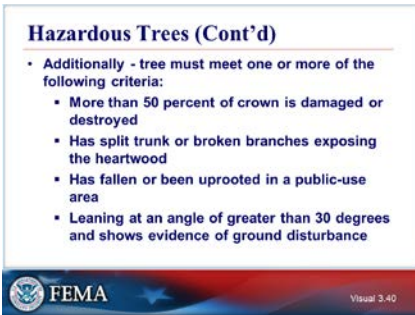
Public Assistance Program and Policy Guide, FP 104-009-2 p. 42-56.

Hazardous Trees

- Hazardous trees must meet all of the following criteria in order to be eligible:
 - Its condition was caused by the disaster.
 - It is an immediate threat to lives, public health and safety, or improved property.
 - It must measure 6 inches or greater at 4.5 feet above ground level.
- Additional hazardous tree eligibility criteria are contained in the following slide.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 49.



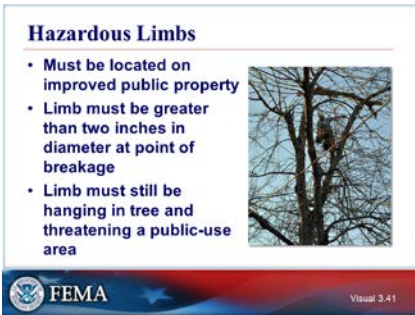
Visual 3.40

Hazardous Trees (Cont'd)

- To be eligible, hazardous trees must also meet **one or more** of the following criteria:
 - More than 50 percent of the crown damaged or destroyed.
 - Has a split trunk or broken branches that expose the heartwood.
 - Has fallen or been uprooted within a public-use area.
 - Is leaning at an angle greater than 30 degrees and shows evidence of ground disturbance.
- Additional considerations include:
 - Hazardous trees with less than 50 percent of the root ball exposed should be cut flush at the ground level. Grinding of the resulting stump after flush cutting is ineligible.
 - Straightening and bracing of hazardous trees may be eligible for funding if it is less costly than removal and disposal. If a hazardous tree is straightened and braced instead of removed, it is ineligible for removal if it subsequently dies.
- Applicants must provide documentation to support their request for funding, such as:
 - Documentation of tree quantities and locations.
 - Documentation of the immediate threat, such as photos of leaning trees.
 - Documentation of work completed to remove the trees.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 49.



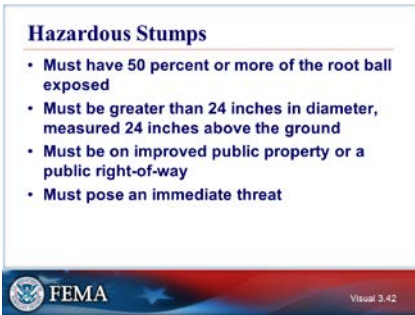
Visual 3.41

Hazardous Limbs

- Removal of hanging limbs may be eligible if the limbs meet **all** of the following criteria:
 - The limb is located on improved public property or threatens a public use area.
 - The limb is greater than two inches in diameter at the point of breakage.
 - The limb is still hanging in a tree and threatening a public-use area.
- Only the minimum amount of work necessary to remove the hazard is eligible.
 - Pruning, maintenance trimming, and landscaping are ineligible.
 - All hazardous limbs in a tree should be cut at the same time, not in separate passes.
 - Removal of hazardous limbs from a hazardous tree scheduled for removal is ineligible.
 - Limbs should be cut at the closest main branch junction.
- Removal of hazardous limbs extending over a public right-of-way from a tree located on private property may be eligible.
- Applicants must provide documentation to support their request for funding, such as:
 - Documentation of tree location and number of hazardous limbs.
 - Documentation of the immediate threat, such as photos of hanging limbs.
 - Documentation of work completed to remove the limbs.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 49.



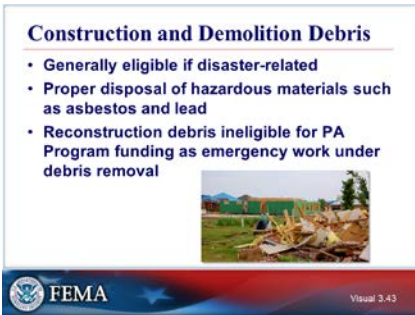
Visual 3.42

Hazardous Stumps

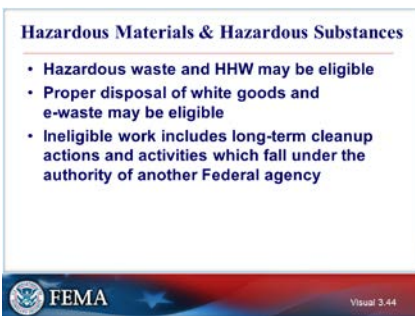
- Removal of a stump may be eligible as a per-unit cost if it meets **all** of the following criteria:
 - It has 50 percent or more of the root ball exposed.
 - Stumps with less than 50 percent of the root ball exposed should be flush cut.
 - It is greater than 24 inches in diameter, as measured 24 inches above the ground.
 - It is on improved public property or a public right-of-way.
 - It poses an immediate threat to life and public health and safety.
- Grinding of an uprooted stump and filling the resulting cavity may be less costly.
- Reimbursement for the removal of stumps measuring **24 inches in diameter or less** is based on a unit cost per cubic yard, using the Stump Conversion Table in Public Assistance Program and Policy Guide, FP 104-009-2 Appendix E p. 175.
- FEMA will reimburse the applicant at the unit cost rate (usually cubic yards) for normal debris removal for all stumps, regardless of size, placed on public rights-of-way by others.
- Applicants must provide documentation to support their request for funding, such as:
 - Documentation of stump quantities and locations.
 - Documentation of the immediate threat, such as photos of the stumps.
 - Documentation of work completed to remove the stumps.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 49.



Visual 3.43



Visual 3.44

Construction and Demolition Debris

- Disaster-related construction and demolition debris is generally eligible.
- Any hazardous materials present in the construction and demolition debris, such as asbestos and lead, must be disposed of properly.
- Typically, removal of construction by-products generated by repairs or rebuilding is covered by insurance policies or included in the overall cost for reconstruction projects; therefore, it is ineligible for PA Program funding as emergency work under debris removal.
 - It may be reimbursed as part of the permanent work for the reconstruction of an eligible facility.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 42-56.

Hazardous Materials and Hazardous Substances

- Measures taken by applicants as a result of the disaster event to address hazardous materials and debris containing hazardous substances may be eligible, such as:
 - Retrieval and proper disposal of orphan drums.
 - Pumping water contaminated with hazardous materials.
 - Control or stabilization of oil or other hazardous material releases.
 - Cleanup and disposal of hazardous waste and HHW.
 - Proper disposal of white goods.
 - Proper disposal of e-waste.
- Ineligible work includes activities associated with long-term cleanup actions and activities that fall under the authority of another Federal agency.
 - EPA and USCG have specific authorities regarding hazardous materials.



Visual 3.45

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 51.

Eligibility of Other Debris Types

- The removal of soil, mud, and sand debris may be eligible, provided the debris is the result of the disaster and the work is accomplished at an eligible facility by an eligible applicant.
 - Examples of potentially eligible work include removal of soil, mud, and sand from streets, sewers, water treatment facilities, drainage canals, and swimming pools.
- Garbage picked up by an applicant as part of its uniform level of services is ineligible.
- Work to collect and dispose of putrescent debris and infectious waste may be eligible.
 - The work must be the legal responsibility of an eligible applicant and not fall under the authority of another Federal agency or be the responsibility of a private individual or firm.
- FEMA will make eligibility determinations on actions taken by an applicant to address chemical, biological, radiological, and nuclear-contaminated debris on a case-by-case basis.
 - Multiple other Federal agencies may be involved under their individual authorities.
 - Mission Assignments may also be tasked to other Federal agencies to address the debris.
 - If the event involves an investigation by law enforcement, additional work may be necessary to address concerns such as evidence retrieval and chain of custody.
 - If an eligible applicant has legal responsibility for and completes eligible work related to the management of chemical, biological, radiological, or nuclear-contaminated debris, it will likely involve the use of specialized equipment and expertise, including specialty contractors.



Visual 3.46

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 42-56.

Restoration of Carrying Capacity

- Removal of debris to restore the carrying or storage capacity of eligible water control facilities such as engineered channels, debris basins, and reservoirs may be eligible if the removal is not the responsibility of another Federal agency.
- There must be evidence of regular maintenance of the facility.
 - Facilities such as engineered channels and debris basins must have evidence of a regular clearance schedule.
 - In the case of facilities such as reservoirs, those types of facilities are not always cleaned out on a regular basis; however, evidence of pre-disaster condition must still be provided.
- Only the removal of disaster-related debris is eligible.
 - The pre-disaster level of debris at the facility is of particular importance in determining the amount of disaster-related debris.
 - If the applicant determines it's in their best interest to remove debris unrelated to the disaster at the same time, only the work and associated costs of removing the disaster-generated portion of the debris would be eligible.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 42-56.



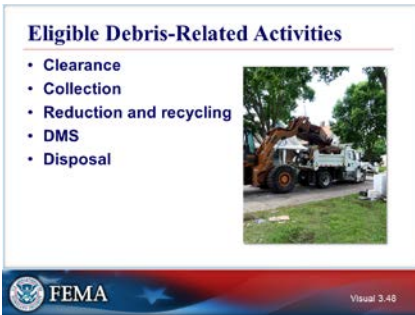
Visual 3.47

Private Vehicles and Vessels

- Generally, even if PPDR is authorized, the removal of privately owned vehicles and vessels is ineligible, as removal is the responsibility of the owner.
- For the removal to be eligible, the applicant **must demonstrate all of the following**:
 - The vehicle or vessel presents a hazard or immediate threat
 - The vehicle or vessel is abandoned, e.g., the vehicle or vessel is not on the owner's property and ownership is undetermined.
 - The applicant followed local ordinances and State law to secure ownership.
 - The applicant verified chain of custody, transport, and disposal of the vehicle or vessel.
- All supporting documentation relating to removal of abandoned vehicles and vessels must be submitted to FEMA for PA grant consideration.
- For navigable vessels, applicants must follow their hazard abatement laws, coordinate with marine and harbor patrol agencies, and comply with local laws governing navigational vessels.
 - Removal of vessels from navigable waterways may fall under the authority of USACE.
- Duplication of benefits issues must be addressed, such as recovery of insurance proceeds.

IMAGE INFO

Columbia, SC, October 22, 2015 -- [This boat](https://www.fema.gov/media-library/assets/images/111034) ended up in the front yard of this home on Burwell Lane. Residents are eligible for Individual Assistance in Bamberg, Berkeley, Calhoun, Charleston, Clarendon, Colleton, Darlington, Dorchester, Florence, Georgetown, Greenwood, Horry, Kershaw, Lee, Lexington, Orangeburg, Richland, Sumter and Williamsburg counties. Deadline is December 4, 2015. Link available at: <https://www.fema.gov/media-library/assets/images/111034>



Visual 3.48

Eligible Debris-Related Activities

Reasonable activities completed by an eligible applicant that are necessary to complete eligible debris removal work are generally eligible. Examples of potentially eligible activities include:

- Debris clearance.
- Collection and hauling of eligible debris from eligible facilities.
- Reasonable debris reduction and recycling activities.
 - Examples include the controlled burning of vegetative debris to reduce its volume and the crushing of metal debris for recycling.
 - Any salvage value of recycled debris must be accounted for to prevent a duplication of benefits.
- The establishment, operation, and decommissioning of DMS used for the staging, reduction, and recycling of debris.
- The proper disposal of debris.
 - Eligibility of fees imposed by the entity responsible for the disposal site are discussed later in this unit.



Visual 3.49

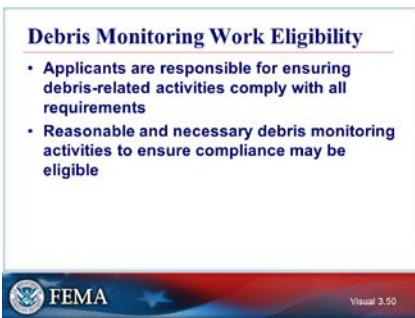
Eligible Debris-Related Activities (Cont'd)

- Additional examples of potentially eligible debris management activities include:
 - Environmental monitoring to ensure compliance with applicable requirements, such as may be required to establish and operate DMS.
 - Reasonable and necessary project management activities.
 - Examples of project supervision and management activities include planning and direct oversight of the debris removal operation and the development of necessary reports.
 - Project Supervision and Management Costs of Subgrantees, DAP9525.6, contains detailed information on the eligibility of applicant project management activities.

- Distinct eligibility requirements apply to applicant project management activities, PA Program grant administration activities, and debris monitoring activities; therefore, the work completed in each of those areas must be separately accounted for and evaluated.
- Eligibility of PA Program grant administration activities is covered in Section 324 Management Costs and Direct Administrative Costs of the Stafford Act, as well as the PA Program & Policy Guide.

References

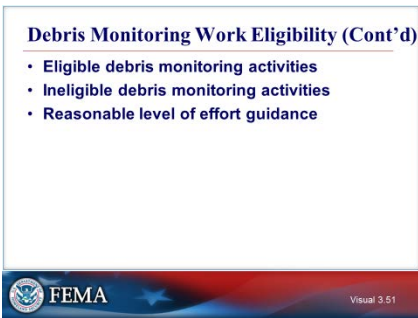
Public Assistance Program and Policy Guide, FP 104-009-2 p. 56.



Visual 3.50

Debris Monitoring Work Eligibility

- Applicants are responsible for ensuring debris-related activities that they complete with force account or contracted resources that are funded under the PA Program are compliant with all FEMA funding requirements.
 - Applicants are encouraged to monitor their debris-related activities and document eligible quantities and reasonable expenses to ensure that the work is eligible for PA Program funding. Failure to do so properly may jeopardize this funding.
- Reasonable and necessary debris monitoring activities completed by an applicant may be eligible.
 - Applicants may use force account resources or contractors to monitor debris removal operations, or a combination of both.
 - The level of effort of applicant debris monitoring activities must be reasonable in comparison to the scope of applicant debris removal activities.
 - The type and number of staff used for debris monitoring activities must be reasonable for the type of work being performed.
 - For example, the skill set of a registered professional engineer is not required for general debris monitoring activities at debris collection locations and DMS.



Visual 3.51

References

- 44 CFR 206.202(b)(4).
- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 56.

Debris Monitoring Work Eligibility (Cont'd)

- Reasonable effort associated with the following monitoring activities may be eligible:
 - The labor of debris loading site, DMS, and field supervisor debris monitors completing documentation, as necessary, to substantiate PA Program funding.
 - Compilation of load tickets and field debris monitoring reports to verify eligible work completed by debris removal contractors.
 - Training of debris monitors on debris removal operations, debris monitoring and documentation processes, and FEMA eligibility.
 - FEMA may provide the necessary training at 100 percent Federal cost share.
 - Use of an electronic load ticket system or automated debris monitoring system, provided the applicant demonstrates that using the system is cost effective.
- Ineligible debris monitoring activities include:
 - Activities associated with an unreasonable level of effort, including disproportionate numbers of monitoring personnel relative to the scope of the debris removal operation.
 - Project supervision and management by an applicant's employees or a contractor.
 - Eligibility requirements governing project supervision and management activities are distinct from debris monitoring eligibility requirements, and are covered in Project Supervision and Management Costs of Subgrantees, DAP9525.6.
 - Project supervision and management activities completed by applicants must be accounted for

- and evaluated separately from debris monitoring activities.
- PA Program grant administration activities.
 - Eligibility requirements governing PA Program grant administration activities are distinct from debris monitoring eligibility requirements, and are covered in Section 324 Management Costs and Direct Administrative Costs.
 - PA Program grant administration activities completed by applicants must be accounted for and evaluated separately from debris monitoring activities.
 - Reasonable level of effort guidance.
 - FEMA will validate that an applicant’s debris monitoring level of effort is reasonable.
 - The level of effort for the debris monitoring operation should be commensurate to the scope of the debris removal operation, disaster, and needs of the community.
 - The level of effort is also based upon other factors, such as the type of debris removal contract, types of debris, reduction methods, and timeframe of operations.
 - A reasonable number of field supervisors, field monitors, and clerical staff may be eligible.
 - Historical data suggest the following level of effort may be appropriate for field efforts:
 - Debris loading sites in rural areas: One loading monitor for every contractor loading site. This can be amended to allow one monitor to oversee two or even three loading sites, so long as the truckloads are reviewed at a controlled access point and the debris collected can be documented and verified as eligible or ineligible.
 - Debris loading sites in higher density or urban areas: One loading monitor for every three to four contractor loading sites, presuming that the loading monitor can control the contractor sites by line-of-sight or a controlled access point.
 - DMS: Required monitoring staff will depend on DMS size and layout. A minimum of one tower

or site monitor is required to document load quantities and verify trucks are emptied. Additional tower or site monitors may be needed at exit locations to verify trucks are emptied, or at DMS debris reduction areas to verify production rates.

- Field supervisors: Field supervisors may be added for every five to seven debris loading site monitors and if multiple DMS are in operation, or as needed for exceptionally large and unique operations to ensure adequate supervision.
- Clerical support: One or two data entry personnel can typically handle the debris monitoring documentation generated when debris operations use load tickets. Larger operations or operations functioning on an aggressive schedule may require additional personnel. The use of automated debris monitoring collection systems may reduce the required level of clerical support.

References

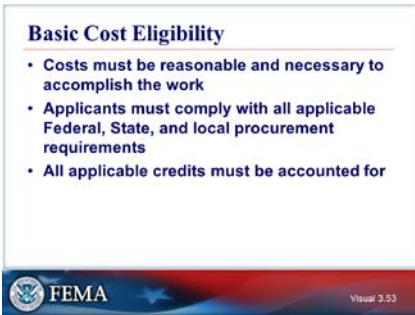
Public Assistance Program and Policy Guide, FP 104-009-2 p. 56.



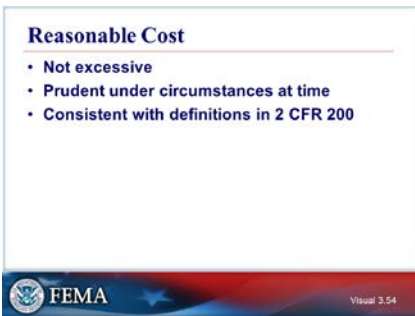
Visual 3.52

Cost Eligibility

- Cost is the final building block of eligibility.
- Eligibility criteria applicable to the applicant, facility, and work must all be met before an associated cost for debris-related activities may be determined to be eligible.



Visual 3.53



Visual 3.54

Basic Cost Eligibility

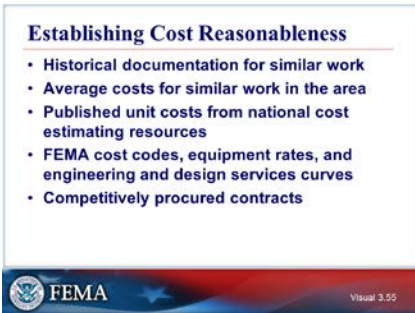
- Costs must be reasonable in nature and necessary to accomplish the eligible work (Note: Cost reasonableness is discussed on the next slide).
- Applicants must comply with all applicable Federal, State, and local procurement requirements.
- To avoid a duplication of benefits, all applicable credits must be accounted for, such as the salvage value of recycled materials and the value of some cash donations.

References

- Stafford Act Section 312.
- 44 CFR 206.228.
- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 21-42.

Reasonable Cost

- A cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the cost.
 - This description of reasonable cost is consistent with the definitions contained in 2 CFR 200.
- For example, if the going rental rate for a backhoe is \$25-per-hour, it would not be reasonable to pay \$50-per-hour for a backhoe.
- Variations in cost should be considered: for example, in the immediate aftermath of a disaster, shortages in equipment, materials, and labor may affect costs; additionally, costs generally stabilize in the months after the disaster.
- Consideration should be given to whether the cost is of a type generally recognized as ordinary and necessary for the subject facility and type of work and whether the individuals concerned acted with prudence in conducting the work.
- Normal applicant procedures must not be altered because of the potential for reimbursement from



Visual 3.55

Federal funds.

References

- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 21.
- 2 CFR 200.404.

Establishing Cost Reasonableness

Cost reasonableness can be established through:

- Historical documentation for similar work.
 - Applicant force account resource and contract data for previous similar work.
 - Historical documentation from neighboring jurisdictions and the State.
- Average costs for similar work in the area.
 - Contract costs for similar work in the area, including USACE debris removal costs for work accomplished under a Mission Assignment.
- Published unit costs from national cost estimating resources, such as RS Means.
- FEMA cost codes, equipment rates, and engineering and design services curves.
 - It is generally inappropriate to use the FEMA engineering and design services curves for debris-related projects, as those types of projects do not typically require the specialized services accounted for by the curves.
- In the case of contract costs for debris-related work, competitively bid contracts that comply with Federal, State, and local procurement regulations and procedures will establish reasonable costs for the work.
- FEMA will determine reasonable costs for contracts that are not competitively procured.

References

- Public Assistance Program and Policy Guide*, FP 104-009-2 p. 21-29.



Visual 3.56

Potential Sources of Costs

- Cost eligibility requirements apply to all costs submitted by applicants for PA Program funding.
- Potential sources of eligible costs for debris-related activities include:
 - The cost of force account resources, including force account labor, materials, and equipment.
 - The cost of services provided by other entities under a mutual aid agreement.
 - The cost of contracted services.
- Specific eligibility requirements applicable to force account resources and mutual aid are covered in the following slides.
- Contract cost eligibility requirements are covered in Unit 5, Debris Contracting.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 21-29.



Visual 3.57

Force Account Resources

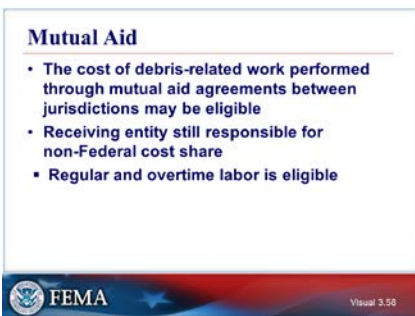
- **Labor:** The reasonable cost of force account labor, including fringe benefits, used to complete eligible work is eligible.
 - Different eligibility requirements apply to different types of force account labor, such as permanent employees and reassigned employees.
- **Equipment:** Certain ownership and operating costs for force account equipment used to perform eligible work are eligible.
 - Equipment usage reimbursement is almost always based on an hourly rate, and is generally based on the actual amount of time a piece of equipment is used.
 - For applicants without established equipment rates, FEMA equipment rates will be used, and are

available on the FEMA Web site.

- Applicant-developed and State rates may be used, subject to certain restrictions.
- **Materials:** The cost of supplies purchased or taken from an applicant's stock and used during performance of eligible work is eligible.
- **Leased/purchased equipment and supplies:** The cost of equipment and supplies purchased by an applicant for the completion of disaster-related activities may be eligible.
- Definitions of "equipment" and "supplies" and disposition guidelines are covered in the *PA Program & Policy Guide*.

References

- 44 CFR 206.228(a).
- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 22-25.
- <http://www.fema.gov/schedule-equipment-rates> (FEMA equipment rates).



Visual 3.58

Mutual Aid

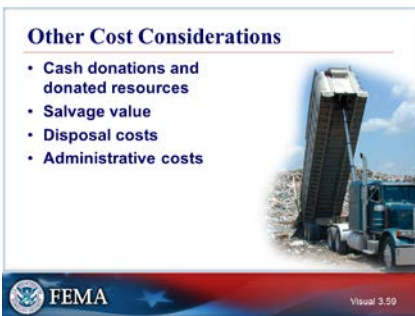
- The cost of debris-related work performed through mutual aid agreements between jurisdictions may be eligible, provided that:
 - The applicant that received the aid was charged for that aid.
 - Payment under the agreement is not contingent upon receipt of Federal funding.
 - The applicant that received the aid can provide supporting documentation for the costs.
 - The costs are reasonable.
 - Applicants comply with the required provisions of Mutual Aid Agreements for Public Assistance and Fire Management Assistance.
- The receiving entity is still responsible for the non-Federal cost share.
- The regular and overtime labor costs of employees of

the entity providing supplemental assistance are eligible.

- Labor from one division of an entity providing assistance to another division of the same local or State entity will not be treated under mutual aid provisions.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 33.



Visual 3.59

Other Cost Considerations

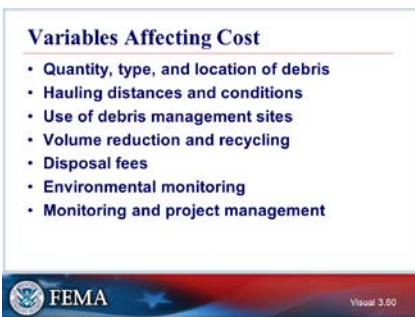
- Cash donations and donated resources.
 - Grants and cash donations received from non-Federal sources designated for the same purpose as PA Program funding are considered a duplication of benefits.
 - However, such grants and donations may be applied toward the non-Federal cost share portion of a project.
 - Grants and cash donations received for unspecified purposes do not constitute a duplication of benefits.
 - Donated resources used to complete debris-related activities, including volunteer labor, donated equipment, and donated materials, are eligible to offset the State and local portion of the cost share for emergency work.
- **Salvage value:** Disposition of salvageable materials such as wood and metals must be at fair market value and the value must be deducted from the costs claimed for PA Program funding.
 - Reasonable costs to manage the disposition may be subtracted from the fair market value.
 - If an applicant contracts for debris removal, it may allow the contractor to take possession of salvageable material and benefit from its sale, in order to lower the contractor bid price.
- **Disposal costs:** If an applicant disposes of debris at a landfill they are responsible for, the eligible disposal costs are limited to the fixed and variable costs

associated with the landfill.

- If the applicant has incorporated special taxes or fees into the landfill tipping fee to fund government services or public infrastructure, those taxes or fees are ineligible.
- **Administrative costs:** Eligible direct and indirect administrative costs an applicant incurs in requesting, obtaining, and administering PA Program funding are subject to separate eligibility and procedural requirements and must be separated from the direct and indirect costs of debris management activities.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 36-42.



Visual 3.60

Variables Affecting Cost

Examples of factors that may affect the cost of debris removal operations include:

- Quantity, type, and location of debris.
 - Removing large debris quantities may result in economies of scale; however, large debris quantities may require more effort to manage debris operations, and greater demand for debris removal services may increase the cost of contracted services.
 - Debris types requiring special handling, such as HHW, generally involve a greater cost to manage than other debris types that generally do not require special handling, such as clean vegetative debris; additionally, the location of debris may impact cost, such as a given quantity of debris spread over a large area versus a small area.
- **Hauling distances and conditions:** Debris hauling distances will likely impact the cost of debris operations, as would restrictions on hauling routes and hours of operation.
- **Use of DMS:** Using DMS generally involves an added cost; however it may also impact cost variables, such as hauling distances.
- **Volume reduction and recycling:** Reduction and

recycling activities generally involve an additional cost; however, those activities may also impact other cost variables, such as lower disposal costs for reduced debris volumes and the salvage value of recycled debris.

- **Disposal fees:** The cost to dispose of debris at a landfill may vary based on what type of debris is being disposed of and whether the applicant is responsible for the landfill.
- **Environmental monitoring:** Different debris removal operations may require different levels of effort and associated costs for environmental monitoring.
- **Monitoring and project management:** Different debris removal activities may require different levels of applicant monitoring and project management effort; for example, the level of monitoring required for debris removal accomplished with force account resources may be less than that needed for debris removal accomplished with contracted resources.

Documentation



Visual 3.61

Documentation on Eligibility

- Gathering the necessary documentation on the applicant, facility, work, and cost to make informed decisions is a critical part of assessing the eligibility of debris-related activities and completing the project formulation process.....
- Examples of information for which documentation should be gathered include:
 - Estimated debris quantities, types, and locations resulting from the disaster event.
 - Basis for the applicant’s determination that an immediate threat exists and their legal responsibility to address it.
 - The applicant’s procurement process, including their established procurement procedures.
 - Executed contracts for debris-related activities,

including any contract modifications.

- Force account labor, equipment, and materials records, including fringe benefits calculations and pay policies.
- Information on the applicant's debris monitoring methodology and monitoring records, such as load tickets and logs.
- Mutual aid agreements and records supporting the mutual aid costs claimed.

References

PW Development Guide, p. 5-25, Appendices C and D.



Visual 3.62

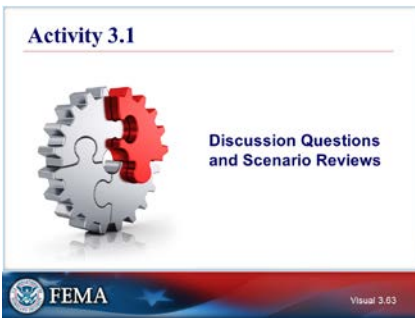
Documentation on Eligibility (Cont'd)

Additional examples of information for which documentation should be gathered include:

- Donated resources used to offset the non-Federal cost share.
- Historic or current cost information used to establish cost reasonableness.
- Maintenance records for facilities such as drainage basins, to establish that the facilities were maintained, and to establish the amount of debris deposited by the declared disaster.
- The location of Federal-Aid roads and the status of any assistance the applicant may be receiving under the FHWA ER Program.
- The location of any facilities determined to be flood control works, and the status of any assistance the applicant may be receiving for flood control works from NRCS.
- Documentation on the locations and measurements of public rights-of-way.
- Detailed documentation on hazardous trees, limbs, and stumps.

References

PW Development Guide, pp. 5-25, Appendices C and D.



Visual 3.63



Activity 3.1: Discussion Questions and Scenario Reviews

Purpose of Activity

To provide you the opportunity to demonstrate your understanding of basic debris-related eligibility requirements and the guidelines applicable to eligible applicants and eligible facilities.

Group Activity Setting

- You will complete this activity in groups but will also enter answers in your individual Activities Manual.
- The discussion questions and scenarios will be reviewed by the class as a whole.

Overview of Activity

- You will have 35 minutes to review the scenarios and answer the questions.
- Use all resources, including the Student Manual and *Public Assistance Program and Policy Guide (PA Guide)*.

Laws and Authorities



Visual 3.64

Local S/T/T Laws and Authorities

Additional examples of Laws and Authorities that must be considered and adhered to at the State/Tribal/Territorial and Local level include:

- Codes.
- Ordinances.
- Authorities.
- Land Use.

- MOAs/MOUs.
- Compacts.
- Environmental Statutes.
- Historical Statutes- consult with your State/Tribal/Local Historic Preservation Officer to obtain information regarding specific laws.
- Mutual Aid Agreements- Statewide MAA, Automatic Aid Agreements.



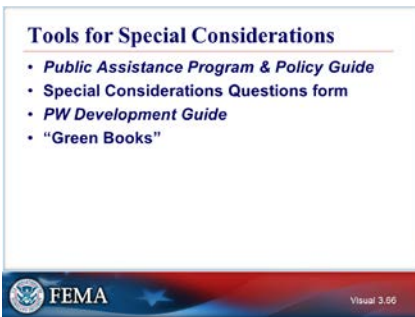
Visual 3.65

Consequences of Non-Compliance

- Timely identification and resolution of Special Considerations issues is critical.
- If FEMA fails to address Special Considerations issues expeditiously, the following consequences can result:
 - **Loss of funding:** FEMA may be prevented from approving funds for a project or may be required to de-obligate funds after initiation of a project.
 - **Delays in project approval:** Approval of funding may be delayed while issues are resolved.
 - **Legal action:** Citizens, advocacy groups, and others can file lawsuits to stop the projects.
 - **Loss of opportunity:** Hazard mitigation opportunities are most effective when incorporated into the repair of a damaged facility, and FEMA may not be able to fund hazard mitigation measures after the repairs are completed.
 - **Negative publicity:** Issues stemming from Special Considerations can result in negative publicity for FEMA, the State, and the applicant.

References

Public Assistance Program and Policy Guide, FP 104-009-2 p. 81-93, Appendix A.



Visual 3.66

Tools for Special Considerations

Tools available to Debris Technical Specialists to assist with fulfilling their responsibilities regarding Special Considerations include:

- Public Assistance Program & Policy Guide.
 - Contains general information on Special Considerations requirements and identification of potential issues.
 - Contains an overview of the general steps and processes FEMA uses for identifying and resolving Special Considerations issues.
- Special Considerations Questions form, FEMA Form 90-120.
 - Designed to assist with the identification and documentation of Special Considerations issues.
 - Required for every PW.
- *PW Development Guide*.
 - Part III of the *PW Development Guide* provides information on completing the Special Considerations Questions Form.
 - Appendix F of the *PW Development Guide* contains a Special Considerations review tool.
 - Appendix G of the *PW Development Guide* contains instructions for creating an excerpt from a FEMA Flood Insurance Rate Map (FIRM), or FIRMette.
 - Instructions for creating a FIRMette are available online.
- Some FEMA disaster operations will develop a document summarizing information on applicable EHP compliance requirements and the processes for completing the associated reviews.
 - The document is sometimes referred to as a “Green Book”.

References

- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 81-93, Appendix A.
- *PW Development Guide*, pp. 65-81, Appendices F and



Visual 3.67

G.

- Special Considerations Questions, FEMA Form 90-120.
- <http://www.msc.fema.gov> (FIRMette Tutorial).

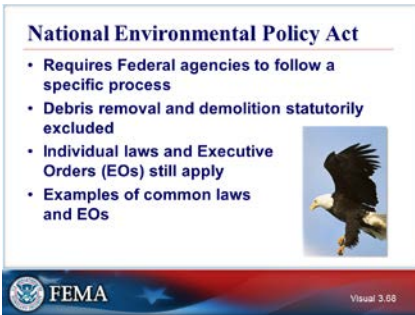
Insurance

- Duplication of Benefits.
 - Stafford Act Section 312, Duplication of Benefits, states that no entity will receive assistance for any loss for which financial assistance has already been received from any other program, insurance, or any other source.
 - Duplication of Benefits – Non-Government Funds.
 - Disaster assistance will not be provided for damages covered by insurance.
 - Disaster assistance provided by FEMA is intended to supplement assistance from other sources; therefore, insurance proceeds should be an applicant's first alternative for disaster assistance.
- Applicant insurance.
 - An applicant may have insurance coverage on its facilities that includes provisions for debris-related items of work such as cleanup, debris removal, and demolition.
 - Copies of insurance policies covering the applicant's facilities where debris-related activities are completed must be obtained and provided to the FEMA Insurance Specialist, so that appropriate deductions can be made to the associated PWs.
- Third-party insurance.
 - If residents in an applicant's jurisdiction receive funds from insurance or any other source (e.g., the FEMA Individual Assistance Program) for the removal and disposal of debris from their properties, but also place debris on the public rights-of-way for removal by the applicant, the applicant should make a concerted effort to collect the proportionate costs of right-of-way debris removal from those residents in an effort to prevent a duplication of benefits.

- While FEMA understands this could become an arduous task, applicants should make a reasonable effort, such as putting in place protocols to inform residents that receiving a benefit for the same purpose from the Federal government or any other source is in violation of Federal law.
- Any proportionate costs collected or identified will be deducted from the project.
- If an applicant receives FEMA approval for and completes PPDR or demolition of private structures, they must take reasonable steps to prevent a duplication of benefits resulting from insurance proceeds received by individual property owners.
 - When debris removal from private property or demolition of private structures is covered by an insurance policy, the insurance proceeds must be used as the first source of funding.
 - PA Program funding may be provided for the remaining costs not covered by insurance.
 - If FEMA discovers that a duplication of benefits from any other source of funding has occurred, a corresponding de-obligation of funds will be made on the project.
 - One method applicants have used to facilitate gathering information on third-party insurance is to include a request for insurance information in the right-of-entry form that applicants present to property owners.

References

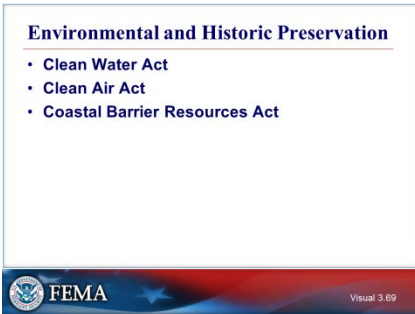
- Stafford Act Section 312.
- *Public Assistance Program and Policy Guide*, FP 104-009-2 p. 39, 84-85.



Visual 3.68

National Environmental Policy Act

- The National Environmental Policy Act (NEPA) requires Federal agencies to follow a specific planning process to ensure that agency decision-makers have considered, and the general public is fully informed about, the environmental consequences of a proposed Federal action, such as the approval of a PA Program grant.
- Stafford Act Section 316, Protection of Environment, provides FEMA with a statutory exclusion from NEPA that includes, among other things, the sections of the Stafford Act that authorize Federal assistance related to debris removal and demolition of unsafe structures; specifically, Stafford Act Sections 402, 403, 407, and 502.
 - Depending on their scope, some debris-related activities could potentially not be covered by the statutory exclusion, such as the establishment of a DMS on previously undisturbed ground.
- Debris-related projects may still involve potential EHP impacts that require additional review for compliance with other EHP laws and Executive Orders (EOs).
- Examples of the other laws and EOs that are more commonly encountered on debris-related projects include:
 - CWA.
 - Clean Air Act.
 - Coastal Barrier Resources Act (CBRA).
 - RCRA.
 - Endangered Species Act (ESA).
 - National Historic Preservation Act (NHPA).
 - Coastal Zone Management Act.
 - Fish and Wildlife Coordination Act.
 - Wild and Scenic Rivers Act.
 - EO 11988, Floodplain Management.
 - EO 11990, Protection of Wetlands.
 - EO 12898, Environmental Justice.



Visual 3.69

References

Public Assistance Program and Policy Guide, FP 104-009-2, Appendix A.

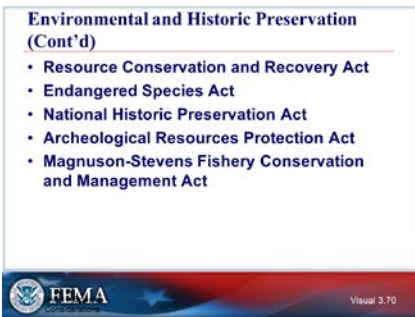
Environmental and Historic Preservation

- Clean Water Act.
 - The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States.
 - Applicants must obtain a Section 404 permit from USACE in any situation where dredging or filling is a component of a project.
 - Applicants may also be required to obtain a Section 101 water quality permit from the appropriate State agency.
 - Examples of debris-related activities where CWA requirements are a consideration include:
 - Debris removal from water control facilities and natural features such as rivers and streams.
 - Debris removal activities that have a potential to discharge pollutants into the waters of the United States, such as runoff or groundwater pollution from a DMS or from demolition of a structure containing hazardous materials.
- Clean Air Act.
 - The Clean Air Act was established to protect the nation's air through the reduction of smog and atmospheric pollution, and is administered through State and local agencies.
 - Some States have air quality requirements that are more stringent than the national standards.
 - Except for areas where pollutant levels exceed national standards and therefore require more rigorous measures, air quality compliance usually includes fairly standard measures such as dust abatement, vehicle emissions control, fuel storage and distribution procedures, etc.

- Examples of debris-related activities where Clean Air Act requirements are a consideration include:
 - Debris reduction by burning.
 - Collection and disposal of white goods containing chlorofluorocarbons.
 - Collection and disposal of switches and fluorescent tubes containing mercury.
 - Demolition and debris hauling activities that can release dust or harmful substances, such as asbestos.
 - Debris removal involving the extensive use of heavy equipment, due to emissions concerns.
- Coastal Barrier Resource Act.
 - The CBRA and the subsequent Coastal Barrier Improvement Act restrict Federal expenditures and financial assistance that encourages development in certain defined coastal barrier areas that are identified on FEMA FIRMs or on maps maintained by the United States Fish and Wildlife Service (USFWS).
 - Advance consultation with USFWS by FEMA prior to an applicant's completion of debris-related activities in designated CBRA units is not required; however, it is strongly encouraged, and notification of USFWS is required at the earliest practicable time.
 - Examples of debris-related activities where CBRA requirements are a consideration include any activities completed in designated CBRA units.

References

Public Assistance Program and Policy Guide, FP 104-009-2, Appendix A.



Visual 3.70

Environmental and Historic Preservation (Cont'd)

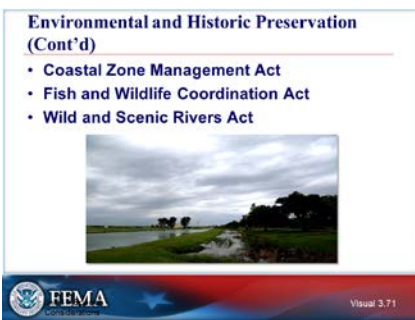
- Resource Conservation and Recovery Act.
 - The RCRA requires safe disposal of waste materials, promotes the recycling of waste materials, and encourages cooperation with local agencies.
 - Examples of debris-related activities where RCRA provisions are a consideration include:
 - Debris recycling activities.
 - The removal and handling of hazardous materials such as hazardous waste, HHW, asbestos, and hazardous substances in white goods and e-waste.
 - Final disposal of debris at properly permitted facilities.
- Endangered Species Act.
 - The ESA prohibits Federal actions that cause unnecessary harm to species listed as threatened or endangered, or the destruction or adverse modification of the habitat of these species.
 - If a debris-related project has the potential to affect a threatened or endangered species or its habitat, FEMA must consult with USFWS and/or the National Marine Fisheries Service (NMFS) before approving PA Program funding.
 - An example of a debris-related activity where ESA requirements may be a consideration is debris removal from an unimproved natural feature to eliminate an immediate threat.
- National Historic Preservation Act.
 - The NHPA requires Federal agencies, before approval of funding, to take into account the effects of their undertakings on historic properties, and to seek ways to avoid, minimize, or treat any adverse effects on historic properties.
 - Historic properties include districts, buildings, structures, objects, landscapes, archaeological sites, and traditional cultural properties that are listed in or eligible for listing in the Federally maintained National Register of Historic Places.
 - The process followed by FEMA for complying with

the NHPA involves identification and evaluation of projects, and consultation with the SHPO or Tribal Historic Preservation Officer (THPO), the Advisory Council on Historic Preservation (ACHP), and other interested parties, such as local historic societies and the public.

- Examples of debris-related activities where NHPA requirements are a consideration include:
 - Demolition of historic properties or demolition activities in a historic district.
 - Locating a DMS on undeveloped land that may contain archeological resources.
- Archeological Resources Protection Act.
 - Governs the excavation of archaeological sites on federal and Indian lands in the United States, and the removal and disposition of archaeological collections from those sites.
- Magnuson-Stevens Fishery Conservation and Management Act.
 - Primary law governing marine fisheries management in U.S. federal waters.
 - Fosters long-term biological and economic sustainability of our nation's marine fisheries out to 200 nautical miles from shore.

References

Public Assistance Program and Policy Guide, FP 104-009-2, Appendix A.



Visual 3.71

Environmental and Historic Preservation (Cont'd)

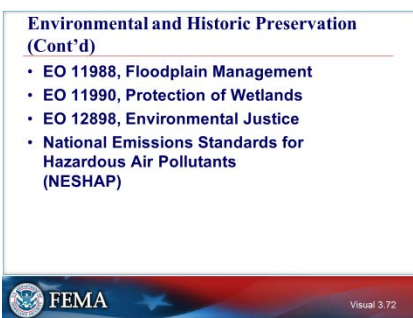
- Coastal Zone Management Act.
 - If a proposed project is located in an area covered by a State's coastal zone management plan, the Coastal Zone Management Act requires that Federal agencies determine the consistency of the proposed project with the requirements of that plan before approving funding.
 - Examples of debris-related activities where Coastal Zone Management Act requirements are a

consideration include any activities completed in areas covered by a State's coastal zone management plan.

- Fish and Wildlife Coordination Act.
 - If a proposed project will affect water resources, the Fish and Wildlife Coordination Act requires an evaluation of the impact on fish and wildlife, which may include consultation with USFWS and other agencies.
 - Examples of debris-related activities where Fish and Wildlife Coordination Act requirements may be a consideration include debris removal from natural streams and rivers.
- Wild and Scenic Rivers Act.
 - Federal agencies must review proposed projects for compliance with the Wild and Scenic Rivers Act if they are located on or above a reach of a river designated as wild and scenic.
 - Examples of debris-related activities where Wild and Scenic Rivers Act requirements are a consideration include any activities completed on or above the reach of a river designated as wild and scenic.

References

Public Assistance Program and Policy Guide, FP 104-009-2, Appendix A.



Visual 3.72

Environmental and Historic Preservation (Cont'd)

- EO 11988, Floodplain Management, and EO 11990, Protection of Wetlands: EO 11988 and EO 11990 require Federal agencies to minimize or avoid activities that adversely affect floodplains and wetlands.
 - The regulations FEMA follows are outlined in 44 CFR Part 9, which describe a specific, 8-step process for conducting floodplain management and wetland reviews before approving funding for a project.
 - The review process is not required for most projects where eligible damage is less than \$5,000 and the review process is not required for emergency work projects (Categories of Work A

and B), with the exception of projects that will significantly impact a floodplain or wetland.

- Debris-related activities where EO 11988 and EO 11990 requirements are a consideration include disposal of debris in Special Flood Hazard Areas (SFHAs) or wetlands.
- Debris Technical Specialist responsibilities when preparing a PW include identifying the location of debris-related activities on a FIRM and creation of a FIRMette.
- EO 12898, Environmental Justice: EO 12898 requires Federal agencies to evaluate actions for disproportionately high or adverse effects on minority or low-income populations and to find ways to avoid or minimize these impacts, where possible.
 - Examples of where EO 12898 requirements may be a consideration include prioritization of debris clearance and collection, establishment of debris hauling routes, selecting DMS locations, and demolition of private structures.
 - Sources of information on minority or low-income areas could include the FEMA Planning Section, the State, and applicants.
- National Emissions Standards for Hazardous Air Pollutants (NESHAP)

References

- *Public Assistance Program and Policy Guide*, FP 104-009-2, Appendix A.
- *PW Development Guide*, Appendix G.
- <http://www.msc.fema.gov> (FIRMette Tutorial).

Other Federal Authorities

- Additional examples of Federal Agencies and their respective Authorities that must be considered and adhered to include:
 - Federal Highways Administration (FHWA).
 - Debris removal on FHWA roads classified above a certain category is often times not reimbursable under the PA program. FHWA has an



Visual 3.73

Emergency Relief Program that pays for similar damage and at a higher federal cost share than the PA Program.

- Environmental Protection Agency (EPA).
 - Independent federal agency that sets and enforces rules and standards that protect the environment and control pollution.
- United States Department of Agriculture (USDA).
 - Manages various programs related to food, agriculture, natural resources, rural development and nutrition.
- United State Army Corps of Engineers (USACE)-debris removal in USACE waterways is often times not reimbursable under the PA program. The USACE is responsible for the Debris Removal of many constructed and maintained water facilities.
- National Oceanic and Atmospheric Agency (NOAA).
 - There is established, within the National Oceanic and Atmospheric Administration, a Marine Debris Program to identify, determine sources of, assess, prevent, reduce, and remove marine debris and address the adverse impacts of marine debris on the economy of the United States, the marine environment, and navigation safety.
- National Resource Conservation Service (NRCS)
 - Administers the Emergency Watershed Protection Program (EWP).
 - Established by Congress to respond to emergencies created by natural disasters.
- The EWP Program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences.



Visual 3.74



Activity 3.2: Special Considerations Scenarios

Purpose of Activity

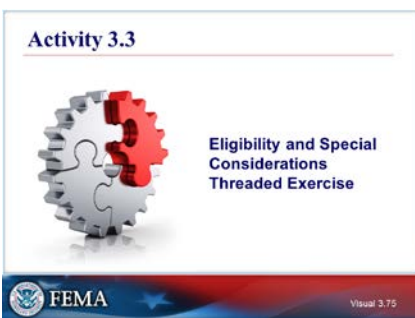
To provide you the opportunity to identify and initiate resolution of Special Considerations issues.

Group Activity Setting

- You will complete this activity in groups but will also enter answers in your individual Activities Manual.
- The scenarios will be reviewed by the class as a whole.

Overview of Activity

- You will have 20 minutes to review the scenarios and answer the questions.
- Use all resources, including the Student Manual and *Public Assistance Program and Policy Guide (PA Guide)*.



Visual 3.75



Activity 3.3: Eligibility and Special Considerations Threaded Exercise

Purpose of Activity

This activity provides you the opportunity to respond to a specific set of questions, which will assist you in addressing eligibility and special considerations in your own jurisdiction.

Group Activity Setting

You will complete this activity individually, followed by a

class discussion.

Overview of Activity

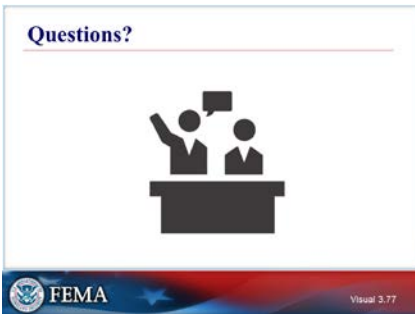
- You will have 10 minutes to answer the questions.
- Following individual work, there will be a class discussion asking you to share your answers.



Visual 3.76

Review of Objectives

- Locate eligibility resources.
- Accurately and consistently evaluate eligibility of debris-related activities.
- Explain why Special Considerations issues must be considered for debris-related activities.
- Identify and initiate resolution of Special Considerations issues.



Visual 3.77

Questions?

ACTIVITY 3.1

DISCUSSION QUESTIONS AND SCENARIO REVIEWS

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Activity Instructions

- Use the course reference materials to complete the discussion questions and short scenarios regarding the course content covered in Unit 3, Debris Eligibility and Special Considerations
- Work in groups to complete the activity; however, each participant is responsible for documenting their work on the activity in their Student Manual
- Groups should be careful to budget their time appropriately so that they have time to answer all of the questions
- Document any assumptions made regarding the situations presented in the questions
- Document the page numbers of any reference materials used to complete the activity
- Each group should be prepared to share their answers with the class
- The instructors will monitor the work of participants and answer questions, as needed
- After participants have completed the activity, the instructor will review it with the class

Discussion Questions

1. FEMA considers any additional damage caused by applicants during debris removal activities to be negligence, such as damage to a fire hydrant. Therefore, any work to repair such damage is ineligible.

2. List the three criteria that all hazardous trees must meet in order to be eligible for removal.

3. What are some of the key considerations associated with debris removal from public roads and rights-of way?
 - a. Disaster-related debris located on public roads and rights-of-way is generally eligible for removal
 - b. Disaster debris placed on public rights-of-way by residents is eligible, provided the duration and extent of debris removal is closely managed by the applicant
 - c. Eligible debris must be separated from garbage and other ineligible debris
 - d. Removal of reconstruction debris is ineligible as Category A – Debris Removal work
 - e. All of the above
 - f. None of the above

4. A hazardous limb must be greater than _____ diameter at the point of breakage in order to be eligible.

5. What are two key pieces of information that help establish the eligibility of work to restore the carrying capacity of a water control facility?

6. FEMA requires which of the following automatic reductions in recorded debris quantities for trucks and trailers that haul debris?
- i. 15 percent reduction in recorded volume for missing or damaged sideboards
 - ii. 15 percent reduction in recorded volume for a missing or nonstructural tailgate
 - iii. 50 percent reduction in recorded volume for hand-loaded trucks and trailers
 - iv. 30 percent reduction in recorded weight for loads that appear to have excessive water added to them
- a. i and ii
 - b. i and iv
 - c. ii and iii
 - d. iii and iv
 - e. All of the reductions are required
7. Environmental monitoring and project management work are two examples of potentially eligible debris-related activities.
- a. TRUE
 - b. FALSE
8. Which of the following statements regarding debris monitoring are true?
- i. The skill set of a registered professional engineer is not required for general debris monitoring duties at debris collection locations
 - ii. FEMA may provide training to applicant debris monitors at 100 percent Federal cost share
 - iii. Applicants may use force account or contracted resources to accomplish debris monitoring
 - iv. Eligible debris monitoring activities must be distinguished from eligible project management and grant administration activities
 - v. Specific applicant debris monitoring activities may vary, depending on the method the applicant uses to complete the debris removal activities being monitored
- a. i, ii, and iii
 - b. i, ii, and v
 - c. ii, iii, and iv
 - d. All of the statements are true
 - e. None of the statements are true

9. Fill in the blanks for the following three statements regarding cost eligibility:
- a. All costs must be _____ and necessary to be eligible
 - b. For contract costs to be eligible, applicants must comply with all applicable Federal, State, and local _____ standards
 - c. _____ of benefits must be avoided
10. List three variables which can affect the cost of debris removal operations.

11. The eligibility of labor costs associated with debris removal work completed under a mutual aid agreement is treated exactly the same as labor costs associated with force account work.
- a. TRUE
 - b. FALSE
12. One of the methods which FEMA may use to establish cost reasonableness involves the set of engineering and design services cost curves developed by FEMA; however, it is generally inappropriate to use those curves for debris-related projects.
- a. TRUE
 - b. FALSE

Scenario Reviews

For each of the short scenarios on the following pages, answer the four questions below:

1. What are the specific page numbers of the FEMA reference documents that are directly relevant to the scenario?
2. What are the eligibility issues associated with the scenario?
3. What additional information is needed to make an eligibility determination, if any?
4. Based on the limited information provided, what is your eligibility determination?

For all the scenarios, you may assume that a disaster has been declared for the County in which the facility is located, and that the applicants in question are eligible.

Scenario 1

A County (Applicant) states that due to prolonged saturation of soils and strong winds following a hurricane, many trees fell over, threatening to dam local streams. The Applicant's water plant (facility) flooded and had to cease operations for several days. The Applicant states that debris in numerous local streambeds raised the base flood elevation level of the outlying area, contributing to the flooding of the facility. Furthermore, the Applicant states the facility now floods repeatedly after the hurricane, making the debris more than a threat, but an actual cause of additional damage. The Applicant intends to request funding for debris removal from the streambeds that are impacting the facility.

Scenario 2

A County (Applicant) has over 150 miles of recreational trails which are designated and advertised as “horse trails.” Following high winds associated with a hurricane, the trails became impassible by horse traffic due to downed trees, leaners, and hangers. The Applicant provided documentation on historical maintenance of the trails. The historical records indicate regular clearance of the pathway to allow for two horses to be able to pass one another, but only to the extent of “cut and toss,” which means the Applicant did not haul debris removed from the path out of the area, but rather deposited the debris in the immediate unimproved surroundings. The Applicant intends to request funding for removal of the debris from the trails and disposal of it in a landfill.

Scenario 3

A County (Applicant) conducted debris removal operations using force account labor in several housing developments after a flood. Specifically, the Applicant placed large (40 CY) bins throughout the impacted developments and instructed residents to place their disaster-related debris in the bins within a four week time period. At the end of the time period, the Applicant removed the bins and disposed of the debris in a permitted landfill owned by the Applicant.

Additionally, the Applicant offered a program to residents where they could be reimbursed up to

\$250 dollars for removal of debris from their property, if they submitted receipts for tipping fees at the Applicant's landfill that were dated within the same four week period. The Applicant intends to request funding for: 1) the work to place and remove the bins; 2) the tipping fees to dispose of the debris from the bins in the Applicant's landfill; and 3) the cost to implement the debris removal reimbursement program.

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ACTIVITY 3.2

ENVIRONMENTAL AND HISTORIC PRESERVATION SCENARIO REVIEW

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Activity Instructions

- Use the course reference materials to complete the matching activity and scenario discussion questions
- Work in groups to complete the activity; however, each participant is responsible for documenting their work on the activity in their Student Manual
- Groups should be careful to budget their time appropriately so that they have time to complete both the matching and question sections of the activity
- Each group should be prepared to share their answers with the class
- The instructors will monitor the work of participants and answer questions, as needed
- After participants have completed the activity, the instructor will review it with the class. For each scenario respond to the question regarding Special Considerations issue identification and resolution. When responding, only address “Special Considerations” issues
- Due to the time requirement, the scenario’s may be assigned by group, in lieu of each group completing all scenarios

Part I: Matching Activity

- You have 15 minutes to complete this section of activity 3.2 You may work in your group to discuss the issues and use all available reference materials (*Public Assistance Program & Policy Guide*), but each participant must complete his/her own answer sheet. Each group must be prepared to discuss its responses with the class upon completion.
- Match the following Federal Laws with their Objectives and its designated letter (A, B, C, etc.) from the next page. Where requested, provide a document reference and page number, which supports your choice.

Federal Law	Objective/Purpose
Clean Air Act	
Clean Water Act	
Floodplains & Wetlands (E.O. 11988 & 11990)	
Resource Conservation & Recovery Act	
Endangered Species Act	
Environmental Justice (E.O. 12898)	
National Environmental Policy Act	
Coastal Barriers Resources Act	
National Historic Preservation Act	

Objectives

<p>A. Requires that Federal agencies are fully informed about the environmental consequences of their decision to fund or conduct an action; and mandates that the public be informed of the decision</p>	<p>B. Requires safe disposal of waste (especially hazardous materials) and promotes recycling</p>	<p>C. Ensures that Federal agencies consider the effects that their actions may have on threatened and endangered species</p>
<p>D. Restrict Federal assistance that encourages development so that damage to property, fish, wildlife, and other natural resources associated with coastal barrier islands is minimized</p>	<p>E. Required Federal agencies to preserve or restore natural benefits of floodplains/wetlands</p>	<p>F. Requires that Federal agencies take into account the effects a project will have on historic resources</p>
<p>G. Requires protection and enhancement of the Nation's air resources</p>	<p>H. Requires Federal agencies to evaluate actions for disproportionately high and adverse effects on minority or low-income populations</p>	<p>I. Regulates the discharge of pollutants to nations, rivers, lakes, estuaries and coastal waters, and dredging and filling in wetlands and waters of the United States</p>

Part II: Scenarios Activity

- You have 40 minutes to complete an assessment of the three given scenarios. Refer to the table from the first part of the exercise and describe how any debris-related activities associated with each scenario would or would not potentially require compliance with Federal environmental and historic preservation laws. If a need for compliance is unlikely, the reason should be stated.
- Note that you may not have enough information to determine definitively whether there is an issue or not. The purpose of this activity is to identify the **potential** for issues based upon the level of information given.
- You may work in your groups to complete the activity, but each participant must complete his/her own Matrix. There is no requirement to record your responses on the chart paper.

Answer the question below for each scenario:

Based on the information provided identify the “Special Considerations” that would be required for the project?

Participant Activity Scenario

A tornado has caused extensive damage to your community, an eligible applicant. A Federal disaster declaration has been approved for all categories of work. You are the Debris Manager for the County. Contracts are underway for collection and hauling to the Debris management site. Debris Monitoring contract has been activated and in place.

Scenario I

The tornado destroyed several buildings and damaged dozens more along a developed coastal area in the County. Many of the structures in the area are more than 75 years old. Debris from the damaged and destroyed structures was strewn across public and private property in the area. The structures owned by the County in the area included a 20-year old structure used as a warehouse and a 30-year old office building, both of which were totally destroyed. For safety and public health reasons, the County began removing debris from public property and public rights-of-way in the area, including from the sites of the warehouse and office building. The debris is being hauled to a temporary DMS near the County's sewage treatment plant. The County plans to incinerate the debris to reduce its volume.

Scenario II

Old abandoned paint factory: The warehouse roof was partially torn off by the tornado. The tornado also left extensive vegetative debris around the building and throughout the site. Sporadic fires of unknown origin on the site have occurred. The community has decided to remove the debris from the site to minimize the potential for future fires. The debris will be temporarily stored in a nearby city park in a low-income neighborhood.

Scenario III

County Administration Building: Your county's Administration Building, currently nominated for listing on the National Historic Register, was damaged by the tornado. The County can provide a structural analysis from its Structural Engineering Consultant indicating that the structure is not repairable. Demolition will be underway shortly.

ACTIVITY 3.3
ELIGIBILITY AND SPECIAL
CONSIDERATIONS THREADED
EXERCISE

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For your own jurisdiction or community, respond to the following questions:

1. What departments within your agency are responsible for:
 - a. Debris removal?
 - b. Solid Waste disposal?
 - c. Demolition?
 - d. Public Information?

2. What staff positions within your agency or department could be designated to coordinate State and Federal assistance for debris management activities?

3. What resources (trained force account labor, equipment, etc.) does your State/Local government need to perform these functions?

4. Who within your State/Local government is responsible for the legal review of debris management activities to ensure that they comply with laws, policies, ordinances, etc.?

5. Name at least three of your facilities that may have significant environmental or historical issues if damaged by a disaster.

6. What department or agency do you need to coordinate with regarding the following issues:
 - a. Environmental
 - b. Historical
 - c. Archeological
 - d. Sacred Sites

7. What departments within your State/local government would be responsible for acquiring the environmental regulatory/operations permits for collection, temporary storage, sorting, recycling and disposal of debris?

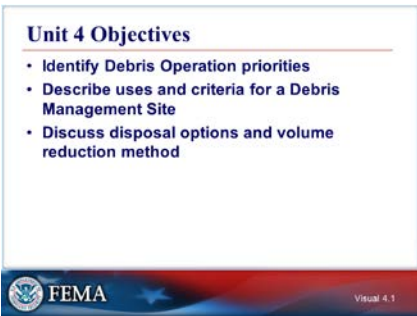
8. What departments within your agency would be responsible for permitting burning or incineration operations?

UNIT 4: OPERATIONS AND IMPLEMENTATION

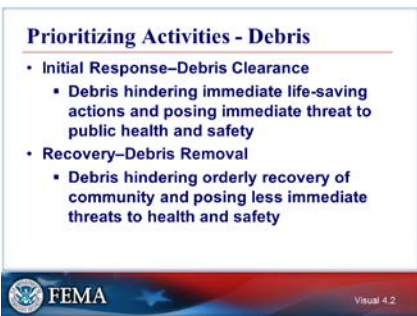
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Visual 4.0



Visual 4.1



Unit 4: Operations and Implementation

- This unit focuses on the operational strategies for debris removal, roles and responsibilities of personnel involved, and damage assessment.
- The Unit will present debris estimating techniques and rules of thumb, debris management site needs and issues, private property debris removal strategies and issues.

IMAGE INFO

Newark, N.J., Nov. 6, 2012 -- One of [FEMA's Mobile Operations Units](http://www.fema.gov/media-library/assets/images/66201) is being utilized to supplement operations within the Regional Office Intelligence Center. FEMA is working closely with state and local governments to speed the recovery process from Hurricane Sandy. Photo by Sharon Karr/FEMA - Location: Newark, NJ. Link available at: <http://www.fema.gov/media-library/assets/images/66201>

Unit 4 Objectives

- Identify Debris Operation priorities.
- Describe uses and criteria for a Debris Management Site.
- Discuss disposal options and volume reduction method.

Overall Operational Strategy

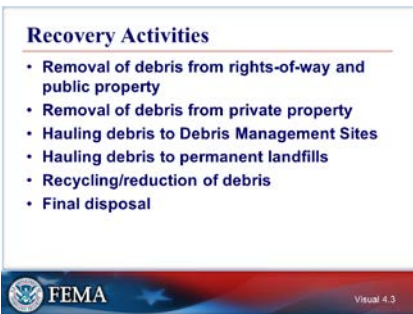
Prioritizing Activities – Debris

- The primary activity performed in the Initial Response includes clearance of debris from roadways to the shoulders or curbs to allow:
 - Movement of emergency vehicles: fire trucks, ambulances.
 - Better movement of law enforcement agencies into the affected areas.

Visual 4.2

- Resumption of critical services: power, water, telephone.
- Damage assessment of critical public facilities and utilities in order to begin emergency repairs.
- To effectively respond to a debris-generating event, it is important to prioritize the activities to be performed.
- Debris-related activities in response to a disaster event are generally described as Initial Response and Recovery.
- The Initial Response activities are performed in the early days of the event and are limited to clearance of debris that hinders immediate life-saving actions and poses an immediate threat to public health and safety.
- The Recovery activities include removing and disposing of debris that hinders the orderly recovery of the jurisdiction and poses less immediate threats to health and safety.

The level of effort to complete these activities will differ due to the varying scope of the activities, timeframes, and available staff.



Visual 4.3

Recovery Activities

- During the recovery phase of the disaster, there should be a systematic method based on clearly defined criteria as to scheduling debris removal routes.
 - For example, population density, location of critical facilities, and environmental justice issues need to be considered when prioritizing which areas will be cleared first (schools vs. nursing communities vs. affluent neighborhoods, etc.).
- Other factors such as air quality, noise, traffic patterns and environmental impacts should also factor into the collection method.
- Recovery activities have expanded to include the general removal of debris which poses an immediate threat to public health and safety.

- Removal of debris from rights-of-way and public property.
- Hauling debris to Debris Management Sites.
- Hauling to permanent landfills.
- Removal of debris from private property, if that is being done. (Note that for Presidentially declared disasters, FEMA has very specific guidelines to be followed relative to removal of debris from private property. These criteria will be discussed in later units.)
- Recycling/reduction activities.
- Final disposal.



Visual 4.4

Prioritizing Recovery Activities

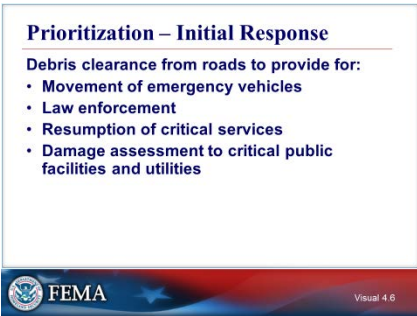
- Additional actions to be considered during Recovery activities:
 - Coordinate with local law enforcement officials. They need to know your plans and where you are working. Conversely, they may have requirements for your consideration.
 - Coordinate with appropriate State/Tribal/Territorial and Federal officials. This becomes very important if there is a Presidential declaration.
 - Conduct daily update briefings to ensure information is correct and timely.
 - Implement a good curbside debris separation program—it will save time.
- Implement traffic control procedures. If there is a significant amount of debris, moving truckloads of debris through the rest of the response and recovery traffic, residents, and normal traffic can become a large logistics issue.



Visual 4.5

Prioritizing Initial Response Activities

- Priorities for clearance should be established to address the most critical situations first.
 - First Priority Clearance should include critical facilities that are pre-identified and prioritized based on potential disruption of life-saving services.
 - Second Priority Clearance is usually based on the need to restore critical community and health and safety services.
- Priorities may vary considerably between communities.



Visual 4.6

Prioritization – Initial Response

The primary activity performed in the Initial Response includes clearance of debris from roadways to the shoulders or curbs to allow:

- Movement of emergency vehicles: fire trucks, ambulances.
- Better movement of law enforcement agencies into the affected areas.
- Resumption of critical services: power, water, telephone.
- Damage assessment of critical public facilities and utilities in order to begin emergency repairs.



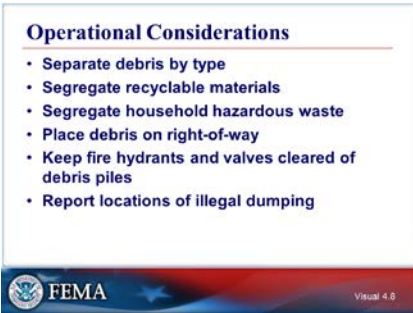
Visual 4.7

Resources Needs

The capacity to respond to a debris generating event includes a thorough review of:

- Internal resources.
- Personnel.
- Equipment.

Training levels or understanding of the operational process.



Visual 4.8

Operational Considerations

- Debris activities will go much faster and smoother if the general public is involved.
- Some of the things that might be considered:
 - Separate the debris into major types: vegetative, construction materials, white goods, etc.
 - Segregate recyclable materials, if recycling is part of your plan.
 - Segregate HHW. This is particularly important because if it is not done here and picked-up separately, it will delay activities at the Debris Management Site.
 - Make sure the debris is placed on the right-of-way for easy pickup.
 - Don't pile debris on fire hydrants or over valves. They can be damaged during pick-up.
 - Report illegal dumping. This often becomes a very big issue—just when an area has been cleared, someone dumps construction rubble or hazardous material.



Visual 4.9

Debris Operations Considerations

- Any regulatory compliance requirements must be considered in preparing the Plan as these requirements may have significant impact on the process or procedures for the activities.
- The following issues need to be considered in developing the details of the plan:
 - How do you ensure compliance with environmental and historic preservation laws and regulations?
 - Local, State, and Federal levels must be considered.

- What is the process for coordinating with regulatory agencies?
- What waiver procedures will be allowed?
- What are the local ordinances on the use of truck tarps or covers and tailgates, traffic control, truck routes, establishing priority of truck movement, curfews, and load limits?

IMAGE INFO

Port Arthur, Texas, September 19, 2008 -- [Members of the US Coast Guard](#) pass out MREs (Meals Ready to Eat) to hurricane Ike victims at a FEMA Distribution Center. Photo by: Liz Roll/FEMA - Location: Port Arthur, TX. Link available at: <http://www.fema.gov/media-library/assets/images/54274>

Roles and Responsibilities

Debris Management Stakeholders

- Effective management of disaster debris requires effective and efficient collaboration between the various stakeholders, including:
 - FEMA.
 - Other Federal agencies.
 - States/Tribes/Territories.
 - Local jurisdictions (applicants).
- FEMA personnel involved in debris operations play a critical role in facilitating effective and efficient collaboration among stakeholders.
- Make the point that ultimately, the general public and private businesses are also stakeholders.

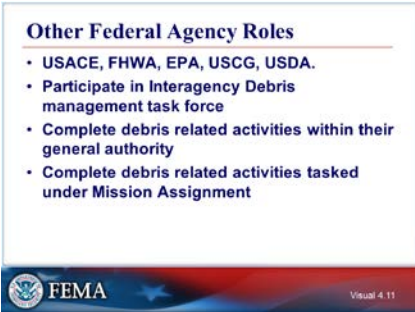
IMAGE INFO

[State Administrative Agency \(SAA\) representatives](#), representing 37 states, four territories and the District of Columbia attended the National State Administrative Agency Training Symposium at the CDP recently. A total of 140-plus SAAs and other representatives took part in the symposium which was organized by the National Domestic Preparedness Consortium



Visual 4.10

(NDPC). The NDPC provides specialized training to the nation's response force. The NSAA symposium highlighted collaboration, enhanced training opportunities and priorities to ensure the nation's level of preparedness continues to improve. Link available at: <http://www.fema.gov/media-library/assets/images/100890>



Visual 4.11

Other Federal Agency Roles

- Examples of other Federal agencies and departments that may be involved in debris-related activities include:
 - United States Army Corps of Engineers (USACE).
 - Federal Highway Administration (FHWA).
 - EPA.
 - USCG.
 - United States Department of Agriculture (USDA).
- The role of other Federal agencies in debris management includes:
 - Participation in the Interagency Debris Management Task Force, as appropriate.
 - Completing the debris-related activities that fall within their general statutory and regulatory authorities.
 - Completing the debris-related activities they are tasked with under Mission Assignments issued by FEMA.
- Programs offered through other Federal agencies may have specific eligibility requirements that must be met before work is initiated by an applicant.
- Debris Technical Specialists must clearly communicate that point to applicants in a timely manner, as some agencies may require approval before the applicant starts work, in order for assistance to be provided.



Visual 4.12

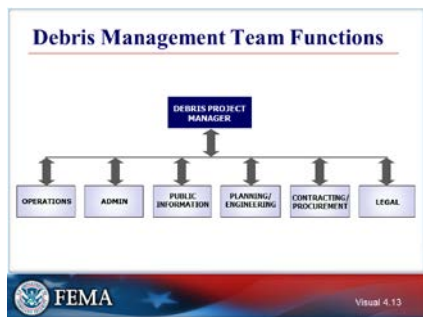
- Debris Technical Specialists play an important role in the coordination with other Federal agencies on debris-related activities.

Debris Management Team

- To implement debris operations quickly, it is important for the debris management team to have a clear understanding of their roles and responsibilities, before, during, and after a disaster.
- The Local government's debris management team should be comprised of full-time personnel and may be supplemented with personnel from other staffs and agencies.
- The planning process should include a review of individual departmental functions and responsibilities for implementing debris operations.
- Successful debris operations require collaborative efforts between departments within the Local government and with specific external agencies that have regulatory authority over debris operations.
- Prior to, during, and after a disaster, it is essential that the debris management team interfaces with other agencies involved with debris clearance, removal, and disposal activities.

IMAGE INFO

Fire Island, N.Y., Nov. 26, 2012 -- [A Preliminary Damage Assessment team](http://www.fema.gov/media-library/assets/images/67555) comprised of state, local and federal officials, including experts from FEMA, New York State Office of Emergency Management (NYSOEM), Suffolk County Office of Emergency Management (SCOEM), the United States Army Corp of Engineers, The National Park Service and local Fire Island officials gather to assess a plan for debris removal. FEMA is working with state and local officials to assist residents who were affected by Hurricane Sandy. Chris Ragazzo/FEMA - Location: Fire Island, NY. Link available at: <http://www.fema.gov/media-library/assets/images/67555>



Visual 4.13

Debris Management Team Functions

- To facilitate debris removal, the Local government should develop an organization that is aligned with the various functions associated with debris removal operations.
- It is critical for the Local government to have a clearly identified primary decision maker such as a Debris Project Manager to coordinate debris activities and serve as the single point of contact for all of the functions.
- The Local government should also identify secondary and tertiary back-ups in case the primary designated individuals cannot carry out the assigned functions after a disaster occurs.

Roles and Responsibilities

- Debris Manager.
 - Facilitates successful coordination before, during, and following a disaster event
 - Includes personnel within the jurisdiction and representatives from external entities

Visual 4.14

Roles and Responsibilities

The Debris Manager may be from the public works, engineering, sanitation, emergency preparedness departments.

- Primary decision maker.
- Assigns tasks to team members and tracks the completion of tasks.
- Coordinates functions between departments and external agencies.
- Knowledgeable of the Local governments processes, procedures, personnel, resources, and limitation.

Roles and Responsibilities (Cont'd)

- Operations
 - Responsible for implementing debris removal operation and overall project supervision

Visual 4.15

Roles and Responsibilities (cont'd)

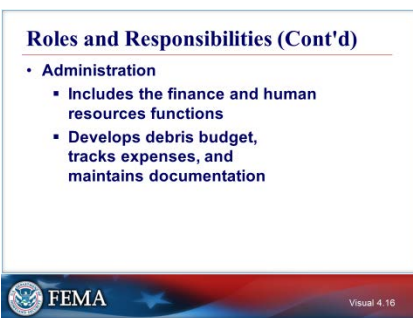
Operations personnel have responsibility for debris collection activities, including:

- Positioning equipment and resources for the response and recovery debris removal operations.
- Developing staff schedules and plans.
- Providing communication, facilities, services, equipment and materials to support the debris activities.

- Monitoring and directing force account and contract labor.
- Operating and managing the collection and debris management site.
- Creating a demolition process for structures.
- Coordinating with other Local and State governments for road clearance and operations.
- Reporting progress of debris activities to the debris project manager.

IMAGE INFO

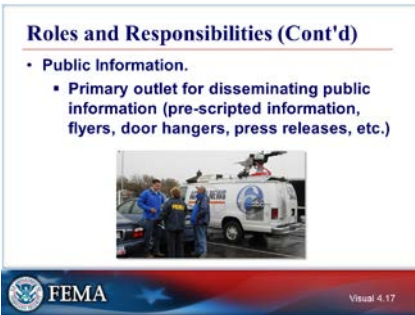
Allentown, Pa., Nov. 2, 2012 -- Pennsylvania [Emergency Management Agency Project Specialist](#) Diane Nestler, Allentown Deputy Fire Chief Robert Kudlack, Jr., Lehigh County Hazardous Materials Specialist Roger Conrad and FEMA Grants Management Specialist Maura Hannigan discuss plans to assess sites requiring preliminary damage assessments in the wake of Hurricane Sandy. Local emergency managers played a critical role in identifying disaster-affected areas. - Location: Allentown, PA. Link available at: <http://www.fema.gov/media-library/assets/images/66199>



Visual 4.16

Roles and Responsibilities (cont'd)

- The primary roles of the Administration function are to develop a response and recovery budget, track expenses, and ensure that funds are available for personnel, equipment, supplies, and contract services. This function is also responsible for staffing of the debris operations.
- Finance personnel should also maintain complete documentation as a part of standard accounting/business practices.
- Public Information personnel are responsible for ensuring that important debris removal information is distributed to the public in a timely and effective manner.



Visual 4.17

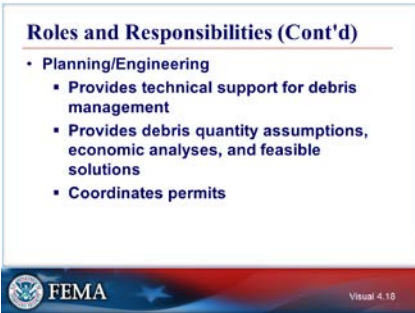
Roles and Responsibilities (cont'd)

- *The Public Information Officer (PIO) is responsible for providing information and guidance to the public regarding debris management activities.*
 - *Most Local or regional governments will have a designated PIO.*
 - *The PIO should be in communication with emergency management officials and communicate essential information to the media to keep the public informed.*
- *Local governments should have one centralized public information center for debris removal information.*
 - *When there is more than one spokesperson, the potential for misinformation is greatly increased.*
- *The PIO's duties include:*
 - *Development of informational bulletins.*
 - *Hotline responses.*
 - *Radio and television announcements.*
 - *Handbills and door hangers.*
 - *Newspaper notices.*
 - *Provides information and guidance to the public regarding debris management activities.*
 - *Maintains contact with emergency management officials, elected officials, State and Local public information officers, media outlets.*
 - *Develops informational materials (flyers, press releases, etc.).*

IMAGE INFO

Bristol Townplace, Pa., Nov. 7, 2012 -- [FEMA Public Information Officer](#) (PIO) Rene Bafalis, speaks with Philadelphia Channel 6 WPVI-TV (ABC) representative Walter Perez after the local Public Assistance Preliminary Damage Assessment (PDA) meeting. PDA's are a required component of the state's request for Hurricane Sandy federal disaster assistance and FEMA PIO's make sure accurate information is

available to the public. George Armstrong/FEMA - Location: Bristol Townplace, PA. Link available at: <http://www.fema.gov/media-library/assets/images/66476>



Visual 4.18

Roles and Responsibilities (cont'd)

- The Planning staff are responsible for:
 - Forecasting debris quantities based on specific disaster scenarios.
 - Developing an estimating strategy for post-disaster debris quantities.
 - Mapping debris haul routes.
 - Selecting debris management sites.
 - Identifying and coordinating environmental issues.
 - Accessing available landfill space and determining if additional space is needed.
 - Issuing permits and obtaining permits from external agencies.
- The Engineering staff are responsible for:
 - Designing the debris management site.
 - Determining reduction and recycling methods.
 - Developing the debris collection strategy.
 - Writing the contract scope-of-work, conditions, and specifications.
 - Coordinating with other Local and State governments for road clearance and operations.
 - Develop a demolition procedure (public and private properties).



Visual 4.19

Roles and Responsibilities (cont'd)

- Contract and Procurement personnel are responsible for the following tasks:
 - Develop contract requirements.
 - Establish contractor qualifications.
 - Distribute instruction to bidders.
 - Advertise bids.
 - Establish a pre-disaster list of pre-qualified contractors.
 - Oversee that the work is being performed in compliance within the scope-of- work of the contract.
 - Establish a post-disaster contracting procedure, if necessary.

IMAGE INFO

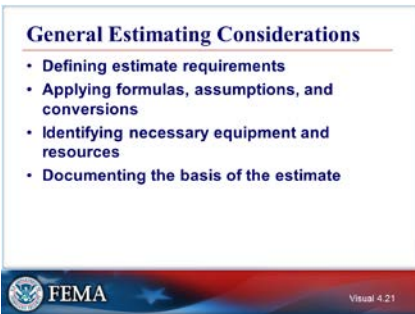
March Air Force Base, Calif., November 20, 2007 -- Edward Coulter, left, [a FEMA worker](#), and Anthony Johnson, a FEMA Individual Assistance liaison, discuss inspecting the first mobile home slated for use in the aftermath of the devastating wild fires. The kitchen cabinets were tied shut for transport to the base. Amanda Bicknell/FEMA - Location: March Air Force Base, CA. Link available at: <http://www.fema.gov/media-library/assets/images/52108>

- Legal personnel are responsible for tasks such as:
 - Reviewing debris removal contracts and land lease agreements.
 - Evaluating building condemnation processes.
 - Reviewing legal processes for private property demolition and debris removal.
 - Providing guidance on Right-of-Entry and hold harmless agreements.

Damage Assessment



Visual 4.20



Visual 4.21

Damage Assessment

There are various estimating methods available.

IMAGE INFO

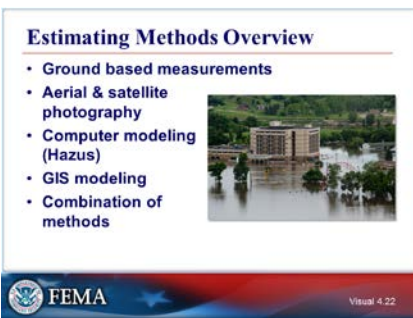
Seaside Heights, N.J., Jan. 16, 2013 -- [As piles of debris accumulate](http://www.fema.gov/media-library/assets/images/69045), it is sorted into piles for classification, which then designates the debris into different categories for removal. FEMA funds debris removal under Public Assistance Category A debris removal for recovery measures. Adam DuBrowa/ FEMA - Location: Seaside Heights, NJ. Link available at: <http://www.fema.gov/media-library/assets/images/69045>

General Estimating Considerations

- The accuracy and precision requirements for the debris estimate should be clearly defined, in order to achieve the desired results.
 - A key consideration in defining estimate requirements is how the estimate will be used, e.g., if a debris estimate is only used for a PDA, the level of accuracy and precision required may be less than that required if a debris estimate is used to develop a PW.
 - Defining the debris estimate requirements should take into account the balance between available resources (personnel and equipment), required schedule, and required quality.
- The formulas, assumptions, and conversions used for debris estimating must be applicable to the circumstances of the disaster and be consistently applied.
- Equipment and resources needed for the debris estimates must be identified and obtained.
 - The equipment and resources required will depend on the type of estimating method used.
 - Examples of possible equipment include cameras, measuring tapes, and GPS units.
 - Examples of possible resources include the personnel required to develop the estimates,

Geographic Information System (GIS) data, aerial photos, and debris modeling information.

- The basis of the estimate should be documented, including the methodology and equipment used, as well as formulas, assumptions, and conversions.
 - Adequate documentation supports PW development, and will also help FEMA managers better understand the estimates when they use them as a basis for making decisions.



Visual 4.22

Estimating Methods Overview

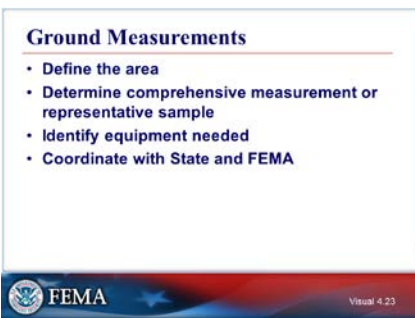
There are multiple methods that can be used to develop debris estimates.

- Selection of the appropriate debris estimating method will be driven primarily by the accuracy, precision, and schedule requirements of the estimate, and by the availability of resources such as personnel and equipment.
- Ground measurements of debris can be taken to develop estimates, using approaches ranging from quick visual observation to detailed information gathering using measuring tapes and GPS units.
- Aerial and satellite photographs of areas taken both before and after the disaster event may be used to estimate debris quantities and types, based on the structures, features, and debris observed in the photos.
- Computer models, including those developed by USACE and FEMA.
- Other methods of estimating debris could also be used to meet the needs of specific situations, such as the use of side scan sonar to determine the presence of debris located underwater.
- A combination of different estimating methods may be used, if necessary, to meet the requirements of the estimate.
- FEMA is developing tools to enhance the data collection and estimating process, including the use of hand-held electronic devices to gather data in the field and debris estimating software that can develop

statistically valid sampling plans and generate debris estimates, maps, and reports using collected data.

IMAGE INFO

Minot, N.D., June 25, 2011 -- [Businesses flooded](#) by the Souris River in the Oak Park neighborhood in Minot. FEMA and the Small Business Administration are providing disaster assistance to Ward and Burleigh counties. Andrea Booher/FEMA - Location: Minot, ND. Link available at: <http://www.fema.gov/media-library/assets/images/59671>



Visual 4.23

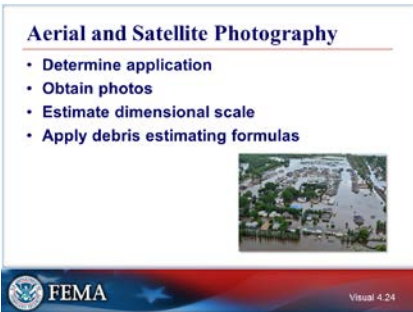
Ground Measurements

The basic steps and considerations when completing debris estimates using ground measurements include:

- Define the area to be covered by the debris estimate.
 - Divide the area as needed to differentiate between differences in debris types and amounts, which may be influenced by items such as differences in land use (e.g., rural versus urban) within the area.
 - Take into account how the applicant may have divided the area into sections, either for the purpose of developing their own debris estimate or for planning the execution of debris removal activities.
- Determine whether comprehensive debris measurements (e.g., street-by-street) or measurement of a representative sample is appropriate for the estimate requirements.
- Identify and obtain the personnel and equipment necessary to complete the estimate.
 - The number of personnel used will depend on the area to be covered, ease of access to the area, schedule to complete the estimate, and availability of personnel resources.
 - The equipment used for ground measurements commonly includes a digital camera, measuring tape or roll-off wheel, calculator, sketch pad and

note paper, maps, GPS unit, and equipment needed for logistics and safety (e.g., vehicle, cell phone, first aid kit).

- Engage the State and applicant in the ground measurement process.
 - The applicant is generally a source of information used for the estimate, such as locations of public property and rights-of-way, and planned debris removal activities.
 - Proactively engaging the State and applicant will also facilitate achieving earlier, consensus-based debris estimates.



Visual 4.24

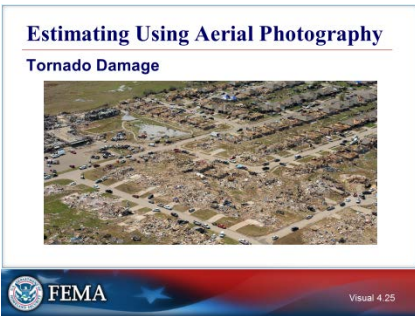
Aerial and Satellite Photography

- Applications where debris estimates based on aerial or satellite photography may be appropriate include:
 - Rough estimates that must be developed quickly, such as for a PDA.
 - Validation or extrapolation of debris estimating information obtained through ground measurements or computer models.
 - Debris estimates for areas that are difficult to access.
 - Situations where it is difficult to gain a good perspective on debris quantities from the ground, e.g., estimating the size of very large debris piles at DMS.
- Basic steps involved in using aerial or satellite photographs to develop estimates include:
 - Obtain aerial photos of all or a representative portion of the area of the estimate.
 - o Recent aerial photos from both before and after the disaster event may be useful.
 - o Sources of aerial photos could include the FEMA Planning Section, other Federal agencies (e.g., USACE), the State, applicants, and the press.

- To analyze an individual photo, select an object of reference with known dimensions (e.g., vehicles, garage doors) to establish a dimensional scale.
- Apply the dimensional scale to determine the size of objects in the photo, and apply the appropriate debris estimating formulas to estimate debris quantities.

IMAGE INFO

Minot, N.D., July 6, 2011 --[Aerial view of flooding](#) in Minot, North Dakota. Photo by: David Valdez/FEMA - Location: Minot, ND. Link available at: <http://www.fema.gov/media-library/assets/images/59883>



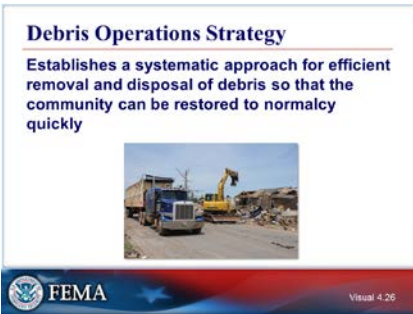
Visual 4.25

Estimating Using Aerial Photography

- Development of a debris estimate using the aerial photograph.
 1. Select a reference object in the photograph to establish a dimensional scale, such as one of the vehicles.
 2. Apply the dimensional scale to calculate the dimensions of one of the destroyed homes.
 3. Use the formula for a demolished single-family home to calculate the estimated debris quantity associated with the destroyed home, including the appropriate vegetative cover multiplier.
 4. A similar approach can be used for the other homes in the photograph.
- Note that this discussion assumes that demolition of the homes and removal of associated debris has been determined to be eligible.

IMAGE INFO

Moore, Okla., May 22, 2013 -- [Aerial views](#) of the damage caused by the tornado that touched down in the area on May 20, 2013. FEMA continues to assist disaster survivors and are encouraged to register for assistance. Jocelyn Augustino/FEMA - Location: Moore,



Visual 4.26

OK. Link available at: <http://www.fema.gov/media-library/assets/images/70611>

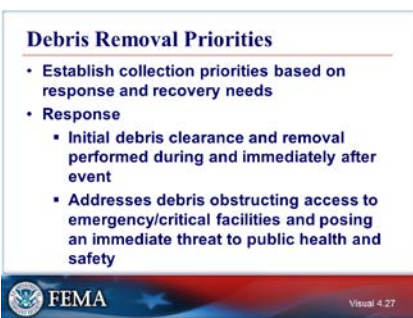
Response and Recovery Operations Strategies

Debris Operations Strategy

- The fundamental component of a disaster Debris Management Plan is the collection of debris.
- The public expects to have debris removed from their neighborhoods immediately after a disaster event.
 - The timely and orderly implementation of disaster debris collection will assure the public that recovery efforts are in progress and that the community will return to normalcy quickly.

IMAGE INFO

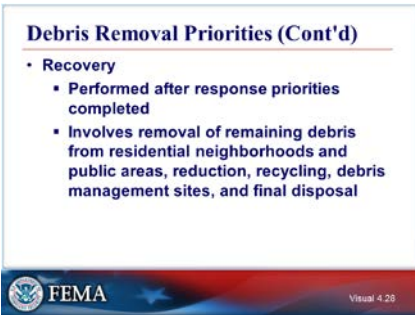
Moore, Okla., June 3, 2013 -- [Debris removal contractors](#) are clearing May 20 tornado debris near the site of Plaza Towers School. FEMA Public Assistance(PA) funds will reimburse the city a portion of debris removal costs under PA Category A. George Armstrong/FEMA - Location: Moore, OK. Link available at: <http://www.fema.gov/media-library/assets/images/71340>



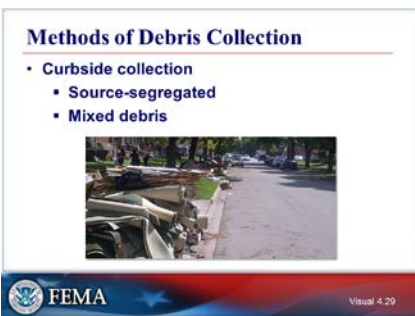
Visual 4.27

Debris Removal Priorities

The debris collection strategy should establish debris collection priorities based upon response and recovery needs. Typically, the response phase of debris collection efforts focus on clearing/removing debris that obstructs access to emergency/critical facilities and poses an immediate threat to the public health and safety.



Visual 4.28



Visual 4.29

Debris Removal Priorities (cont'd)

- During the recovery phase of the disaster, there should be a systematic method based on clearly defined criteria as to scheduling debris removal routes.
 - For example, population density, location of critical facilities, and environmental justice issues need to be considered when prioritizing which areas will be cleared first (schools vs. nursing communities vs. affluent neighborhoods, etc.).
- Other factors such as air quality, noise, traffic patterns and environmental impacts should also factor into the collection method.

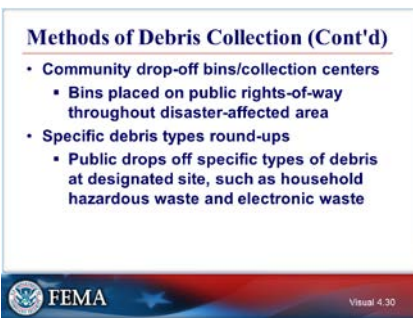
Methods of Debris Collection

- There are several methods that Local governments can use to collect disaster debris. Common collection methods used by Local governments include:
 - Curbside collection.
 - Drop-off bins.
 - Hazardous waste round-ups.
 - White goods pick-ups.
- Typically, curbside debris collection falls into two general categories:
 - Mixed Debris.
 - Residents place mixed debris at the curb for collection.
 - This method is the most convenient for the public, but is not conducive to recycling because debris materials are mixed and may not be easily separated to accommodate the recycling market specifications.
 - Additionally, in order to separate the types of debris, it is handled multiple times, which results in higher processing costs.

- The preferred method is for residents to separate the debris by type (vegetative, household hazardous waste, construction & demolition, etc.) and place them in separate piles for collection.
- Recycling Source Segregated Debris.
 - Residents place debris at the curb in separate piles by material type.
 - Local government or contract crews collect debris in trucks designated for a particular debris type and deliver the debris directly to recycling facilities.
- Recycling Mixed Debris.
 - Residents place mixed recyclable debris at the curb for collection.
 - The recyclables are taken to a debris management site or a recycling facility to be sorted.

IMAGE INFO

Dearborn, Mich., August 27, 2014 -- [Destroyed household items](#) and ruined carpeting is placed curbside ready for disposal crews to pick up in Dearborn, Michigan after the flood event of August 14, 2014. Link available at: <http://www.fema.gov/media-library/assets/images/98799>.



Visual 4.30

Methods of Debris Collection (cont'd)

- Neighborhood Collection Centers – Drop off Bins.
 - Local government places bins on public rights-of way throughout the disaster- affected area for residents to place debris in roll-off bins. Separate bins can be designated to collect specific materials.
 - This type of collection method is suited for rural or sparsely populated areas where curbside collection is not practical.

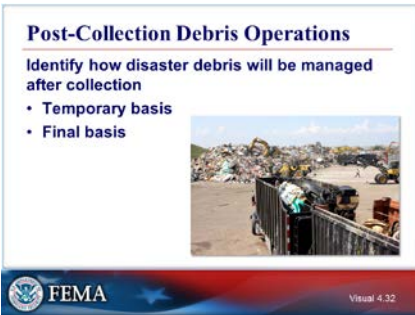
- It is also suited for areas where the topography prevents curbside collection such as steep and hilly neighborhoods.
- Household Hazardous Waste (HHW) – Round-Ups.
 - Many Local governments already have comprehensive collection programs for household hazardous waste.
 - Local governments in coordination with the State and County host HHW round-ups several times during the year for residents to legally dispose of unused household hazardous materials.
 - To avoid commingling of HHW with other disaster debris, Local governments should coordinate with the State and County to host round-up events.



Visual 4.31

Monitoring Collection Efficiency

- Local governments should regularly evaluate the efficiency and effectiveness of the debris collection strategy.
- Evaluate debris collection routes to determine whether labor and equipment are used efficiently.
 - Based on the results of the evaluation the Local government may need to increase/decrease the frequency of collection or add/remove routes.
- Examine debris quantities and composition to project the termination date of the disaster debris recycling program and overall debris operation.
- Review effectiveness of recycling.
 - Based upon the analysis some items may need to be removed or added to the list of recyclable items.



Visual 4.32

Post-Collection Debris Operations

The mapping of disposal sites is a critical component of the Debris Management Plan.

- In determining where to place debris that is not recyclable, the Local government should first identify the locations of landfills and evaluate what types of debris can be disposed at each facility.
 - Identification of landfill sites facilitates the planning of debris collection routes and collection schedules.
- The types of debris that can be deposited at landfills depend on the classification of the landfill.
 - Some landfills are permitted for hazardous waste or inert materials and solid waste, while some are permitted to only take one of these types of debris.
- How a Local government handles recyclable debris is dependent on where the recycling facility is located and what types of recyclable materials can be processed or sorted at the facility.
 - For example, some recycling facilities specialize in only scrap metal or construction & demolition material. As a result, the Debris Management Plan should consider the location, capacity, and types of debris handled by identified recycling facilities.

IMAGE INFO

Galveston, Texas, September 22, 2008 -- [Trucks enter and unload debris](http://www.fema.gov/media-library/assets/images/54384) at this collection facility on Galveston Island after it has been inspected and approved in guidance with EPA standards. This debris from Hurricane Ike will then be placed in a grinder to reduce its volume and properly disposed of. Robert Kaufmann/FEMA - Location: Galveston, TX. Link available at: <http://www.fema.gov/media-library/assets/images/54384>

Private Property



Visual 4.33



Visual 4.34



Visual 4.35

Private Property

IMAGE INFO:

Concord, Ala., May 4, 2011 -- Despite the [removal of thousands of cubic yards of debris](#), millions of cubic yards remain on private property, which will have to be moved to the right of way. Disaster survivors begin the hard work of recovery, and take measures to remove the debris from their properties. Adam DuBrowa/ FEMA - Location: Concord, AL. Link available at: <https://www.fema.gov/media-library/assets/images/59050>

Private Property Debris Removal (PPDR)

- The process and procedure for the removal of debris from private property will vary by the type of property.
- For marinas, the Local government should coordinate removal of sunken vessels or waterborne debris with the US Coast Guard, State marine patrol, etc.
- Generally, debris removal from commercial property is not eligible for FEMA assistance.

PPDR (cont'd)

- Private property laws generally limit when Local governments can conduct activities on privately owned property.
- Instances where the general public is exposed to immediate health or safety threats/hazards, Local governments may need to take specific actions allowed by State or laws to abate the threats.
- Debris Management Plans should include a clear process to determine the specific conditions (allowed by law) under which the Local government will take responsibility to safeguard the general public by abating the health or safety threat/hazard.
- The Debris Management Plan should also cite the specific laws that would be invoked and include the

steps outlined in law that would ultimately allow Local government to abate threats/hazards on private property.

IMAGE INFO

Concord, Ala., May 4, 2011 -- Despite the [removal](#) of thousands of cubic yards of debris, millions of cubic yards remain on private property, which will have to be moved to the right of way. Disaster survivors begin the hard work of recovery, and take measures to remove the debris from their properties. Adam DuBrowa/ FEMA - Location: Concord, AL. Link available at: <https://www.fema.gov/media-library/assets/images/59050>

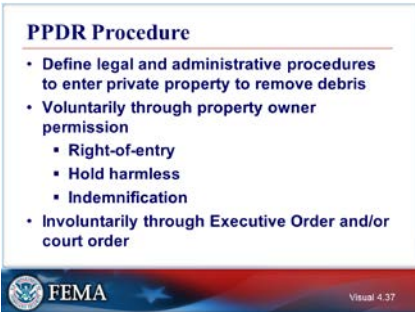


Visual 4.36

Entry onto Private Property

The removal of debris from private property may be undertaken by Local governments under their:

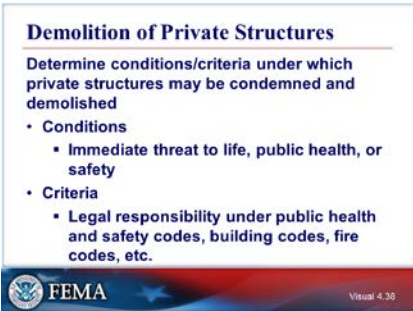
- Existing health and safety codes.
- Solid waste codes.
- Building and safety codes.



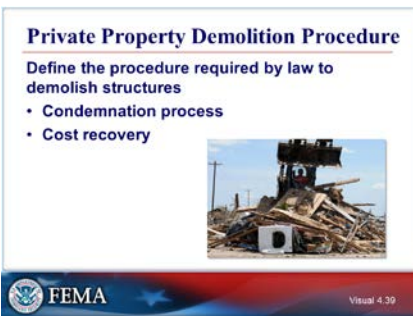
Visual 4.37

PPDR Procedure

- The Debris Management Plan should describe the process to notify property owners of entry onto their property to remove debris.
- Property Owner Permission.
 - Property owner allows entry onto property via voluntary right of entry, which includes hold harmless and indemnification clauses.
- Executive Order.
 - The authority to remove debris from private property under an executive order is granted through the emergency declaration.
- Court Order.



Visual 4.38



Visual 4.39

- The authority to remove debris from private property is as ordered by court of law.

Demolition of Private Structures

- The Debris Management Planning process should take in consideration that Local governments may need to take action to demolish unsafe structures when property owners are unable to do so.
- Conditions that may result in the demolition of private structures include unsafe structures that pose public health and safety hazards.
- Criteria for demolition are based on Local or State public health and safety codes, building codes, fire codes, etc.
- Abatement of the hazard can also include fencing off the facility instead of demolishing the facility.

Private Property Demolition Procedure

- Condemnation Process.
 - The health and safety laws and the municipal health and safety code provide Local government specific guidelines to condemn and demolish properties when they pose hazards to the public.
 - The Debris Management Plan should include procedures that will assist emergency personnel in accomplishing demolition safely and in compliance with all laws that govern the condemnation process.
- Cost Recovery.
 - The Debris Management Plan should include a process for recovering costs associated with demolition of private structures from the owner (i.e., insurance).

IMAGE INFO

Moore, Okla., June 7, 2013 -- [Samaritan's Purse volunteers](#) demolish remains of a destroyed home and push debris to the street. Samaritan's Purse is an

important partner with FEMA in providing recovery services to the May 20 tornado survivors. George Armstrong/FEMA - Location: Moore, OK. Link available at: <http://www.fema.gov/media-library/assets/images/71434>



Visual 4.40

Disposal Strategy

Landfill, Recycling, Debris Management Sites

The Debris Management Plan should identify where the disaster debris will be placed, both on a temporary and final basis.

IMAGE INFO:

Houston, Texas, June 23, 2001 -- [FEMA Contract Debris removal trucks](#) dump yards of debris at a landfill, following Tropical Storm Allison. Photo by Andrea Booher/FEMA Photo News - Location: Houston, TX. Link available at: <https://www.fema.gov/media-library/assets/images/36802>



Visual 4.41

Debris Management Site

The use of disaster debris management sites allows for efficient debris collection operations. These sites also allow the Local government to stockpile debris for recycling, reuse or volume reduction.

- Site Selection.
 - The best locations for temporary debris management sites are at existing disposal or recycling facilities that are in close proximity to the disaster area.
 - o When this is not possible, the planning process should develop criteria for selecting alternate sites.
 - The location of sites should be in areas that do not impede the flow of traffic along major transportation corridors, disrupt local business operations or cause dangerous conditions in residential neighborhoods or at school sites.
- Site Size Determination.

- The size of the debris management site will depend on the quantity of debris that is projected to be stored and processed.
 - o Determining the size of the debris management site can be based on the USACE's model, which is included in the Debris Management Guide.
 - o Additionally, there are other private sector models available.
- The size of the debris management site will also depend on the type of operations planned for the site.



Visual 4.42

Debris Management Site (cont'd)

- Disaster debris management sites should not be established on environmentally sensitive areas such as:
 - Wetlands.
 - Historical sites.
 - Critical animal and plant habitats.
 - Archeological sites.
 - Fresh water well fields.
- Additionally, debris managements should not be established contaminated sites, such as Superfund designated sites.

IMAGE INFO

Galveston, Texas, September 22, 2008 -- [Trucks enter and unload debris](http://www.fema.gov/media-library/assets/images/54384) at this collection facility on Galveston Island after it has been inspected and approved in guidance with EPA standards. This debris from Hurricane Ike will then be placed in a grinder to reduce its volume and properly disposed of. Robert Kaufmann/FEMA - Location: Galveston, TX. Link available at: <http://www.fema.gov/media-library/assets/images/54384>



Visual 4.43

Debris Management Site Development

- Leases.
 - Local governments may need to lease land for their disaster debris management sites.
 - Land lease agreements should be reviewed by the Local government's legal department.
- Environmental Assessments.
 - Local governments may have to conduct environmental studies or assessments to comply with State and Local environmental laws/permitting requirements.
- Baseline Environmental Study.
 - A baseline environment study will need to be done to determine the environmental conditions of a site before operations begin.
 - Baseline environmental studies can include:
 - Video/photo documentation.
 - Soil sampling.
 - Groundwater sampling.
 - Historical use of the site.
 - Other.
- Environmental permits and land use variances may be required.
 - Several agencies may be involved in issuing permits and land use approvals for disaster debris management sites.
 - Grading of the site may be required to prevent runoff of contaminants.
 - Local governments should contact their State or Local environmental enforcement agencies for permitting of a debris management site.
- The layout of the site should be designed to allow safe maneuvering and operation of heavy equipment.



Visual 4.44

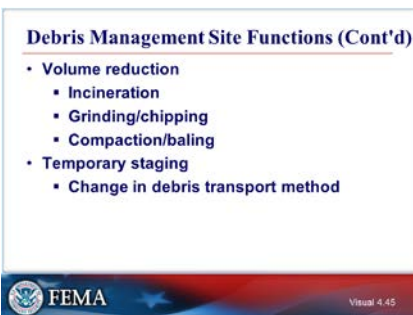
- It should also accommodate the placement of equipment related to the various operations at the disaster debris management site.

Debris Management Site Functions

- Local governments need to identify the functions of the disaster debris management site.
- Typically, the two main functions consist of:
 - Material separation.
 - Volume reduction.
- Material separation consists of sorting disaster debris into three major components:
 - Hazardous waste.
 - White goods.
 - All other recyclables.

IMAGE INFO

New Haven, Iowa, June 24, 2008 -- [Dozens of home appliances](#) were hauled to a lot on Broadway Street when the water began receding from the June 9 flooding of Beaver Creek. Refrigerators, freezers, stoves, water heaters, and other household items sit awaiting the junk man. Photo by Greg Henshall / FEMA - Location: New Haven, IA. Link available at: <http://www.fema.gov/media-library/assets/images/53069>



Visual 4.45

Debris Management Site Functions (cont'd)

- Volume reduction conserves landfill space and reduces debris into manageable loads for safe and efficient transportation.
- The most common methods are:
 - Grinding.
 - Chipping.
 - Burning.
 - Incineration.



Visual 4.46



Visual 4.47

- Debris can be reduced between 75% and 95% of its volume depending on the type of debris and processing methods that are implemented.
- Often used for metal, baling is another method for reducing the volume of debris by compaction.

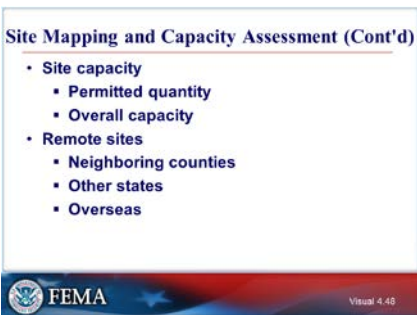
Managing a Debris Management Site

- Proper staffing of the debris management site is important for ensuring effective and efficient management of the operation.
- There may also be representatives from regulatory and funding agencies present at the site.

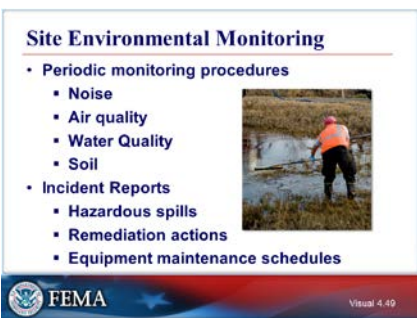
Site Mapping and Capacity Assessment

The mapping of disposal sites is a critical component of the Debris Management Plan.

- In determining where to place debris that is not recyclable, the Local government should:
 - Identify the locations of landfills
 - Evaluate what types of debris can be disposed at each facility.
 - Identification of landfill sites facilitates the planning of debris collection routes and collection schedules.
- The types of debris that can be deposited at landfills depend on the classification of the landfill.
 - Some landfills are permitted for hazardous waste or inert materials and solid waste, while some are permitted to only take one of these types of debris.
- How a Local government handles recyclable debris is dependent on where the recycling facility is located and what types of recyclable materials can be processed or sorted at the facility.



Visual 4.48



Visual 4.49

- For example, some recycling facilities specialize in only scrap metal or construction & demolition material.

- The Debris Management Plan should consider the location, capacity, and types of debris handled by identified recycling facilities.

Site Mapping and Capacity Assessment (cont'd)

- The transport of disaster debris to neighboring counties, other states, and/or overseas may require the Local government to obtain approvals and permits from various agencies due to crossing over State lines and international borders.
- These options may result in additional costs.

Site Environmental Monitoring

- The purpose of environmental monitoring is to evaluate the environmental condition of the site on a periodic basis.
- This will provide feedback to determine if the operations are adversely affecting the site and surrounding environment.
- Local governments must have a process in place for documenting on a daily basis hazardous spills, remediation actions, and equipment maintenance.

IMAGE INFO

Port Arthur, Texas, September 17, 2008 -- [A recovery specialist](#) cleans a small canal that contains oil spilled from a holding tank on a highway outside of Port Arthur, TX. FEMA is working with the state and local communities to provide assistance to residents affected by Hurricane IKE. Photo by Patsy Lynch/FEMA - Location: Port Arthur, TX. Link available at: <https://www.fema.gov/media-library/assets/images/54198>



Visual 4.50

Site Closure Procedures

- When operations are complete, the site will need to be restored to its original condition.
 - Requires compliance with the various Federal, State, and Local permit requirements.
- The final environment assessment is an extension of the debris management site monitoring.
 - It includes testing for contamination to the ground water and soil.
 - The results of these tests are compared to the environmental baseline.
- In situations when land for a debris management site has been leased, the Local government should ensure that there is a process for legally returning the site to the owner.



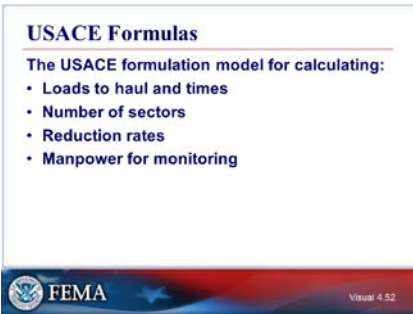
Visual 4.51

Recycling Disaster Debris

- The debris collection strategy should include a list of the types of debris materials that can be recycled.
- The strategy should also determine which end-use products can be made from disaster debris and identify the end-use buyers.
- In determining the types of debris that should be recycled, Local governments should take into consideration the ease of collecting and transporting the recyclable debris.
- They should also evaluate the types of processing that would be necessary to convert the debris to an end-use product.
- The success of recycling debris is dependent on the production of high quality end-use products that meet the market specifications required by the end-user of that product.
 - If there is no market demand for identified end-use products it will be challenging for Local

governments to sell or give away their recyclable disaster debris.

- In some instances, the remaining debris may need to be disposed.
- It is incumbent upon Local governments to thoroughly research the market opportunities for each type of recyclable debris.
- If Local governments use contracted services to process debris, the contract agreements should include the processing specifications so that the contractor uses the correct types of equipment to achieve that specification.

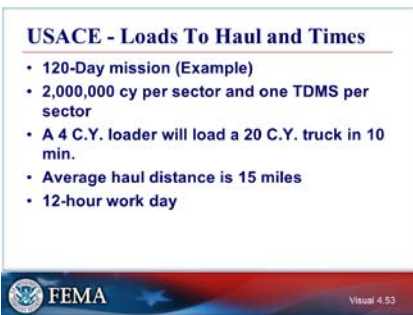


Visual 4.52

USACE Formulas

The USACE has a formulation guideline used to calculate:

- The reduction time and volume.
- Area needed for a sector.
- Loads moved within the sector.
- The number of trucks it takes to haul a given number of cubic yards to a landfill or Debris Management Site.




Visual 4.53

USACE - Loads to Haul and Times

USACE - Loads To Haul and Times (Cont'd)

Calculations:

- Loading = 60min / 10min/load = 6 loads per hour
- Assuming 1 hr. for lunch and 1 hr. down time.
- 12 - 2 = 10 hrs. x 6 = 60 loads per day per loader
- 60 loads x 20 cy per load = 1200 cy per day per loader
- Truck time, 15-mile haul
- = 30 min travel, 15 unloading, 25 min return = 70 min, 70/10 min/load = 7 trucks, use 8
- = 8 trucks per loader




Visual 4.54

USACE - Loads to Haul and Times (cont'd)

USACE - Loads To Haul and Times (Cont'd)

Calculations:

- Loading = 60min / 10min/load = 6 loads per hour
- Assuming 1 hr. for lunch and 1 hr. down time
- 12 - 2 = 10 hrs. x 6 = 60 loads per day per loader
- 60 loads x 20 cy per load = 1200 cy per day per loader
- Truck time, 30-mile haul
- = 50 min travel, 15 unloading, 45 min return = 110 min, 110/10 min/load = 11 trucks
- Use 12 = 12 trucks per loader




Visual 4.55

USACE - Loads to Haul and Times (cont'd)

USACE - Loads To Haul and Times (Cont'd)

Calculations:

- 1200 cy per day per loader
- 8 trucks per loader
- 2,000,000 C.Y. / 120 days for mission = 16,666 C.Y./day
- 16,666 C.Y./1200 = 13.8 or 14 loaders
- 14 loaders x 8 trucks/loader = 112 trucks




Visual 4.56

USACE - Loads to Haul and Times (cont'd)

USACE - Loads To Haul and Times (Cont'd)

- 12-hour work day
- Incineration rate = 160 C.Y. per hr., 24-hour operation
 - $160 \times (24-5)19 \text{ hrs./day} = 3000 \text{ C.Y./day}$.
- Grinding rate = 180 C.Y. per hr., 10-hour operation
 - $180 \times 10 = 1800 \text{ C.Y./day}$



Visual 4.57

USACE - Loads to Haul and Times (cont'd)

USACE – Monitoring Manpower

Manpower:


- One inspector per loading operation = 14
- Six inspectors per TDSR
 - One - Site Team Leader
 - Two - Tower Operations
 - One - Reduction Operations
 - Two - Night Shift = 6
20/zone




Visual 4.58

USACE – Monitoring Manpower

Activity 4.1



Debris Issue/Assessment and Response Threaded Exercise



Visual 4.59



Activity 4.1: Debris Issue/Assessment and Response Threaded Exercise

Purpose of Activity

To provide the opportunity to demonstrate your understanding of the operational planning issues associated with operational planning, debris estimating and debris management site identification.

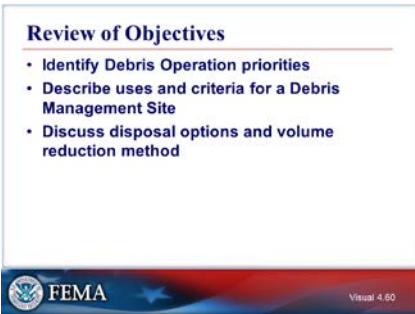
Group Activity Setting

- You will complete this activity individually.
- A quick review will be conducted prior to the activity. Responses will be discussed as a

class following the activity.

Overview of Activity

- You have 10 minutes to answer the questions.
- Use all resources, including the Student Manual and *Public Assistance Program and Policy Guide (PA Guide)*.



Visual 4.60

Review of Objectives

- Identify Debris Operation priorities.
- Describe uses and criteria for a Debris Management Site.
- Discuss disposal options and volume reduction method.



Visual 4.61

Questions?

Visual 4.13 Chart Description

- Chart with "Debris Project Manager" at top.
- Below arrow pointing up and down to line covering boxes with text as follows:
 - Operations.
 - Admin.
 - Public information.
 - Planning/engineering.
 - Contracting/procurement.
 - Legal.
- Each of the text boxes have arrows up to a horizontal that covers all of the boxes.

ACTIVITY 4.1
DEBRIS ISSUE/ASSESSMENT
AND RESPONSE THREADED EXERCISE

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For your own jurisdiction or community, respond to the following questions:

A debris collection strategy establishes a systematic approach for the efficient removal of debris. The clearance and collection of debris should be structured to meet response and recovery priorities. As such, the DMP should:

- Identify and prioritize facilities that may be impacted by debris.
 - Define the priorities during both the response and recovery phase operations.
 - Describe the coordination process with other entities responsible for managing debris.
 - Identify the roles and responsibilities for all entities and departments involved.
 - Describe the methods that will be used to collect debris (e.g., curbside collection, community drop-off bins).
1. List the facilities in your jurisdiction that would be critical for establishing debris clearance or removal priorities in your Debris Management Plan.
 - a. Emergency (police, fire, hospitals)

 - b. Utilities (electrical, water, sewer, telephone)

 - c. Other

 2. What debris estimating methods or resources do you have available? (Aerial, GIS, etc.)

3. Does the plan identify where the disaster debris will be segregated, reduced, and disposed or whether debris will be hauled to a recycler?

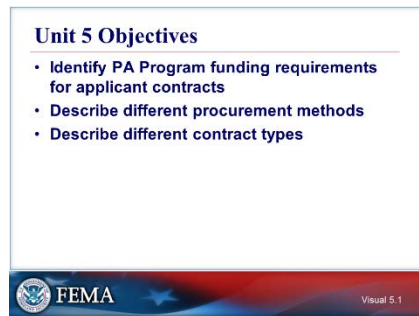
4. Do you have pre-designated Debris Management Site(s)? If not, who would have the responsibility to locate these sites?

UNIT 5: DEBRIS CONTRACTING

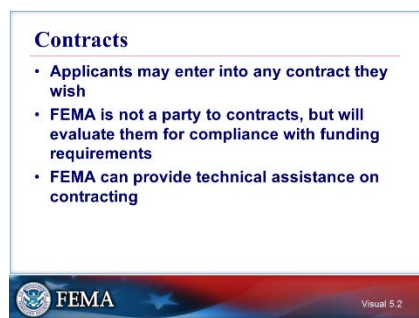
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Visual 5.0



Visual 5.1



Visual 5.2

Unit 5: Debris Contracting

This unit focuses on contracting and the issues associated with it. The unit will address procurement standards and methods, as well as the various types of contracts.

IMAGE INFO

Oceanside, N.Y., Nov. 12, 2012 -- [State Department of Transportation Inspector](https://www.fema.gov/media-library/assets/images/66803) Thomas Dankowski is monitoring debris removal contractors in this area. FEMA Public Assistance funds will reimburse the state for a portion of cost of debris removal. FEMA helps individuals and communities recover from disasters such as Hurricane Sandy. George Armstrong/FEMA - Location: Oceanside, NY. Link available at: <https://www.fema.gov/media-library/assets/images/66803>

Unit 5 Objectives

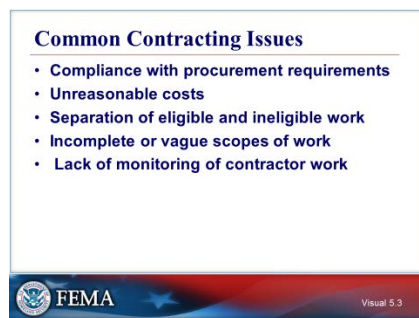
- Identify PA Program funding requirements for applicant contracts.
- Describe different procurement methods.
- Describe different contract types.

Contracts and Issues

Contracts

- Applicants may enter into any contract they wish; however, eligible contract costs are limited to costs that:
 - Meet applicable Federal, State, and local procurement requirements.
 - Are reasonable.
 - Correspond to eligible work.
- FEMA is not a party to contracts that applicants procure, but will evaluate contracts for compliance with PA Program funding requirements as part of project formulation.

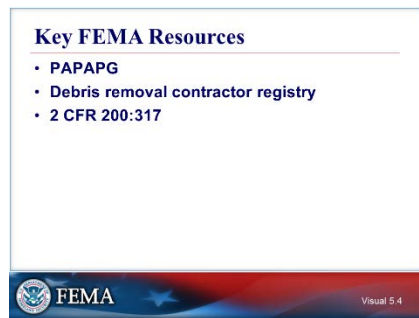
- Evaluation of a contract by FEMA does not constitute approval of the contract.
- If requested, FEMA may also evaluate contracts and provide recommendations as part of the technical assistance it provides to applicants.
 - The evaluations may include recommendations on items such as:
 - Compliance with Federal laws and regulations.
 - Eligibility of the contract scope of work.
 - Reasonableness of the contract costs.
 - Technical aspects of the specific activities and processes included in the contract.
- FEMA may use the technical expertise of other Federal agencies, such as USACE, to assist with the evaluation of applicant contracts and provision of technical assistance.



Visual 5.3

Common Contracting Issues

- There are several recurring issues regarding eligible contract costs for debris-related activities, such as:
 - Lack of compliance with applicable Federal, State, and local procurement requirements (Examples: a lack of competitive procurement or the absence of required contract provisions).
 - Unreasonable costs for the type of services provided under the contract, due to factors such as insufficient competition, poor contract scopes of work, and lack of contractor oversight by the applicant.
 - A contract scope of work for debris-related activities that contains both eligible and ineligible items of work is not ineligible for FEMA funding; in fact, applicants may find that it is in their best interest to contract for additional ineligible work using other sources of funding at the same time that they contract for eligible work.
 - The cost of eligible and ineligible items of work must be able to be separated, and only the costs of eligible work may be funded under the PA Program.



Visual 5.4


- Incomplete or vague contract scopes of work make it more difficult to evaluate the reasonableness of contract costs and the eligibility of the contracted work.
- Inadequate monitoring of contractor work by applicants makes it difficult to validate that the eligible contract scope of work corresponds to the actual eligible work completed.
- These issues highlight the need to clearly understand the requirements applicable to contracts for debris-related activities.

Key FEMA Resources

- Public Assistance Program and Policy Guide.
- **Debris removal contractor registry:** FEMA maintains a Web-based debris contractor registry database to assist applicants with identifying and contacting contractor resources.
 - The information provided in the registry is maintained by the contractors.
 - FEMA does not verify, and takes no responsibility for, the accuracy of any of the information provided, nor does FEMA endorse, approve, or recommend **any** contractors.
- 2 CFR 200.317-326:
 - Uniform administrative requirements.
 - Cost principles.
 - Audit requirements for federal awards.
- Federal procurement requirements applicants must comply as a condition of receiving PA Program funding.

Stafford Act Grant Programs


- Robert T. Stafford Disaster Relief and Emergency Assistance Act (“Stafford Act”)
 - Authorizes federal financial assistance
- FEMA administers assistance through various Stafford Act grant programs



Visual 5.5

Consequences of Noncompliance

- Temporarily withhold cash payments
- Disallow cost of activity
- Wholly or partially suspend or terminate federal award
- Initiate suspension or debarment proceedings
- Withhold further awards
- Other legally available remedies



Visual 5.6

The Key Players – Recipient

- Recipient
 - State
- Subrecipient
 - Sub-grantees
 - Applicants
- FEMA
- Office of Inspector General (OIG)



Visual 5.7

Stafford Act Grant Programs

One such grant program is the Public Assistance Grant Program, which provides financial assistance for debris removal and emergency protective measures (known as “emergency work”) and permanent restoration of damaged facilities (known as “permanent work”).

Consequences of Noncompliance

- Temporarily withhold cash payments pending correction of the deficiency by the non-Federal entity or more severe enforcement action by the Federal awarding agency or pass-through entity.
- Disallow (that is, deny both use of funds and any applicable matching credit for) all or part of the cost of the activity or action not in compliance.
- Wholly or partly suspend or terminate the Federal award.
- Initiate suspension or debarment proceedings (or in the case of a pass-through entity, recommend such a proceeding be initiated by a Federal awarding agency).
- Withhold further awards for the program.
- Take other remedies that may be legally available.


The Key Players – Recipient

- The recipient is the Federal award administrator for all funds provided under the Public Assistance Program and responsible for ensuring compliance with all applicable federal laws, regulations, executive orders, FEMA policies, the FEMA-State Agreement, and other terms and conditions.
- The recipient must comply with the applicable procurement standards for all recipient procurements.
- The recipient, as a pass-through entity, is responsible for:
 - Processing subawards to subrecipients.

	<ul style="list-style-type: none"> - Adhering to the federal procurement standards for recipient procurements, which is 2 CFR 200.317 for a state. - Ensuring subrecipient awareness of, and compliance with Federal procurement standards for subrecipient procurements. - Ensuring compliance with the FEMA-State Agreement. • Subrecipient. <ul style="list-style-type: none"> - Local and Tribal Indian Governments. - IHE, Hospitals, and other Nonprofit Organizations. - The subrecipient must adhere to the federal procurement standards, which are found at 2 CFR 200.318-326. - Formerly used the term “subgrantee.” - Indian Tribal governments follow the procedures at 2 CFR 200.318-326, irrespective of whether they are a recipient or subrecipient. • FEMA. <ul style="list-style-type: none"> - Has an affirmative duty to manage and administer the Federal award in a manner to ensure that Federal funding is expended for authorized purposes and in accordance with all federal laws, regulations, and executive orders and the terms of the grant award. - Educate and inform grantees about various grant requirements. - Recovers funding for improper expenditures under a grant. • Office of Inspector General (OIG). <ul style="list-style-type: none"> - Conducts independent audits, investigations, and inspections of the programs and operations of DHS and makes recommendations. <p>The DHS OIG has broad authority to audit FEMA programs and activities.</p>

Non-Federal Entity


- State/Tribe/Territory or local government
- Institution of higher education
- Nonprofit organization that carries out a Federal award as a recipient or subrecipient (2 CFR 200.69)



Visual 5.8

Federal Award


- Federal financial assistance
 - Non-Federal entity receives award directly from a Federal awarding agency or indirectly through a pass-through entity (2 CFR 200.38)
- Instrument setting forth the terms and conditions



Visual 5.9

Subaward


- Provided by a pass-through entity to a subrecipient
- Used to carry out part of a federal award received by the pass-through entity
- Does not include payments to a contractor
- 2 CFR 200.92



Visual 5.10

Recipient and Pass-Through Entity

- Recipient
 - Non-federal entity that receives a federal award directly from a federal awarding agency to carry out an activity under a federal program (2 CFR 200.86)
- Pass-through entity
 - Non-federal entity that provides a subaward to a subrecipient to carry out part of a Federal program (2 CFR 200.74)



Visual 5.11

Non-Federal Entity

“*Non-Federal entity*” means a state, local government, Indian tribe, institution of higher education, or nonprofit organization that carries out a Federal award as a recipient or subrecipient (2 CFR 200.69).

Federal Award

- “*Federal award*” means, among other things, the Federal financial assistance that a non-Federal entity receives directly from a Federal awarding agency or indirectly through a pass-through entity (2 CFR 200.38).
- It also means the instrument setting forth the terms and conditions.

Subaward

- “*Subaward*” means an award provided by a pass-through entity to a subrecipient for the subrecipient to carry out part of a Federal award received by the pass-through entity.


It does not include payments to a contractor (2 CFR 200.92).

Recipient and Pass-Through Entity

- “*Recipient*” means a non-Federal entity that receives a Federal award directly from a Federal awarding agency to carry out an activity under a Federal program (2 CFR 200.86).
- “*Pass-through entity*” means a non-Federal entity that provides a subaward to a subrecipient to carry out part of a Federal program (2 CFR 200.74).

Subrecipient

- Non-federal entity
- Receives subaward from pass-through entity
- Used to carry out part of a federal program
- Does not include individual that is a beneficiary of federal program
- 2 CFR 200.93



Visual 5.12

Procurement Standards Categories

- General procurement standards (2 CFR 200.318)
- Competition (2 CFR 200.319)
- Methods of procurement (2 CFR 200.320)
- Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms (2 CFR 200.321)



Visual 5.13

Procurement Standards Categories (Cont'd)

- Procurement of recovered materials (2 CFR 200.322)
- Contract cost and price (2 CFR 200.323)
- Awarding agency and pass-through entity review (2 CFR 200.324)
- Bonding requirements (2 CFR 200.325)
- Contract provisions (2 CFR 200.326 and Appendix II)



Visual 5.14

General Procurement Standards

2 CFR 200.318 identifies general procurement standards

- Contractor Oversight –(2 CFR 200.318(b))
- Necessity (2 CFR 200.318(d))
 - Must have procedures that avoid acquisition of unnecessary or duplicative supplies or services



Subrecipient

- *Subrecipient* means a non-Federal entity that receives a subaward from a pass-through entity to carry out part of a Federal program.
- It does not include an individual that is a beneficiary of such program (2 CFR 200.93).

Procurement Standards and Methods

Procurement Standards Categories

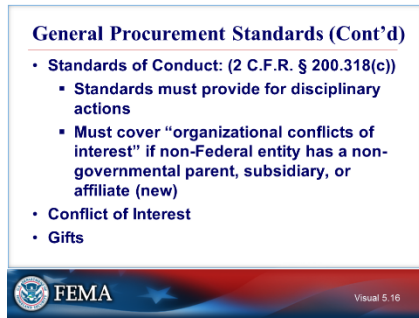
The procurement standards can be broken down into the following categories:

- General procurement standards (2 CFR 200.318).
- Competition (2 CFR 200.319).
- Methods of procurement (2 CFR 200.320).
- Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms (2 CFR 200.321).
- Procurement of recovered materials (2 CFR 200.322).
- Contract cost and price (2 CFR 200.323).
- Awarding agency and pass-through entity review (2 CFR 200.324).
- Bonding requirements (2 CFR 200.325).
- Contract provisions (2 CFR 200.326 and Appendix II).

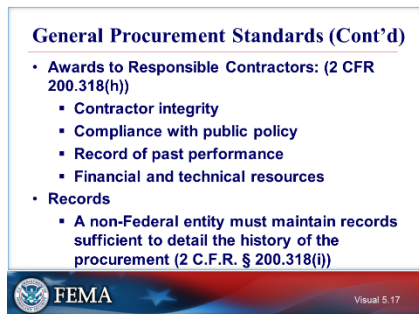
General Procurement Standards

- Contractor Oversight.
 - A non-Federal entity must maintain oversight to ensure that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders (2 CFR 200.318(b)).

Visual 5.15



Visual 5.16



Visual 5.17

- Necessity.
 - A non-Federal entity must have procedures that avoid acquisition of unnecessary or duplicative supplies or services, and consideration should be given to breaking out procurements to obtain a more economical purchase (2 CFR 200).
- Standards of Conduct.
 - Must maintain written standards of conduct covering conflicts of interest and governing the performance of employees engaged in the selection, award, and administration of contracts (2 CFR 200.318(c)).
 - o These standards must provide for disciplinary actions.
 - o Must cover “organizational conflicts of interest” if the non-Federal entity has a non-governmental parent, subsidiary, or affiliate (new).
- Conflict of Interest.
 - No employee, officer, or agent must participate in the selection, award, or administration of a contract supported by a Federal award if he or she has a real or apparent conflict of interest.
- Gifts.
 - The officers, employees, and agents of the non-Federal entity must neither solicit nor accept gratuities, favors, or anything else of monetary value from contractors/subcontractors.

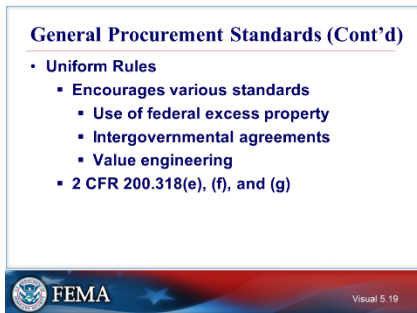
General Procurement Standards (Cont'd)

- Awards to Responsible Contractors.
 - A non-Federal entity must award contracts only to *responsible* contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement, and will give consideration to such matters as: (2 CFR 200.318(h)).
 - o Contractor integrity.
 - o Compliance with public policy.
 - o Record of past performance.

- Financial and technical resources.
- Records.
 - A non-Federal entity must maintain records sufficient to detail the history of the procurement, which must include, but are not limited to:
 - Rationale for the method of procurement.
 - Selection of contract type.
 - Contractor selection.
 - Basis for the contract price.
 - 2 CFR 200.318(i).



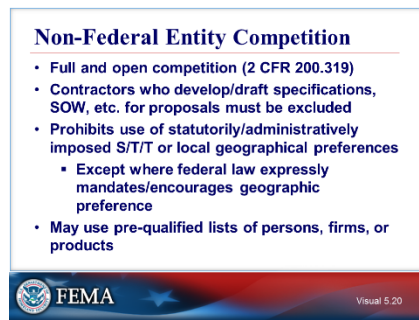
Visual 5.18



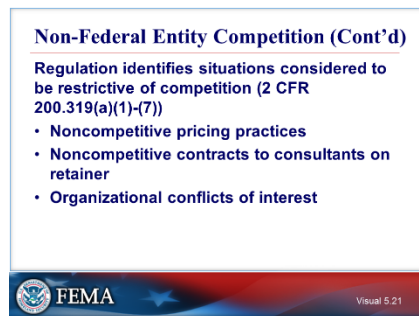
Visual 5.19

General Procurement Standards (Cont'd)

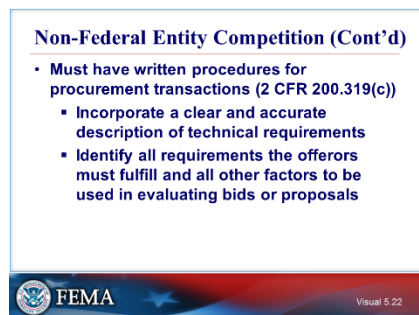
- Time and Materials Contract (2 CFR 200.318(j)).
 - A non-Federal entity may use time and materials (T&M) contracts only after a determination that no other contract is suitable and the contract includes a ceiling price that the contractor exceeds at its own risk.
 - A time and materials type contract means a contract whose cost to a non-Federal entity is the sum of:
 - The actual cost of materials.
 - Direct labor hours charged at fixed hourly rates that reflect wages, general and administrative expenses, and profit.
- Settlement of Issues.
 - A non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual issues (2 CFR 200.318(k) (change)).
- The Uniform Rules also “encourages” various standards (use of federal excess property, intergovernmental agreements, and value engineering) (2 CFR 200.318(e), (f), and (g)).



Visual 5.20



Visual 5.21



Visual 5.22

Non-Federal Entity Competition

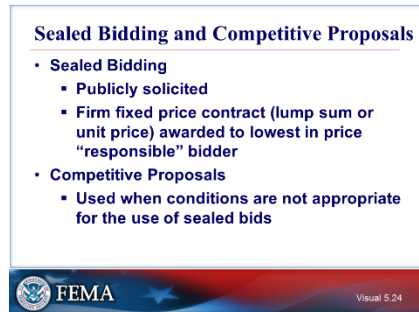
- A non-Federal entity must conduct procurement transactions in a manner providing “full and open competition” consistent with the standards of 2 CFR 200.319.
- Contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals must be excluded from participating for such procurements.
- A non-Federal entity must conduct procurements in a manner that *prohibits* the use of statutorily or administratively imposed state, local, or tribal geographical preferences in the evaluation of bids or proposals, except where federal law expressly mandates or encourages geographic preference.
- A non-Federal entity may use pre-qualified lists of persons, firms, or products, subject to certain conditions.

Non-Federal Entity Competition (Cont'd)

- The regulation identifies seven situations considered to be restrictive of competition (2 CFR 200.319(a)(1)-(7)).
 - Noncompetitive pricing practices.
 - Noncompetitive contracts to consultants on retainer.
 - Organizational conflicts of interest.
- A non-Federal entity must have written procedures for procurement transactions, which must ensure the solicitations provide for at least the following (2 CFR 200.319(c)).
 - Incorporate a clear and accurate description of the technical requirements for the material product, or service procured.
 - Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.



Visual 5.23



Visual 5.24

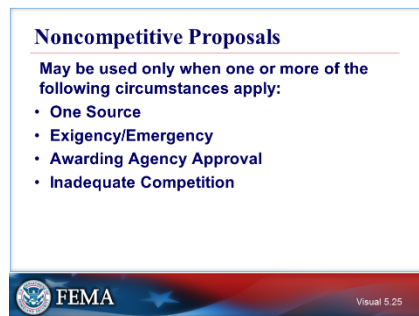
Micro and Small Purchase Procedures

- Micro-Purchase Procedures (2 CFR 200.320(a)).
 - The acquisition of supplies or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold - \$3500.
 - To the extent practicable, must distribute micro-purchases equitably among qualified suppliers.
 - May be awarded without soliciting competitive quotations if the non-Federal entity considers the price to be reasonable.
- Small Purchase Procedures (2 CFR 200.320(b)).
 - Are those relatively simple and informal procurement methods for securing services, supplies, or other property that does not cost more than the simplified acquisition threshold - \$150,000.
- Price or rate quotations are to be obtained from an “adequate number” of qualified sources.

Sealed Bidding and Competitive Proposals

- Sealed Bidding (2 CFR 200.320(c)).
 - Bids are publicly solicited and a firm fixed price contract (lump sum or unit price) is awarded to the “responsible” bidder whose bid, conforming with all the material terms and conditions of the invitation for bids (IFB), is the lowest in price.
 - Bids must be solicited from an “adequate number of known suppliers,” providing them sufficient response time before date for the opening of bids.
 - Local and tribal governments must publicly advertise the invitation for bids (change).
 - All bids will be opened at the time and place prescribed in the invitation for bids, and for local and tribal governments, the bids must be opened publicly (change).
 - This method is “preferred” for construction when sealed bidding is “feasible,” which is when certain conditions are present.

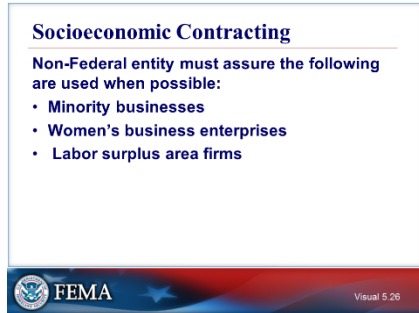
- Other procedural requirements at 2 CFR 200.320(c)(2).
- Competitive Proposals (2 CFR 200.320(d)).
 - Competitive proposals are generally used when conditions are not appropriate for the use of sealed bids.
 - The appropriate method when more than one source is expected to submit an offer and either a fixed-price or cost-reimbursement type contract is awarded.
 - Requests for proposals must be publicized and identify all evaluation factors and their relative importance.
 - Proposals must be solicited from an adequate number of qualified sources.
 - Must have written method for conducting technical evaluations of the proposals received and for selection of the contractor.
 - Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered.



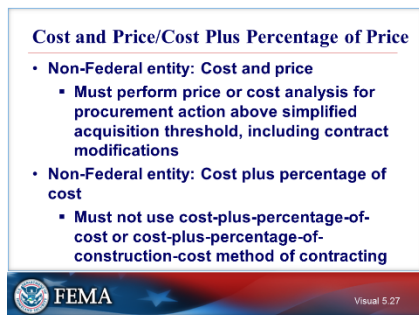
Visual 5.25

Noncompetitive Proposals

- Noncompetitive Proposals (2 CFR 200.320(f)).
 - Procurement through solicitation of a proposal from only one source and may be used only when one or more of the following circumstances apply.
 - One Source: The item is available only from a single source.
 - Exigency/Emergency: An exigency or emergency will not permit a delay resulting from competitive solicitation.
 - Awarding Agency Approval: The Federal awarding agency or pass-through entity expressly authorizes noncompetitive proposals in response to a written request from the non-Federal entity.
 - Inadequate Competition: After the solicitation of a number of sources, competition is determined inadequate.



Visual 5.26



Visual 5.27

- The award of a contract no longer has to be “infeasible” under one of the competitive methods of procurement (which was another condition precedent under 44 CFR 13.36(d)(4)).

Socioeconomic Contracting

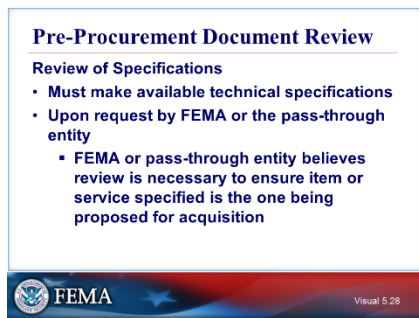
The affirmative steps must include at least the following:

- Placing qualified small and minority businesses and women’s business enterprises on solicitation lists.
- Assuring that small and minority businesses, and women’s business enterprises are solicited whenever they are potential sources.
- Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women’s business enterprises.
- Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women’s business enterprises.
- Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
- Requiring the prime contractor, if subcontracts are to be let, to take the five previous, affirmative steps.

Cost and Price/Cost Plus Percentage of Cost

- Cost & Price - The method and degree of analysis is dependent on the facts and circumstances surrounding the particular procurement but, as a starting point, the non-Federal entity must make independent estimates before receiving bids or proposals (change).
- A non-Federal entity *shall* negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed.
- Cost Plus Percentage of Price - Criteria evidencing this type of contract:

- Payment is on a predetermined percentage rate.
- The predetermined percentage rate is applied to actual performance costs.
- The contractor's entitlement is uncertain at the time of contracting.
- The contractor's entitlement increases commensurately with increased performance costs.
- Rationale.
 - There is no incentive to control costs, and the contractor has a financial interest in *increasing* the cost of performance.

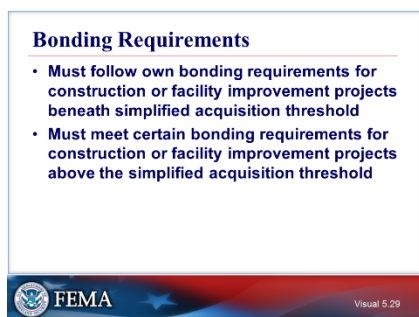


Visual 5.28

Pre-Procurement Document Review

Pre-Procurement Review of Other Procurement Documents.

- A non-Federal entity must make available upon request for FEMA or pass-through entity pre-procurement review of other procurement documents (such as requests for proposals, invitations for bid, independent cost estimates) in certain circumstances (2 CFR 200.324(b)).
- A non-Federal entity is exempt from the pre-procurement review if FEMA or the pass-through entity determines that its procurement systems comply with the standards under 2 CFR pt. 200.

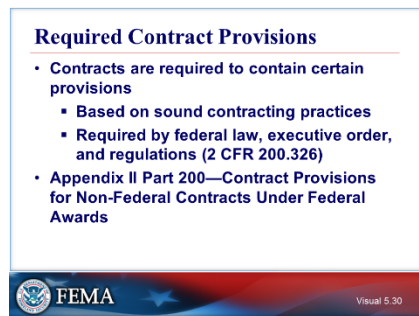


Visual 5.29

Bonding Requirements

- A non-Federal entity may use its own bonding policy and requirements provided that FEMA or the pass-through entity has made a determination that the Federal interest is adequately protected.
 - If no such determination has been made, the bonding requirements are:
 - A bid guarantee from each bidder equivalent to 5% of the bid price.
 - A performance and payment bond on the part of the contractor for 100% of the contract price.
- 2 CFR 200.325 (a-c), Bonding requirements.

- Unless FEMA determines its interests are protected under an applicant's procedures, the following minimum bonding requirements apply to contracts exceeding the simplified acquisition threshold (currently set at \$150,000):
 - A bid guarantee from each bidder equivalent to five percent of the bid price.
 - A performance bond on the part of the contractor for 100 percent of the contract price.
 - A payment bond on the part of the contractor for 100 percent of the contract price.



Visual 5.30

Required Contract Provisions

- 2 CFR 200.326, Contract provisions: Key required contract provisions are summarized below; however, understand that additional provisions are contained in 44 CFR 13.36(i).
 - Contracts in excess of the simplified acquisition threshold must contain administrative, contractual, or legal remedies for instances where contractors violate contract terms.
 - Contracts in excess of \$10,000 must contain a provision for termination for cause and for convenience by the applicant.
 - Contracts must specify a retention time of three years for all required records, and must allow for access to records by FEMA, the State, and the applicant.
- Although it is not prohibited, it is generally not advisable for an applicant to make payments to a contractor contingent upon the applicant's receipt of funding from FEMA.

Procurement of Recovered Materials

Section 6002 requirements

- Maintain satisfactory level of competition
 - Purchase price exceeds \$10,000
 - Quantity acquired preceding fiscal year > \$10,000
- Solid waste management services maximize energy and resource recovery
- Establish affirmative procurement program



Visual 5.31

Suspension and Debarment

- No award at any tier to parties listed on government wide exclusions
 - System for Award Management ("SAM")
 - www.sam.gov.
- Rules for assistance exclusion also governed by DHS implementing regulations 2 CFR pt. 3000



Visual 5.32

Types of Contracts

- Lump sum
- Unit price
- Cost plus fixed fee
- Time and materials
- Cost plus percentage of cost



Visual 5.33

Procurement of Recovered Materials

The requirements of Section 6002 include:

- Procuring only items designated in guidelines of the EPA at 40 C.F.R. pt. 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000.
- Procuring solid waste management services in a manner that maximizes energy and resource recovery.
- Establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

Suspension and Debarment

- Non-Federal entities must not make any award or permit any award at any tier to parties listed on the governmentwide exclusions in the [System for Award Management \("SAM"\)](http://www.sam.gov), which can be found at <http://www.sam.gov/>.
- The rules for assistance exclusion are also governed by DHS implementing regulations at 2 CFR pt. 3000.

Types of Contracts

Types of Contracts

- Potential contract types for debris-related activities may include:
 - Lump sum contracts.
 - Unit price contracts.
 - Cost plus fixed fee contracts.
 - Time and materials contracts.
 - Cost plus percentage of cost contracts.
- Contracts may also involve a combination of different contract types.

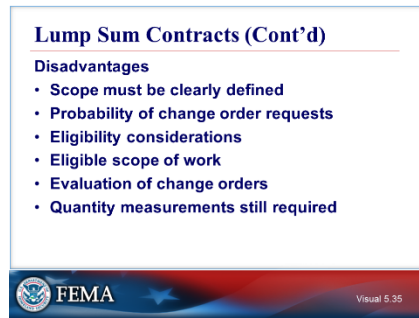
- For example, a unit price debris removal contract could contain a provision for reimbursement based on time and materials for the removal and proper disposal of any asbestos-containing materials that are found.
- Certain types of contracts may be better suited for different debris-related activities.
 - For example, initial emergency clearance of debris from roads to provide access to first responders may be best accomplished under a time and materials contract, while a unit price contract may be most appropriate for removal of vegetative debris from public rights-of-way.



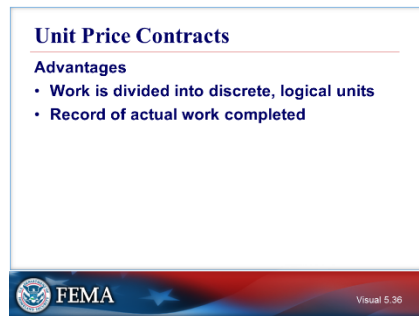
Visual 5.34

Lump Sum Contracts

- Lump sum contract: A contract for work within a prescribed boundary with a clearly defined scope of work and a total price.
 - Two common examples of basic scopes of work for lump sum contracts include specifying the types and quantities of debris to be removed from a well-defined area (area method) for a total price of \$XX, or specifying the number of passes that will be made to remove different types of debris in a well-defined area (pass method) for a total price of \$XX.
- Advantages of lump sum contracts include:
 - A total price is established at the time of contract award.
 - Less management and monitoring may be required than for other contract types where the contractor has an incentive to increase their profit by increasing their costs; however, oversight is still required to ensure completion of the work and compliance with contract requirements.
 - The contractor assumes more risk because they have agreed to accept a fixed price for completion of the contract scope of work, regardless of their actual costs.



Visual 5.35



Visual 5.36

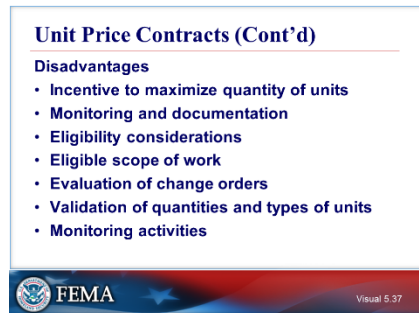
Lump Sum Contracts (Cont'd)

- Disadvantages of lump sum contracts include:
 - The contract scope of work must be clearly defined in order to establish a price that accurately reflects the necessary work, which is often very difficult for debris-related activities.
 - If the contract scope of work is not clearly defined and accurate, there is a high probability of valid contractor change order requests.
- Key eligibility considerations regarding lump sum contracts include:
 - Ensuring that the contract scope of work only includes eligible items of work, or that ineligible contract scope of work items are identified and separated.
 - Evaluation of the eligibility of change orders.
 - Quantification of the actual eligible work completed (e.g., cubic yards of what types of debris removed) is still required for the purposes of establishing cost reasonableness.

Unit Price Contracts

- Unit price contract: A contract for work done on an item-by-item basis with a cost determined per unit.
 - For example, a contract to collect, haul, and dispose of vegetative debris for \$XX per cubic yard.
- Advantages of unit price contracts include:
 - Work is divided into discrete, logical units, allowing scalability and flexibility.
 - Since payment is based on the units of work completed, the contractor must submit sufficiently detailed documentation of the actual work completed.
 - May better balance risk between the applicant and contractor, as opposed to a lump sum contract where the contractor is typically exposed to greater risk, or a time and materials contract where the applicant may be exposed to greater risk.

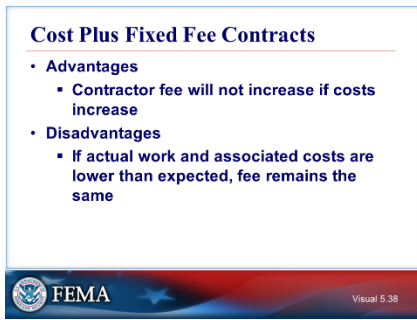
- While it may seem better for an applicant to shift as much risk as possible to the contractor, an equitable balance of risk between the applicant and contractor is often best, as it may allow for greater competition between contractors for the work, resulting in more competitive prices, and may help ensure that the contractor completes the contract scope of work, as specified.



Visual 5.37

Unit Price Contracts (Cont'd)

- Disadvantages of unit price contracts include:
 - Since payment is based on a number of units, the contractor has an incentive to maximize the quantity of units, which makes fraud a potential concern.
 - Monitoring and validating the units of work claimed by the contractor must be completed to ensure that the work claimed matches the actual work completed and is consistent with the contract scope of work.
- Key eligibility considerations regarding unit price contracts include:
 - Ensuring that the contract scope of work only includes eligible items of work, or that ineligible contract scope of work items are identified and separated.
 - Evaluating the eligibility of change orders.
 - Validating quantities and types of units claimed.
 - Proper segregation and classification of different debris types.
 - Accurate accounting of debris quantities.
 - Confirmation that the debris removal is eligible, e.g., debris removed from a wilderness area that did not present a threat, would be ineligible.
 - Ensuring the applicant implemented adequate monitoring procedures, and evaluating the eligibility of monitoring costs claimed by the applicant.



Visual 5.38



Visual 5.39

Cost Plus Fixed Fee Contracts

- Cost plus fixed fee contract: A lump sum, unit price, or time and materials contract with a fixed contractor fee added into the price.
 - For example, a contract where the contractor will be paid for their **cost** of labor, equipment, and materials, plus a fixed fee of \$XX, for removal of XX hazardous trees.
- Advantages of cost plus fixed fee contracts include:
 - The contractor's fee will not increase if costs increase.
- Disadvantages of cost plus fixed fee contracts include:
 - If the actual work and associated costs are lower than expected, the contractor's fee will remain the same, which highlights the importance of an accurate scope of work.

Cost Plus Fixed Fee Contracts (Cont'd)

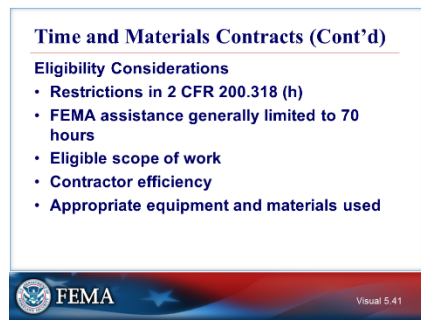
- Key eligibility considerations regarding cost plus fixed fee contracts include:
 - Ensuring that the contract scope of work only includes eligible items of work, or that ineligible contract scope of work items are identified and separated.
 - Evaluating the eligibility of change orders.
 - Confirming that the fee is clearly separated, i.e., that no fee is hidden in claimed costs.
 - Quantifying the actual eligible work completed (e.g., cubic yards of what types of debris removed) is still required for the purposes of establishing cost reasonableness.
 - Validating that claimed costs were necessary to accomplish the eligible scope of work.
 - Ensuring that the applicant implemented adequate monitoring procedures.



Visual 5.40

Time and Materials Contracts

- Time and materials contract: A contract where the contractor bills the applicant at established rates for labor, equipment, materials, and overhead.
 - For example, a contract with specified rates for personnel, equipment, materials, and overhead could be established for initial debris clearance from public roads immediately after a disaster, to allow access for first responders.
- Advantages of time and materials contracts include:
 - Extremely flexible and scalable.
 - Can usually be implemented very quickly, since extremely detailed and accurate information on the quantities and types of debris to be removed is usually unnecessary.
 - Generally represent a lower risk to the contractor, as their payment is based on their time and materials, as opposed to potentially variable quantities and types of debris.
 - A lower risk to the contractor may benefit the applicant by allowing for greater competition between contractors for the work, resulting in more competitive prices.
- Disadvantages of time and materials contracts include:
 - Since payment is based on time and materials, the contractor has an incentive to maximize the labor, equipment, materials, and overhead used to complete the work, which may encourage inefficiency and makes fraud a potential concern.
 - Significant oversight, monitoring, and documenting is required to ensure contractor efficiency, validate that the labor hours and types of personnel used are appropriate, and confirm that only necessary equipment and materials are used.

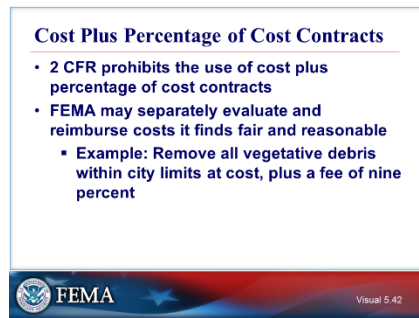


Visual 5.41

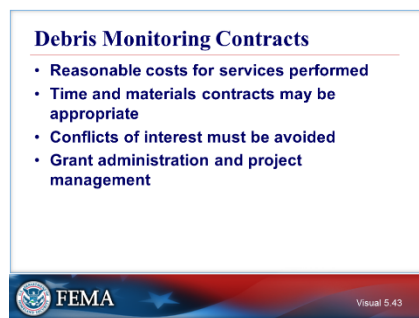
Time and Materials Contracts (Cont'd)

Key eligibility considerations regarding time and materials contracts include:

- 2CFR 200.318(h) states that applicants will only use time and materials contracts when a determination has been made that no other contract type is suitable **and** the contract includes a ceiling price that the contractor exceeds at its own risk.
- FEMA assistance is generally limited to a period of no more than 70 hours, for work that is necessary immediately after the disaster has occurred.
 - o After 70 hours of work, the applicant should have sufficient information to develop a scope of work for another type of contract, such as a unit price or lump sum contract.
 - o If an applicant believes a time and materials contract is the most appropriate contract type, they should work closely with the State and FEMA to ensure eligibility requirements are met.
- Ensuring the contract scope of work includes eligible items of work only, or that ineligible contract scope of work items are identified and separated.
- Confirming that the applicant took reasonable steps to ensure contractor efficiency.
 - o During the World Trade Center debris removal operation following the September 11, 2001 terrorist attacks, trucks hauling debris were outfitted with individual GPS units, to ensure contractor efficiency under a time and materials contract.
- Confirming that the appropriate types of equipment and materials are used.
 - o It would not be appropriate to use larger, more costly equipment to accomplish a given task if smaller, less costly equipment was readily available and able to accomplish the same task with equal efficiency.
- Ensuring the applicant implemented adequate monitoring procedures.



Visual 5.42



Visual 5.43

Cost Plus Percentage of Cost Contracts

- Cost plus percentage of cost contracts: A contract where the contractor is provided a specified percentage fee over and above their actual costs for completing the work.
- 2CFR 200.323(d) states the cost plus percentage of cost and percentage of construction cost methods of contracting shall not be used.

Debris Monitoring Contracts

Considerations related to contracts for debris monitoring services include:

- Debris monitoring contract costs must be reasonable in comparison to the scope and cost of eligible debris removal activities, and must be reasonable for the monitoring service provided.
 - For example, if the expertise of a professional engineer is not required for an activity, such as basic monitoring duties in the field at debris collection sites, it would not be reasonable for those activities to be billed at the hourly rate of a professional engineer.
 - In addition to direct monitoring of debris removal activities at debris collection, transfer, and disposal points, necessary debris monitoring training, management, and support activities may be eligible.
- Debris monitoring contracts may often be time and materials contracts, due to the nature of the services provided; however, they must still comply with the requirements associated with time and materials contracts.
 - Monitoring contracts where contract cost is based directly on debris quantities removed create an incentive for the monitoring contractor to allow ineligible debris removal.
- Conflicts of interest must be avoided, e.g., debris monitoring contractors should not be employed by or affiliated with the debris removal contractors.



Visual 5.44



Activity 5.1: Contract Evaluation

Activity Purpose

To provide you the opportunity to practice evaluating applicant debris-related contracts for consistency with PA Program funding requirements.

Group Activity Setting

You will complete this activity in small groups; however, you are responsible for documenting your work in your Student Activity Manual. Groups will be asked to share and discuss your results with the class.

Overview of Activity

- You will have 45 minutes to review the scenario, evaluate the contract, and answer the questions.
- Following individual work, there will be a class discussion where you can share your answers.

Group Activity Materials

- Instructions
- Activity Data



Visual 5.45



Activity 5.2: Debris Contracting Threaded Exercise

Purpose of Activity

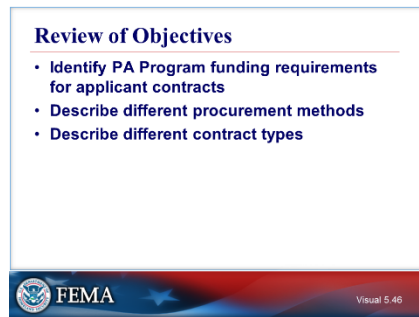
This activity provides you the opportunity to respond to a specific set of questions, which will assist you in addressing debris contracting in your own jurisdiction.

Group Activity Setting

- You will complete this activity individually, followed by a class discussion.

Overview of Activity

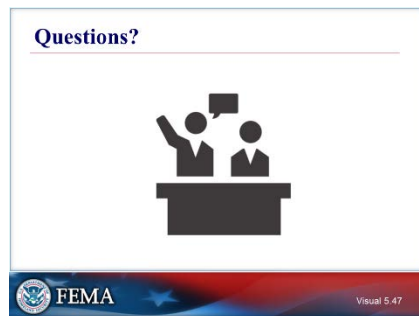
- You will have 10 minutes to answer the questions assigned to your group.
- Following the group work, there will be a class discussion where you will share your answers.



Visual 5.46

Review of Objectives

- Identify PA Program funding requirements for applicant contracts.
- Describe different procurement methods.
- Describe different contract types.



Visual 5.47

Questions?

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ACTIVITY 5.1

CONTRACT EVALUATION

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ACTIVITY INSTRUCTIONS

- Use the activity scenario information and the course reference materials included in the activity materials to complete the contract evaluation questions assigned to your group.
- Work in groups to complete the activity; however, each participant is responsible for documenting the work in their Student Activity Manual.
- Groups should be careful to budget their time appropriately between reading the proposed contract and answering the contract evaluation questions.
- Groups should be careful to limit their evaluation of the contract to PA Program funding requirements, and not get caught up on technical or administrative items in the proposed contract that do not directly relate to PA Program funding requirements.
- Document any assumptions made regarding the activity scenario.
- Document the page numbers of any reference materials used to complete the activity.
- Each group should be prepared to share their answers with the class.
- The instructors will monitor the work of participants and answer questions, as needed.
- After participants have completed the activity, the instructor will review it with the class.

SCENARIO

You are the Contract Specialist assigned to the Gotham County Public Works Department, an eligible applicant on a declared disaster. The County intends to award a contract for debris removal services, and has passed an emergency resolution that they believe will allow a contract to be awarded on a sole source basis.

They plan to award a contract immediately to a contractor that was selected by a neighboring county. The neighboring county is pleased with the work and services provided by the contractor so far. The County received a proposed contract from the debris removal contractor, which the County's legal council reviewed and revised, as appropriate. The County would like FEMA to evaluate the proposed contract for consistency with PA Program funding requirements, and has provided the following information for FEMA's use in conducting the contract evaluation:

- A copy of the proposed contract for debris removal services
- A copy of the emergency resolution passed by the County

You have been asked to evaluate the contract for consistency with PA Program funding requirements. The Administrator also commented that they are aware of complaints voiced by other contractors in the region that the County's intended contractor, Sundown and Brady Waste Management Systems, Inc., is being awarded contracts for debris removal services without sufficient competition. Once your evaluation of the contract is complete, the Instructor will review your findings before forwarding the contract to FEMA OCC.

CONTRACT NUMBER: GCPW-09-0023

CONTRACT FOR DEBRIS REMOVAL SERVICES GOTHAM COUNTY

THIS CONTRACT is made this ____ day of _____ of 2009 by and between Sundown and Brady Waste Management Systems, Inc., a State of Franklin corporation, (hereafter referred to as "Contractor") and **Gotham County**, a political subdivision of the **State of Franklin** (hereafter referred to as "**County**").

RECITALS

WHEREAS, the **County** has suffered a major disaster causing the requirement for debris removal and disposal from public, private, and commercial property, and

WHEREAS, the **County** desires to contract for the removal of storm-generated debris and demolition debris within the area delineated as Zone I (east of I-95), and

WHEREAS, the Contractor has the experience, equipment, manpower, permits, and licenses to perform storm debris services, and

THEREFORE, the Contractor and **County** hereto agree to the services, rates, terms, and conditions as set out in this Contract.

1. SERVICES

1.1. Scope of Contracted Services

The Contractor shall provide all expertise, personnel, materials, and equipment necessary for the timely removal and transportation of all eligible storm-generated debris (herein referred to as "debris"), including hazardous and industrial waste materials. These services shall provide for the cost effective and efficient removal of debris accumulated on all public, residential, and commercial properties, streets, roads, other rights-of-way, and public school properties, including any other locally-owned facility or site as may be directed by the **County**. Contracted services will only be performed when requested and as designated by the **County**.

The Contractor shall load and haul the debris from within the boundaries of Zone I to a site specified by the **County**. The **County** will be responsible for reduction and/or disposal either by chipping/grinding, burning, or depositing in a landfill. The Contractor may not deliver any debris to another location without written authorization from the **County**.

1.2. Right-of-Way (ROW) Removal

The Contractor shall remove all debris from the ROW of the **County** when directed to do so by the **County**. The Contractor shall use reasonable care not to damage any **County** or private property not already damaged by the storm event.

1.3. Critical Facility Access - Debris Removal

The Contractor shall remove all debris from the paved surface of the following roads. Debris will be pushed to the ROW limit to allow vehicular access.

- Chelsea Street: From County Rd 325 to the County Wastewater Treatment plant
- Sweet Hill Road: From County Rd 118 to the County Water Treatment Plan
- Drexel Boulevard: From County Rd 222 to the County potable water well field
- Dunnell Road: From County Rd 298 to County Public School 98

The Contractor will be paid \$110/hour per loader and operator. Work is to begin within 4 hours of Contract execution. Removal of debris will follow the terms of the remainder of this Contract.

1.4. Right-of-Entry (ROE) Removal

The Contractor will remove ROE debris from private property with due diligence, as directed by the **County**. The Contractor also agrees to make maximum efforts to save from destruction items that the property owners wish to save (i.e., trees, small buildings, etc.). The Contractor will be responsible for all claims of damages to private property. The Contractor will exercise caution when working around public utilities (i.e., gas, water, electric, etc.). Every effort will be made to mark these utilities but the **County** does not warrant that all will be located before debris removal begins, nor does the Contractor warrant that utility damages will not occur as a result of properly conducting the contracted services.

The Contractor will secure all necessary permissions and waivers from property owners as prescribed by the **County** for the removal of debris from residential and/or commercial properties.

1.5. Demolition of Structures

The Contractor will remove structures designated for removal by and at the direction of the **County**. The Contractor agrees to remove these structures in a timely manner in order to satisfy public health and safety issues as determined by the **County**.

1.6. Coordination

The Contractor will be responsible for coordinating all debris removal efforts with the City of Poplar Grove and the State Department of Transportation.

2. PERFORMANCE OF SERVICES

2.1. Description of Service

The Contractor agrees to perform the contracted services in a professional and workmanlike manner and in compliance with all applicable laws, ordinances, rules, regulations, and permits. Only the highest quality workmanship will be acceptable. Services, equipment, and workmanship not conforming to the Contract documents or meeting the approval of the **County** may be rejected. Replacements and/or rework, as required, will be accomplished at no additional cost to the **County**.

2.2. Cost of Services

The Contractor shall bear all costs of performing contracted services hereunder, including but not limited to: all operating costs whether for equipment or personnel; disposal, permit, and license fees (if applicable); and all maintenance costs required to maintain its vehicles and other equipment in a condition and manner adequate to sustain contracted services as set out in this Contract.

2.3. Matters Related to Performance

2.3.1. Subcontractor(s)

The Contractor may utilize the service of subcontractors and shall be responsible for the acts or omissions of its subcontractors to the same extent the Contractor is responsible for the acts and omissions of its employees.

The Contractor shall ensure that all its subcontracts have and carry the same major provisions of this Contract and that the work of their subcontractors is subject to said provisions.

2.3.2. Indemnification

The Contractor agrees to indemnify, hold harmless, and defend the **County** from and against any and all liabilities, suits, actions, legal proceedings, claims demands, damages, costs, and expenses (including attorney's fees) rising out of any act or omission of the Contractor, its agents, subcontractors, or employees in the performance of this Contract.

2.3.3. Insurance(s)

The Contractor agrees to keep the following insurance in full force and effective during the term of this Contract. The Contractor must also name the **County** as additional insured, while working within the boundaries of **Gotham County**.

2.3.3.a. Workers' Compensation

Coverage that meets State statutory requirements. This coverage is required if the Contractor employs individuals on either a full or part-time basis to perform the contracted services.

2.3.3.b. Automobile Liability

Bodily Injury: \$1,000,000 each person; \$1,000,000 each accident Property

Damage: \$1,000,000 each accident

2.3.3.c. Comprehensive General Liability

Bodily Injury: \$1,000,000 each person; \$1,000,000 aggregate Property

Damage: \$1,000,000 each accident; \$1,000,000 aggregate

3. TIME OF PERFORMANCE

3.1. Contractor Representative

The Contractor shall have a knowledgeable and responsible Representative report to the **County's** designated Contract Representative within 24 hours following the execution of this Contract. The Contractor Representative shall have the authority to implement all actions required to begin the performance of contracted services as set out in this Contract and the Contractor's General Operations Plan.

3.2. Notice to Proceed

When the Notice to Proceed has been received by the Contractor and/or the on-site Contractor Representative, he/she will make all necessary arrangements to mobilize a minimum of 10% of the required resources within 48 hours and 100% required resources within 7 days to commence and conduct these contracted services.

3.3. Extensions

In as much as this is a "time is of the essence" based Contract, the commencement of contracted services will be as set out in Section 3.2. The **County** will determine the basic period of performance with written notice to the Contractor.

If the completion of this Contract is delayed by actions of the **County**, the time of completion of this Contract shall be extended for the additional time necessary to complete the performance of the Contract as is required by such delay. This Contract may be extended by mutual consent of both the **County** and the Contractor for reasons of additional time, additional services, and/or additional areas of work.

3.4. Contract Termination

This Contract shall terminate upon completion of the debris removal as determined by the **County** or with thirty (30) days written notice from either party as set out in Section 8.1 of this Contract.

4. GENERAL RESPONSIBILITIES

4.1. Conduct of Work

The Contractor shall be responsible for planning and conducting all operations in a satisfactory workmanship manner. The Contractor shall exhibit respect for the citizens and their individual private properties. All operations shall be conducted under the review of a **County** Representative.

4.2. Damages

The Contractor shall be responsible for conducting operations in such a manner as to cause the minimum damage to existing public, private, and commercial property and/or infrastructure.

4.3. Other Contractor(s)

The Contractor shall acknowledge the presence of other contractors involved in disaster response and recovery activities by the Federal, State, and local government and of any private utility, and shall not interfere with their work.

4.4. Ownership of Debris

All debris, including regulated hazardous waste, shall become the property of the Contractor for removal and lawful disposal. The debris will consist of, but is not limited to vegetative, construction and demolition, white goods, and household solid waste. The Contractor shall be responsible for removal of all debris up to the point where remaining debris can only be described as light litter and additional collection can only be accomplished by the use of hand labor.

4.5. Disposal of Debris

The **County** shall be responsible for determining and executing the method and manner for lawful disposal of all debris, including regulated hazardous waste. The primary location of the reduction and disposal site will be at a presently unknown site in Zone 3. Exact site location will be determined before Contract execution. Other sites may be utilized with written notice or by direction of the **County**.

5. GENERAL TERMS AND CONDITIONS

5.1. Geographic Assignment

The geographic boundary for work by the Contractor's crews shall be as directed by the

County and will be limited to properties located within the **County's** legal boundaries.

5.2. Multiple, Scheduled Passes

The Contractor shall make multiple, scheduled and unscheduled passes of each areas impacted by the storm event.

5.3. Public Service Announcements

Citizens and agencies will be advised of the number and schedule of passes through Public Service Announcements (PSAs) initiated by the **County**. The PSAs will advise citizens and agencies to bring all debris to the edge of the ROW in front of their property. The **County** will issue a separate PSA advising citizens and agencies of the date for the termination of contracted debris removal services from the public ROW.

5.4. Operation of Equipment

The Contractor shall operate all trucks, trailers, and all other equipment in compliance with any/all applicable Federal, State, and local rules and regulations. Equipment shall be in good working condition. All loading equipment shall be operated from the road, street, or ROW using buckets and/or boom and grapple devices to collect and load debris.

5.5. Certification of Load Carrying Capacity

The Contractor shall submit to the **County** a certified report indicating the type of vehicle, make and model, license plate number, assigned debris hauling number, and measured maximum volume, in cubic yards, of the load bed of each piece of equipment to be utilized to haul debris.

5.6. Vehicle Information

The maximum load of each hauling vehicle will be rounded down to the nearest one-half (1/2) cubic yard. The measured maximum load (as adjusted) of any vehicle load bed will be the same as shown on the truck measurement form and painted on each numbered vehicle or piece of equipment used to haul debris.

5.7. Security of Debris During Hauling

The Contractor shall be responsible for the security of debris on/in each vehicle or piece of equipment utilized to haul debris. Prior to leaving the loading site, the Contractor shall ensure that each load is secure and trimmed so that no debris extends

horizontally beyond the bed of the equipment in any direction. As required, the Contractor will survey the primary routes to the reduction and/or disposal site(s) and recover fallen or blown debris from the roadway(s).

5.8. Traffic Control

The Contractor shall mitigate impacts on local traffic conditions to all extents possible. The Contractor is responsible for establishing and maintaining appropriate traffic control in accordance with the latest Manual of Uniform Traffic Control Devices. The Contractor shall provide sufficient signing, flagging, and barricading to ensure the safety of vehicular and pedestrian traffic at all debris removal and/or disposal sites.

5.9. Work Hours

The Contractor may conduct debris removal operations from sunup to sundown, seven days per week. Any mechanical debris reduction operations may be conducted from sunup to sundown, seven days per week. Adjustments to work hours as local conditions may dictate, shall be as directed by the **County** following consultation with the Contractor.

5.10. Hazardous and Industrial Wastes

The Contractor shall remove all hazardous or industrial waste materials encountered during debris removal operations.

5.11. Stumps

All damaged and destroyed trees will be removed along with their root ball.

5.12. Utilizing Local Resources

The Contractor shall use only resources located within the **County**. The local preference will include, but is not limited to, procurement of services, supplies, and equipment, plus awarding service subcontracts and employment to the local work force.

5.13. Work Safety

The Contractor shall provide and enforce a safe work environment as prescribed in the Occupational Safety and Health Act of 1970, as amended. The Contractor will provide such safety equipment, training, and supervision as may be required by the **County** and/or government. The Contractor shall ensure that its subcontracts contain a similar safety provision.

5.14. Inspection and Testing

All debris shall be subject to adequate inspection by the **County** or any public authority in accordance with generally accepted standards to ensure compliance with the Contract and applicable Federal, State, and local laws. The **County** will, at all times, have access to all work sites and disposal areas. In addition, authorized representatives and agents of the government shall be permitted to inspect all work, materials, invoices, and other relevant documentation.

5.15. Other Agencies

The term "government" as used in this Contract refers to those governmental agencies which may have a regulatory or funding interest in this Contract.

6. REPORTS, CERTIFICATIONS, AND DOCUMENTATION

6.1. Accountable Debris Load Forms

The **County** shall accept the serialized copy of the Contractor's Debris Control Ticket(s) as the certified, original source documents to account for the measurement and accumulation of the volume of debris delivered and processed at the reduction and/or disposal site. The serialized ticketing system will also be used in the event of additional debris handling for volume reduction and/or the possible requirement for a debris transfer station.

6.2. Reports

The Contractor shall submit periodic, written reports to the **County** as necessary detailing the progress of debris removal and disposal. These reports may include, but are not limited to:

6.2.1. Daily Reports

The daily reports may detail the location where passes for debris removal were conducted, the quantity of debris (by type) removed and disposed of, the total number of personnel crews engaged in debris management operations, and the number of grinders, chippers, and mulching machines in operation. The Contractor will also report damages to private property caused by the debris operation or damage claims made by citizens and such other information as may be required to completely describe the daily conduct of the Contractor's operations.

6.2.2. Weekly Summaries

A summary of all information contained in the daily reports as set out in Section 6.2.1 of this Contract or in a format required by the **County**.

6.2.3. Report(s) Delivery

The scheduling, point of delivery, and receiving personnel for the debris operations report(s) will be directed by the **County** in consultation with the Contractor.

6.2.4. Final Project Closeout

Upon final inspection and/or closeout of the project by the **County**, the Contractor shall prepare and submit a detailed description of all debris management activities to include, but not limited to, the total volume by type of debris hauled, reduced, and/or disposed, plus the total cost of the project invoiced to the **County**. If requested, any other additional information as may be necessary to adequately document the conduct of the debris management operations for the **County** and/or government will also be provided.

6.3. Additional Supporting Documentation

The Contractor shall submit sufficient reports and/or documentation for debris loading, hauling, disposal, and load measurements as may be required by the **County** to support requests for debris project reimbursement from external funding sources.

6.4. Report Maintenance

The Contractor will maintain all reports, records, debris control tickets, and Contract correspondence for a period of not less than three (3) years for the purpose of review by the **County** and/or the government.

6.5. Contract File Maintenance

The Contractor will maintain this Contract and the invoices that are generated for the contracted services for a period of five (5) years or for the period of standard record retention of the **County**, whichever is longer.

7. RATES AND PAYMENTS

7.1. Rates

The rate per cubic yard includes all costs for debris loading, transportation, reduction by grinding, disposal, and overall project management (plus ROE site work) directed by the **County**. Removal of eligible debris shall be invoiced at **\$22.50** per cubic yard.

7.2. Unit Prices for Stumps

The rate for the removal of stumps, to include all costs associated with pulling, loading, transportation, reduction by grinding, and/or disposal, will be paid for under the Contract for the appropriate size category for stumps as follows:

- 7.2.1.** Stumps removed with 25 inch or less diameter measurements shall be invoiced at a rate of \$50 per stump.
- 7.2.2.** Stumps removed with 26 to 48 inch diameter measurements shall be invoiced at a rate of \$150 per stump.
- 7.2.3.** Stumps removed with 49 inch or larger diameter measurements shall be invoiced at a rate of \$250 per stump.
- 7.2.4.** All stump diameter measurements will be made 24 inches up the trunk from where the tree originally exited the ground.
- 7.2.5.** The Contractor will fill to level the ground holes created by stump removal performed by the Contractor with material acceptable to the County.

7.3. Billing Cycle

The Contractor shall invoice the **County** on a weekly basis reflecting the close of business on Saturday of each week. All invoices will be supported by serialized debris control tickets and disposal site verification of the actual cubic yardage for each load of debris.

7.4. Payment Responsibility

The **County** agrees to accept the weekly invoice and supporting documentation as set out in Section 7.3 of this Contract and process said invoices for payment in a timely manner.

7.5. Ineligible Work

The Contractor will not be paid for the removal, transportation, reduction, and/or disposal of any material as may be determined by the **County** to be ineligible debris.

7.6. Rate/Service Negotiations

Unknown and/or unforeseen events or conditions may require an adjustment to the stated rates in Section 7.1 and 7.2 of this Contract. Any amendments, extensions, or changes to the scope of contracted services or rates are subject to full negotiation(s) between the **County** and the Contractor.

7.7. Specialized Costs

The Contractor may invoice the **County** for costs incurred to mobilize and demobilize specialized equipment required to perform services in addition to those specified under Section 1.0 of this Contract. Additional services will only be performed if/when directed by the **County**. The costing rate for specialized mobilization shall not exceed the government allowance for such equipment.

8. MISCELLANEOUS

8.1. Notice

Whenever in this Contract it is necessary to give notice or demand by either party to the other, such notice or demand shall be given in writing and forwarded by certified or registered mail and addressed as specified by each party.

8.2. Applicable Law

The laws of the State of Franklin shall govern this Contract.

8.3. Entire Contract

This Contract (including any schedules or exhibits attached hereto) constitutes the entire Contract and understanding between the parties with respect to the matters contained herein. This Contract supersedes any prior contracts and/or understandings relating to the subject matter hereof. This Contract may be modified, amended, or extended by a written instrument executed by both parties as per Sections 7.6 and 8.1 of this Contract.

8.4. Waiver

In the event one of the parties waives a default by the other, such a waiver shall not be construed or deemed to be a continuing waiver of any subsequent breach or default of the other provisions of this Contract, by either party.

8.5. Severability

If any provision of this Contract is deemed or becomes invalid, illegal, or unenforceable under the applicable laws or regulations of any jurisdiction, such provision will be deemed amended to the extent necessary to conform to applicable laws or regulations. If it cannot be so amended without materially altering the intention of the parties, it will be stricken and the remainder of this Contract will remain in full force and effect.

IN WITNESS THEREOF, the Contractor has caused this Contract to be signed in its corporate name by its authorized representative and the **County** has caused this Contract to be signed in its legal corporate name by persons authorized to execute said Contract as of the day and year first written above on page one.

By: _____

Title: _____

Gotham County, State of Franklin

By: _____

Title: _____

Sundown and Brady Waste Management
Systems, Inc.

GOTHAM COUNTY RESOLUTION NO. 003-117

RESOLUTION DECLARING THE DAMAGE CAUSED BY THE HURRICANE OF JULY 28, 2009 RESULTED IN AN IMMINENT DANGER TO PUBLIC HEALTH AND SAFETY

WHEREAS, on July 28, 2009, the County of Gotham suffered a natural disaster as a result of a hurricane striking the community; and,

WHEREAS, such hurricane caused significant damage to both residential and commercial structures within the community; and,

WHEREAS, such destruction, including demolished and partially demolished residential and commercial structures, poses an immediate and substantial danger to the public health and safety and health of persons and property within the community.

NOW, THEREFORE, BE IT RESOLVED BY THE GOTHAM COUNTY COUNCIL that the COUNTY declares the damage caused by the hurricane of July 28, 2009 and the resulting damage to residential and commercial structures poses an immediate and substantial danger to the public safety and health of persons and property within the community.

Adopted by the County Council this 30 day of July, 2009.



Edgar Deaugude, County Commissioner

Attest: Waite County Clerk



Helen

Contract Evaluation Questions

Answer each question and note the contract section where issues are identified or information is not provided. If the answer is unknown or not applicable, note that in your response.

1. General Contract Information

PA Program Applicant	
Request for Proposal (RFP)/ Solicitation/Contract Number	
Contractor	

2. Procurement Method

- a. Describe the procurement method used by the applicant, such as: small purchase procedures, sealed bids, competitive proposals, or noncompetitive proposals.

- b. What information has the applicant provided on the procurement process they followed?

- c. Does the procurement method follow the applicant's established procurement procedures?

- d. Describe any potential issues regarding compliance of the applicant's procurement method with PA Program funding requirements.

3. Type of Contract

a. Was the contract developed by the applicant or provided by the contractor?

b. Describe the type and terms of the contract used and its general scope.

c. Describe any issues regarding compliance of the contract type with PA Program funding requirements.

6. Contract Clauses

Identify whether the contract contains the following clauses:

- a. Termination for convenience clause, allowing the applicant to terminate the contract at any point without specifying a reason.

- b. Clause specifying that the contractor does not have the authority to determine what debris is eligible for removal, and that the applicant is not obligated to pay the contractor for any ineligible debris.

- c. Clause establishing a maximum dollar value for the contract.

- d. Clause requiring completion of the work within a specified period of time, and specification of consequences (e.g., liquidated damages) if work is not completed within the required period of time.

- e. Clause affirming the applicant's right to verify the hours worked, equipment used, and debris removed by the contractor.

- f. Clause identifying whether the contractor is responsible for obtaining all required permits and licenses, and how the costs of obtaining such will be handled.

- g. Clause requiring contractor compliance with applicable Federal, State, and local laws and ordinances, and that holds the contractor responsible for all costs incurred as a result of any violations.

7. Method of Payment

- a. Is the documentation required in order to receive payment appropriate for the type of contract?
 - i. Documentation on quantities for unit price contracts

 - ii. Verification of work completed for a lump sum contract.

 - iii. Documentation on labor, equipment, and supplies for a time and materials contract.

- b. If load tickets will be used to document debris locations, types, and quantities, does the contract explain the system used to complete and control the load tickets? Are the system and controls adequate?

- c. Does the contract specify the types of documentation which the contractor will be required to submit to the applicant, how long the contractor must retain documentation of the work completed, and the penalties for failing to retain documentation?

8. Does the contract identify bonding requirements?

9. Performance Standards

- a. Does the contract clearly establish measurable performance standards, such as the quantity of debris removed and number of passes to remove debris?

- b. Does the contract specify penalties for not complying with contract performance requirements, such as fines?

10. Does the contract specify a time to commence work from the date of Notice to Proceed? Is it reasonable?

ACTIVITY 5.2

DEBRIS CONTRACTING THREADED EXERCISE

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For your own jurisdiction or community, respond to the following questions:

1. Identify which of the anticipated debris management activities may be completed using contracted resources.

2. Identify the procurement procedures which will be followed, including any procedures applicable to procurements accomplished under emergency circumstances.

3. Do you have 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?

4. Do you have a procedure to identify pre-qualified contractors for specific debris management activities before the disaster, based on appropriate criteria (e.g., insurance, bonding, specialized experience, past performance).? Who is responsible for this function within your agency?

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UNIT 6: DEBRIS MONITORING

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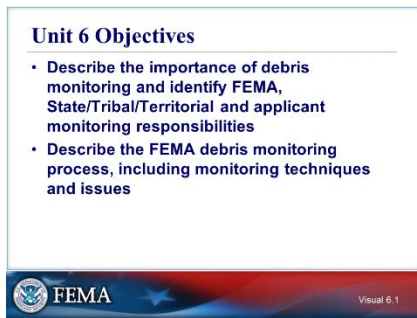
Visual 6.0

Unit 6: Debris Monitoring

Unit 6 - This unit focuses on the FEMA debris monitoring process, including monitoring techniques and issues. The unit will address the importance of debris monitoring and identify FEMA, State/Tribal/Territorial, and applicant monitoring responsibilities.

IMAGE INFO

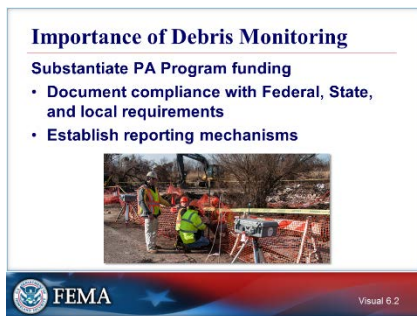
Staten Island, N.Y., Jan. 20, 2013 -- [The U.S. Army Corps of Engineers](https://www.fema.gov/media-library/assets/images/68908) begins residential debris removal of houses fully destroyed by Hurricane Sandy in the Midland Beach section of Staten Island, New York. FEMA is providing Public Assistance funds to aid partners in the cleanup. K.C.Wilsey/FEMA Photo by Kenneth Wilsey - Jan 19, 2013 - Location: Staten Island, NY. Link available at: <https://www.fema.gov/media-library/assets/images/68908>



Visual 6.1

Unit 6 Objectives

- Describe the importance of debris monitoring and identify FEMA, State/Tribal/Territorial and applicant monitoring responsibilities.
- Describe the FEMA debris monitoring process, including monitoring techniques and issues.



Visual 6.2

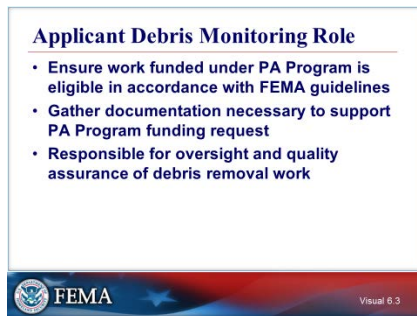
Importance of Debris Monitoring

- Proper debris monitoring supports the documentation of eligible work and costs required to receive PA Program funding, including:
 - Quantification of the amount of debris removed.
 - Work performed.
 - Costs incurred in the debris removal process.
- Proper debris monitoring supports the documentation of:
 - Debris collection.

- Processing.
- Reduction.
- Recycling.
- Disposal activities.
- Documentation is required to ensure compliance with applicable Federal, State, and local laws and regulations.
- Proper debris monitoring establishes reporting mechanisms designed to identify and resolve issues.
 - It allows FEMA an opportunity to identify and address issues that could negatively impact an applicant's PA Program funding at a point in the process where corrective action can still be taken by the applicant.
 - Information gathered by FEMA during debris monitoring activities can be also used to maintain visibility on the status of applicant debris-related activities.
- Regulatory requirements relevant to debris monitoring include:
 - 44 CFR 206.202(b)(4).
 - Requires submittal of “documents necessary for the award of grants”.
 - 44 CFR 13.40(a).
 - Requires management of day-to-day operations of grant and subgrant activities “to assure compliance with applicable Federal requirements and that performance goals are being achieved”.
 - 44 CFR 206.205(b)(1).
 - Requires an accounting of eligible costs for each large project and certification by the grantee “that reported costs were incurred in the performance of eligible work, [and] that the approved work was completed”.
- FEMA, the State/Tribe/Territory, and applicants all play a role in debris monitoring and have specific responsibilities.

IMAGE INFO

Staten Island, N.Y., Jan. 20, 2013 -- [The U.S. Army Corps of Engineers begins residential debris removal](#) of houses fully destroyed by Hurricane Sandy in the Midland Beach section of Staten Island, New York. FEMA is providing Public Assistance funds to aid partners in the cleanup. K.C.Wilsey/FEMA - Location: Staten Island, NY. Link available at: <https://www.fema.gov/media-library/assets/images/68910>

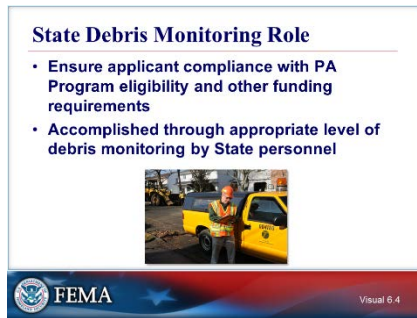


Visual 6.3

Roles and Responsibilities

Applicant Debris Monitoring Role

- Applicants have primary responsibility for ensuring that their debris removal and disposal operations comply with PA Program eligibility criteria.
 - This responsibility applies regardless of whether the applicant accomplishes its debris- related activities with force account or contracted resources.
 - While an applicant may accomplish monitoring activities with contracted resources, they still have the responsibility to ensure compliance with PA Program guidelines.
- Applicant monitoring is required to generate the documentation needed to support the applicant's request for PA Program funding and meet the documentation requirement stated in 44 CFR 206.202(b)(4).
 - Examples of applicant monitoring documentation include:
 - Load tickets specifying:
 - Debris quantities.
 - Types.
 - Pickup locations.
 - Logs confirming hours of operation and equipment used.
 - If the scope of applicant debris removal activities includes eligible and ineligible work, the applicant monitoring documentation must clearly



Visual 6.4

differentiate between the two.

- Applicant debris monitoring activities also support maintaining a basic level of oversight and quality assurance, which should occur on any well-managed project.

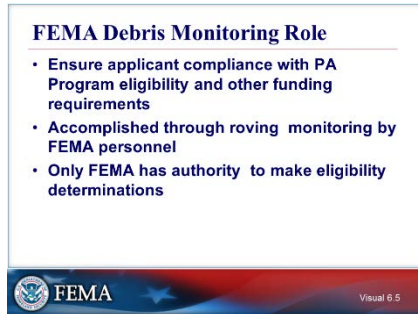
State Debris Monitoring Role

- The State/Tribe/Territory, as part of their general authorities and responsibilities as the Grantee, must ensure applicants comply with all PA Program funding requirements.
 - The basis for this requirement stems from the provisions of 44 CFR 13.40(a) and 206.205(b)(1).
 - This includes ensuring that applicants conduct sufficient debris monitoring and are adequately managing their debris-related activities.
 - PA Program funding requirements include eligibility requirements and Special Considerations requirements.
- Part of the State's/Tribe's/Territory's fulfillment of their role should include conducting an appropriate level of debris monitoring with State/Tribal/Territorial personnel.
 - Examples of State/Tribe/Territory monitoring activities include:
 - Random monitoring at debris collection sites.
 - DMS to confirm the adequacy of applicant debris monitoring and compliance with pa program funding requirements.
 - State debris monitoring activities also include:
 - Notifying applicants when issues are identified.
 - Outlining corrective actions.

IMAGE INFO

Oceanside, N.Y., Nov. 12, 2012 -- [State Department of Transportation Inspector](#) Thomas Dankowski is monitoring debris removal contractors in this area. FEMA Public Assistance funds will reimburse the state for a portion of cost of debris removal. FEMA helps individuals

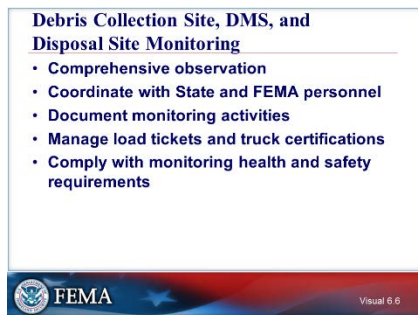
and communities recover from disasters such as Hurricane Sandy. George Armstrong/FEMA - Location: Oceanside, NY. Link available at: <https://www.fema.gov/media-library/assets/images/66805>



Visual 6.5

FEMA Debris Monitoring Role

- FEMA, as part of their general authorities and responsibilities as the funding agency, must ensure applicants comply with all PA Program funding requirements.
 - This includes ensuring applicants conduct sufficient debris monitoring and are adequately managing their debris-related activities.
 - PA Program funding requirements include eligibility requirements and Special Considerations requirements.
- FEMA fulfills its role through an appropriate level of roving debris monitoring by the Debris Task Force.
- Only FEMA has the authority to make eligibility determinations regarding debris-related activities.



Visual 6.6

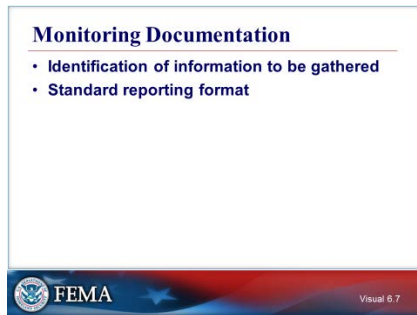
Monitoring Techniques and Considerations

Debris Collection Site, DMS, and Disposal Site Monitoring

The applicant’s debris monitoring approach should specify the tasks required at debris collection sites, DMS, and disposal sites, including:

- Comprehensive observation of debris operations to ensure compliance with PA Program eligibility criteria.
- Promptly report issues that require action, such as safety concerns, non-compliance with the debris removal scope of work, improper equipment use, and ineligible debris.
 - Safety considerations at debris collection sites may include checking the area for downed power lines, traffic control needs, and safe operation of trucks and equipment.

- Environmental compliance issues may include proper segregation of HHW.
- Coordinate with State/Tribal/Territorial and FEMA debris monitoring personnel on debris monitoring activities and the resolution of any monitoring issues.
- Document monitoring activities on required monitoring forms and reports.
 - Documentation of eligible work must sufficiently quantify debris quantities and other work performed.
 - Eligible and ineligible work and costs must be clearly distinguished.
- If applicable to the method of debris removal, accurately complete and physically control load tickets for each load, and complete certifications of truck and trailer capacities.
- Compliance with applicant debris monitoring health and safety standards.



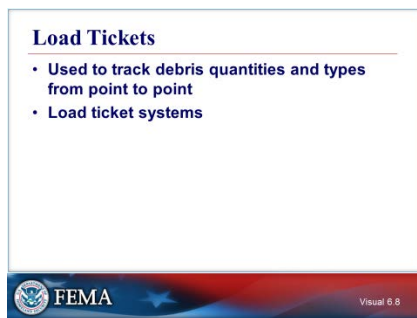
Visual 6.7

Monitoring Documentation

Documentation is required to support an applicant's request for PA Program funding.

- Examples of information that monitors may gather include:
 - A log of the load tickets they issue or process to document debris load quantities, types, and locations.
 - Observations on debris removal personnel labor hours, and equipment and materials used (important for work accomplished with force account resources or under a time and materials contract).
 - Information on discrete quantities of work completed, such as hazardous trees removed.
 - Documentation that debris was properly disposed of at a permitted facility.
 - Logs of environmental monitoring activities and incidents at DMS or disposal sites.

- Logs of health and safety incidents.
- Documentation specific to PPDR and demolition of private structures.
- Documentation on any damage to utility components, driveways, road surfaces, private property, vehicles, etc. resulting from debris removal activities.
- Standard reporting formats make it easier to gather data and compile it into summary reports.
 - Hazardous Stump Extraction and Removal Eligibility, Public Assistance Program and Policy Guide, contains a Hazardous Stump Worksheet form.
 - FEMA offers standardized forms for documenting force account resources.



Visual 6.8

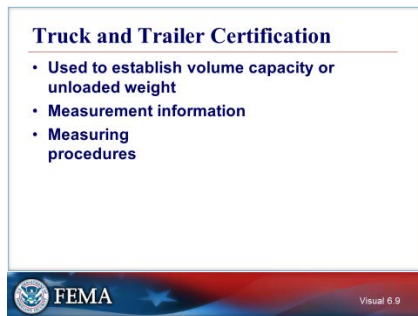
Load Tickets

The applicant's approach to debris monitoring should clearly describe how load tickets will be used and the information they will contain.

- A load ticket is used to track quantities and types of debris from the point at which it is collected to the point at which it is deposited at a DMS or disposal site.
 - Load tickets are generally necessary when information is required on debris quantities and types for contractor payment, such as a unit price contract.
 - Load tickets are also used to support an applicant's request for PA Program funding.
 - A comprehensive load ticket system may not be necessary for some types of debris removal work, such as debris removal accomplished with force account resources or a time and materials contract.
 - An applicant's request for PA Program funding must contain sufficient information on the quantities and types of debris removed to establish the eligible scope of work and cost

reasonableness.

- The basic system for managing load tickets involves initiation of the load ticket by an applicant debris monitor at a debris collection site and finalization of the load ticket by an applicant debris monitor at a DMS or disposal site.
 - Copies of load tickets are retained by the debris monitor and debris hauler at each step in the process, and completed load tickets are used for maintaining records of actual debris quantities and types removed (and as a basis for contractor payment, if applicable).
 - Traditional load ticket systems have used a preprinted multi-copy paper form.
 - Systems using handheld electronic data collection devices have also been used.



Visual 6.9

Truck and Trailer Certification

If truck and trailer certification measurements are necessary due to the manner in which debris removal operations will be conducted, the applicant's approach to debris monitoring should describe the process for certification measurements.

- Truck and trailer certification measurements establish the volume capacity or unloaded weight of trucks and trailers used to haul debris, depending on whether debris quantities are tracked based on weight or volume.
 - If debris quantities are tracked based on weight and trucks will always be weighed upon entry and exit at DMS or disposal sites, the unloaded truck weight is automatically established each time for every load; therefore, separate periodic certification of unloaded truck weights is unnecessary.
- Truck and trailer certifications should contain the following information:
 - All certifications should include:
 - License plate number.
 - Truck identification number assigned by the

truck owner.

- Short physical description of the truck.
- Photographs.
- Certifications of volume capacity should include the measured volume of the hauling bed.
- Certifications of unloaded weight should include the measured unloaded weight.
- Truck and trailer certification measurements should be completed and documented at the beginning of debris removal activities, and should be periodically re-verified, especially if tampering intended to manipulate capacity is suspected.
 - Truck numbers and measured capacities are often painted in large letters on the sides of trucks and trailers, for ease of reference and to prevent confusion.
 - Copies of the certifications should be made available to DMS or disposal site monitors for easy reference when evaluating incoming trucks and trailers.



Visual 6.10

Truck Inspection Considerations

- If the measurement of debris quantities will be based on volume, considerations and potential issues associated with truck certification measurements and inspections include:
 - Ensuring the inside (not outside) dimensions of truck hauling beds are measured.
 - Ensuring debris monitors are provided copies of truck certification paperwork, for use when inspecting trucks and trailers to determine loaded volumes.
 - Conducting recertification measurements on a periodic basis, and whenever tampering intended to alter truck and trailer volumes is suspected.
 - Lightly loaded debris with large voids and excessive air space, such as debris loads containing uncompact leafy vegetative debris.
 - Attempts to claim more than 100 percent of the certified capacity because the debris is piled

- above the edge of the hauling bed.
- Altering of truck numbers or switching of license plates in an attempt to use a truck or trailer with a lower capacity than the one originally certified.
 - Monitors should pay close attention when magnetic truck numbers are used.
 - Monitors should use common sense and watch for situations where the certified truck capacity does not appear to match the observed capacity of the vehicle.
- Switching the trailer originally attached to a truck for a smaller trailer.
- Artificial reductions in capacities after certification, e.g., the addition of false bottoms to hauling beds or the removal of sideboards from hauling beds.
- Mixing eligible and ineligible debris in a load, such as garbage mixed with eligible debris.
- Improper mixing of hazardous materials with other types of debris.
- If the measurement of debris quantities will be based on weight, considerations and potential issues associated with truck certification measurements and inspections include:
 - Many of the considerations associated with measurements based on volume, such as:
 - Ensuring that debris monitors are provided copies of truck certification paperwork.
 - Conducting recertification measurements on a periodic basis.
 - Altering truck numbers or switching license plates.
 - Switching the trailer originally attached to a truck for a heavier trailer.
 - Mixing eligible and ineligible debris in a load (excessive soil, concrete, or other heavy items can be an indicator that ineligible debris is being intentionally included).
 - Improper mixing of hazardous materials with other types of debris.

- The scale used to certify and periodically recertify the unloaded weights of trucks and trailers must be maintained in proper calibration.
- Artificial measures that increase the unloaded weight after the truck or trailer is certified, such as the addition of steel plates to hauling beds and the addition of tailgates or other components of the truck or trailer that were not present when the truck was certified.
- Spraying water on debris may be necessary, or even required, to control dust; however, monitors should identify when the weight of debris is artificially increased through the addition of excessive water.

Some, but not all, potential issues associated with measuring debris quantities based on weight can be avoided by measuring the loaded and unloaded weights of trucks each time they unload debris at the DMS or disposal site; however, that approach may require the use of additional scales and monitoring personnel, and may increase the unloading time at DMS and disposal sites.



Visual 6.11

Truck Inspection Considerations (Cont'd)

This photo provides an example of a truck that could potentially be assessed as 100 percent loaded, provided there are no voids or excessive air space present which are not visible in the photo.



Visual 6.12



Visual 6.13



Visual 6.14

Truck Inspection Considerations (Cont'd)

- This photo provides an example of a truck that is less than 100 percent loaded.
- A better view into the hauling area of the truck would be needed to determine the actual load volume.

Truck Inspection Considerations (Cont'd)

- Trucks and trailers with a missing or nonstructural tailgate cannot be compacted to their full capacity; therefore, FEMA requires an automatic reduction of the debris volume to a maximum of 85 percent of the certified truck capacity.
- For example, if a truck with a total capacity of 50 cubic yards is determined to have an observed load volume of 80 percent, or 40 cubic yards, but does not have a tailgate, the recorded volume should be calculated as follows:

$$\{(50 \text{ CY} * 80 \text{ percent full}) * 85 \text{ percent of observed capacity}\} = 34 \text{ CY}$$

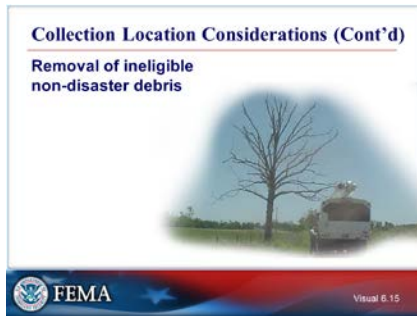
Collection Location Considerations

Considerations and potential issues at debris collection sites include:

- Proper loading of trucks and trailers.
 - Ensuring that trucks do not arrive at collection sites already partially or fully loaded.
 - A truck could potentially arrive at a collection site after having collected a partial load at another site; however, in that case, a load ticket should have been issued at the other site and care must be taken to not count the same quantity of debris twice.
 - Ensuring it is noted on the load ticket if a truck or trailer is loaded by hand, so an appropriate

- deduction is made in accordance with Debris Operations – Hand-Loaded Trucks and Trailers.
- FEMA requires that the observed load for a hand-loaded truck or trailer be reduced by an automatic 50 percent when calculating the actual eligible volume.
 - When trucks are mechanically loaded, it is still important to verify that appropriate types of equipment are used in an appropriate manner to achieve an acceptable level of debris compaction.
 - For example, using a small front loader that can barely reach over the side of the truck to load vegetative debris does not allow for much compaction of the debris by the front loader.
 - Damage caused by debris operations.
 - While damage caused by applicant personnel or contractors through negligence is ineligible for PA Program funding, additional damage caused during the completion of debris operations may be eligible if it was caused during the course of eligible work and could not have been reasonably avoided.
 - It is important to ensure that applicant debris monitoring personnel note any damage caused by debris operations. It will help form the basis for the applicant's request for PA Program funding to address the damages, or will form the basis for the applicant requiring the contractor to repair the damages, if the terms of the contract specify that the contractor is responsible for additional damage caused by their actions.
 - Appropriate segregation of debris types, in accordance with the scope of work and applicable Federal, State/Tribal/Territorial, and local laws and regulations.
 - Generally, hazardous materials such as HHW are required to be collected separately from other types of debris, due to special handling requirements and increased handling costs.
 - Removal of ineligible debris or completion of other

ineligible work.



Visual 6.15

Collection Location Considerations (Cont'd)

- Removal of ineligible debris unrelated to the disaster.
- Removal of the tree in this photo was ineligible, as it was dead before the disaster event occurred and was unaffected by the disaster event.



Visual 6.16

Collection Location Considerations (Cont'd)

- Removal of debris from ineligible facilities.
- Removal of the vegetative debris from the side of the private road in the photo was ineligible, as the applicant did not provide documentation demonstrating that the applicant had legal responsibility to complete the work.



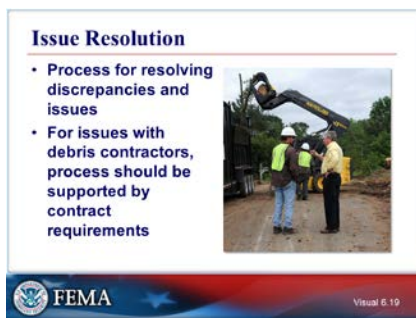
Visual 6.17

Collection Location Considerations (Cont'd)

- Removal of ineligible debris from beyond the right-of-way.
- Removal of the vegetative debris in the photo was ineligible, as it was determined that the contractor had gone beyond the public right-of-way and cut undamaged trees, which were then brought to the right-of-way and collected.



Visual 6.18



Visual 6.19

Collection Location Considerations (Cont'd)

- Cutting of ineligible tree limbs.

Removal of the limbs from the tree in the photo was determined to be ineligible, as the limbs were undamaged by the disaster event.

Issue Resolution

- The applicant's debris monitoring approach should outline how discrepancies and issues between the applicant, their contractors, the State/Tribe/Territory, and FEMA will be communicated and resolved.
 - The debris monitoring process may identify issues related to:
 - Eligible work.
 - Eligible costs.
 - Health and safety.
 - Environmental requirements.
 - Historic preservation requirements.
 - Other.
 - Clear and timely communication with key personnel should be used to:
 - Identify issues.
 - Develop and implement resolutions.
 - Document critical information for future reference.
- The applicant's debris monitoring approach should outline how debris quantities, hours worked, equipment used, etc. that are claimed by the contractor as the basis for payment are verified by the applicant, including information on how discrepancies and issues will be resolved.

IMAGE INFO

Pleasant Grove, Ala., May 16, 2011 -- [FEMA Public](#)

[Assistance Debris Task Force Leader](#) Dave Brown speaks with a debris removal contractor. FEMA Public Assistance funds may reimburse state, county, and local governments for a portion of the cost of debris removal. George Armstrong/FEMA - Location: Pleasant Grove, AL. Link available at: <https://www.fema.gov/media-library/assets/images/58908>



Visual 6.20

Monitoring Equipment

Common equipment and resources used by personnel when conducting roving debris monitoring include:

- Digital camera.
- Copies of standard monitoring forms established by the DTFL.
- Notebook.
- Calculator.
- Measuring tape.
- Handheld GPS unit.
- Electronic and hardcopy maps, such as Microsoft Streets and Trips (for identifying and documenting monitoring locations).
- Contact information for reporting issues, and in case of a health or safety emergency.
- First aid kit and appropriate personal protective equipment for the identified health and safety hazards, such as hardhats and reflective vests.
- General logistical equipment, such as cellular phones and vehicles.



Conduct Monitoring

Slide provides typical examples of applicant debris removal and debris monitoring activities at debris collection sites and DMS and disposal sites that may be observed during debris monitoring activities.

Visual 6.21



Visual 6.22



Visual 6.23



Visual 6.24

Conduct Monitoring (Cont'd)

Slide provides typical examples of applicant debris removal and debris monitoring activities at debris collection sites and DMS and disposal sites that may be observed during debris monitoring activities.

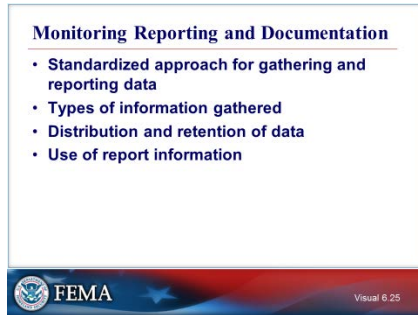
Conduct Monitoring (Cont'd)

Slide provides typical examples of applicant debris removal and debris monitoring activities at debris collection sites and DMS and disposal sites that may be observed during debris monitoring activities.

Conduct Monitoring (Cont'd)

Slide provides typical examples of applicant debris removal and debris monitoring activities at debris collection sites and DMS and disposal sites that may be observed during debris monitoring activities.

Reporting and Documentation

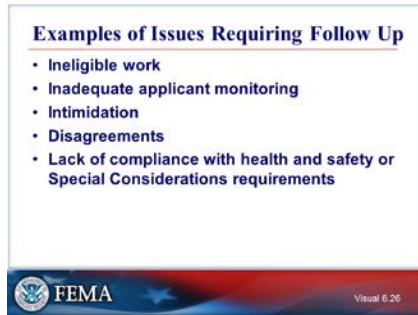


Visual 6.25

Debris Monitoring Reporting and Documentation

Debris Monitors primary job is to document issues affecting project funding, and Debris Technical Specialists play a critical role in ensuring the proper gathering, processing, and use of the documentation.

- The Applicant has overall responsibility for establishing and distributing information on a standard approach for gathering and documenting data.
- Documentation must be distributed to the appropriate personnel (including applicants and the State) and saved in the proper locations for future reference.
- The information gathered will be used for multiple purposes, including:
 - Coordinating with the State and applicants on debris monitoring activities.
 - Identifying and resolving issues.
 - Generating updated estimates of the quantities of debris removed and debris remaining.
 - Project formulation.
- The types of information gathered and reports used could include:
 - Daily status reports covering items such as meetings with applicant personnel, observations of applicant debris monitoring activities, and issues identified.
 - Logs used to validate applicant monitoring activities at debris loading sites, DMS, and disposal sites.
 - Logs used to quantify or validate specific items of work, such as removal of hazardous trees, limbs, and stumps, the eligible scope of PPDR, or demolition on a specific property.
 - Final reports used to provide a summary of observations and any outstanding issues.
 - Updated debris estimates based on field observations and information from applicants.



Visual 6.26

Examples of Issues Requiring Follow Up

Examples of debris monitoring issues that require follow up communication with the appropriate stakeholders include:

- Observations of ineligible work (unless it has already been identified and separated as an ineligible part of the applicant's debris-related activities, in which case it may only need to be documented for future reference).
- Inadequate monitoring by the applicant, such as a lack of issuing load tickets for debris removal work completed by a contractor under a unit price contract, or a lack of truck certification measurements.
 - Excessive applicant debris monitoring effort (e.g., the use of more debris monitoring personnel than necessary) and ineligible debris monitoring activities are a related issue.
- Intimidation of FEMA Debris Monitoring Specialists or applicant debris monitors by the personnel conducting debris removal work.
- Disagreements with applicant debris monitoring personnel or with personnel conducting debris removal work.
- Lack of compliance with health and safety or Special Considerations requirements.



Visual 6.27

Monitoring Health and Safety

- Debris monitoring personnel have primary responsibility for their individual health and safety and must comply with all applicable FEMA health and safety requirements, including:
 - Guidance on hazard identification.
 - Hazard controls.
 - Personal protective equipment.
 - Health and safety incident management procedures.
- The health and safety of other personnel providing debris monitoring support is the responsibility of the

other Federal agencies or contractors' employers, respectively; however, the personnel may also be required to comply with applicable FEMA health and safety requirements for debris monitoring activities.

- The State, applicants, and debris removal contractors are responsible for the health and safety of their respective personnel.
- Debris monitoring personnel should understand the typical hazards associated with debris monitoring activities and be able to effectively identify potential hazards in the field.
 - Examples of potential hazards include:
 - Isolated areas and areas with difficult access.
 - Heavy machinery.
 - Loud equipment and traffic.
 - Limited communication.
 - Extreme weather.
 - Cuts, abrasions, and punctures.
 - Slips, trips, and falls.
 - Personal security issues, such as high crime areas or threats by debris contractors.
 - Animals, insects, and plants.
 - Debris contaminated by infectious waste or sewage.
 - HHW and asbestos.
- Debris monitoring personnel should be knowledgeable of the appropriate hazard controls that can be implemented to reduce hazards to the lowest practical level.
 - Examples of hazard control measures relevant to debris monitoring activities include:
 - Avoiding traveling alone to remote areas or areas that present a personal safety risk.
 - Establishing a regular communication schedule to keep track of the locations and status of debris monitoring personnel.
 - Carrying sufficient water and scheduling regular rest periods in extreme heat.

- Avoiding walking on or touching disaster debris, if possible.
 - Observing posted safety warnings and traffic signs at DMS and disposal sites.
 - Obtaining and using appropriate personal protective equipment, such as eye protection, hearing protection, head protection, respiratory protection, and personal visibility.
- Debris monitoring personnel should be knowledgeable in FEMA procedures for managing health and safety incidents, so that immediate and appropriate action can be taken in the event of an incident.

IMAGE INFO

[A rescue worker removes protective shoes](https://www.fema.gov/media-library/assets/images/39844) after working inside of the Pentagon. Photo by Jocelyn Augustino/ FEMA News Photo - Location: Arlington, VA. Link available at: <https://www.fema.gov/media-library/assets/images/39844>



Visual 6.28



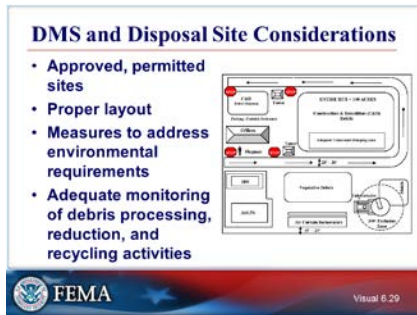
Activity 6.1: Applicant Debris Monitoring Plan Assessment

Purpose of Activity

This activity provides you the opportunity to determine the monitoring needs for debris removal and disposal activities.

Group Activity Setting

- You will work in groups to discuss the activity and document your answers on flip-chart paper, but each participant is responsible for documenting his/her solutions in their individual Student Activities Manual.
- Correct responses will be discussed as a class following the activity.



Visual 6.29

Overview of Activity

- You will have 50 minutes to answer the questions.

Use all resources, including the Student Manual and *Public Assistance Program and Policy Guide (PAPPG)*.

DMS and Disposal Site Considerations

DMS and Disposal Site Considerations

- All DMS must be approved, properly permitted sites.
 - Permitting authority for DMS typically lies with the State environmental department, and lists of approved DMS can typically be obtained from the State through the DTFL.
- Improper layouts of DMS and disposal sites can present a variety of issues, including:
 - Inadequate space may create health and safety risks, such as overly large debris piles that present a fire or collapse hazard, heavy machinery being forced to operate in tight quarters, and inadequate buffer space for activities such as burning and grinding.
 - Lack of controlled and monitored ingress and egress points for trucks makes it difficult to confirm that trucks and trailers are fully unloaded prior to exiting the facility.
 - Lack of clearly defined, separate areas for the handling of any hazardous materials, such as HHW, may present environmental compliance issues.
 - If the site is not of sufficient size and well organized, efficient operation of the site will be difficult, potentially increasing the cost of operating the site.
- Operation of DMS must include environmental monitoring activities necessary to comply with applicable Federal, State, and local environmental laws and regulations, such as periodic air and soil sampling.

- Applicant debris monitoring activities must include adequate monitoring of any debris processing, reduction, or recycling activities that occur at the site, such as burning, grinding, shredding, and compaction activities.
 - Applicant monitoring activities must be appropriate for the activity, e.g., for a time and materials contract for operation of a tub grinder, applicant monitoring personnel must conduct adequate monitoring to ensure the accuracy of labor hours and equipment usage claimed by the contractor.



Visual 6.30

DMS and Disposal Site Considerations (Cont'd)

This photo provides an example of an improper DMS layout, which lacks clearly defined space for different DMS activities and includes a large debris pile that presents a safety risk.



Visual 6.31

DMS and Disposal Site Considerations (Cont'd)

This photo provides an example of a proper DMS layout, with sufficient space allotted for different DMS activities and a logical organization that facilitates efficient operation.



Visual 6.32

DMS and Disposal Site Considerations (Cont'd)

- If debris monitoring towers are not of sturdy construction or do not include adequate protection from the elements, that may create a health and safety risk, as well as impact the ability of applicant monitors in the towers to work effectively.
- The construction of debris monitoring towers must allow for adequate inspection of trucks and trailers.
 - If the debris monitoring tower is not high enough to allow the monitor easy view of the truck or trailer contents, accurate assessment of debris quantities and identification of issues such as ineligible debris will not be possible.
 - Debris monitoring towers with lengths that are comparable to the length of debris hauling trucks, such as those in the photo on the left, are desirable because they allow for easy inspection of the entire length of trucks.
- Debris monitoring towers must be adequately staffed with applicant debris monitoring personnel.
 - For example, if trucks will pass by the same tower when entering and exiting a DMS or disposal site, it may be necessary to have at least two monitors in the tower, in order to ensure adequate inspection of trucks as they enter and exit the facility.

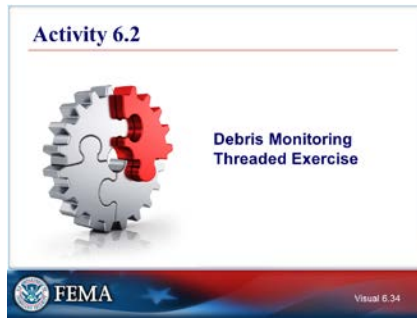


Visual 6.33

DMS and Disposal Site Considerations (Cont'd)

The handling of any hazardous materials at DMS or disposal sites, such as HHW, must comply with applicable Federal, State/Tribe/Territory, and local laws and regulations.

- In the case of an existing disposal facility that is permitted to accept hazardous materials, there may be less potential for issues because hazardous materials are normally accepted at the facility and there should be established, compliant procedures in place; however, issues may still arise.
- In the case of DMS or disposal sites with temporary permits or waivers to handle hazardous materials,



Visual 6.34



Activity 6.2: Debris Monitoring Threaded Exercise

Purpose of Activity

This activity provides you the opportunity to respond to a specific set of questions, which will assist you in addressing debris monitoring considerations in your own jurisdiction.

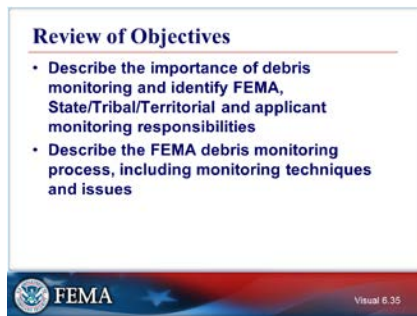
Group Activity Setting

You will complete this activity individually, followed by a class discussion.

Overview of Activity

- You will have 10 minutes to answer the questions.

Following individual work, there will be class discussion asking you to share your answers.



Visual 6.35

Review of Objectives

- Describe the importance of debris monitoring and identify FEMA, State/Tribal/Territorial and applicant monitoring responsibilities.
- Describe the FEMA debris monitoring process, including monitoring techniques and issues.



Visual 6.36

Questions?

ACTIVITY 6.1

APPLICANT DEBRIS MONITORING PLAN ASSESSMENT

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Participant Activity Instructions

You have 50 minutes to review the attached Draft Monitoring Plan and complete the Monitoring Plan Evaluation Outline. You may work in your group to complete this activity; however, you must complete your own Monitoring Plan Evaluation Outline. As a group, record your responses on the chart paper. Select a group member to present your responses to the class.

For this activity, you have been provided a:

- Draft Monitoring Plan
- Monitoring Plan Evaluation Outline

Participant Activity Scenario

A recent disaster in your jurisdiction has resulted in heavy vegetative debris in public areas and rights of way. Your department (Public Works Department—PWD) has hired a debris removal contractor to remove all disaster-related debris from public property within 90 days. The PWD will provide the necessary debris activity monitors and will manage the identified Debris Management Site. The PWD will also contract for the equipment and operators required (chippers, grinders, air curtain incinerators, etc.) at the Debris Management Site.

One of your staff engineers to prepared a monitoring plan based upon your department's decision to manage the Debris Management Site and the information provided in the debris removal contract.

Participant Activity

Review the Draft Monitoring Plan and record the information requested in the Monitoring Plan Evaluation Outline.

Draft Monitoring Plan

1. General:

A Unit Price (CY) Contract will be used to remove disaster-related debris throughout sections of the jurisdiction. Contractors will pick up the debris and haul it to a designated Debris Management Site. The contractor will work during daylight hours, 7 days/week for approximately 60 days. The contract amount to remove the debris is \$1,600,000.

2. Monitoring Requirements:

The contractor has indicated that to meet the 90-day total removal objective of the jurisdiction, 9 loaders and 27 – 20 CY dump trucks in continual operation for 60 days should be deployed. The contractors state that having a 60-day contractual objective with allowances for weather and unforeseen circumstances should ensure meeting the 90-day requirement.

It is recommended that the jurisdiction hire retired Public Works Department staff as monitors. Monitors will be required to supply their own vehicles and will get reimbursement for all meals and supplies needed.

Monitor Requirement:

	Zone I	Zone II	Zone III	Total
Site Load Monitors	7	4	2	13
DMS Load Monitors				4
DMS Equipment Monitors				4
Monitor Supervision				4
Total Monitors				25

Responsibilities:

- Load Monitors: Provide load tickets to truck drivers at pickup location.
- Debris Management Site Load Monitors: Calculate truck capacities and provide final copy of load ticket to truck drivers.
- Debris Management Site Equipment Monitors: Monitor operating times and assure efficient operation of Debris Management Site equipment.
- Monitor Supervisors: Ensure safety practices are being employed, settle conflicts, provide back-up monitoring support in case of absences, visit all monitoring site on regular basis to ensure consistency.

3. Cost estimate:

Labor:

Regular Time: (25 monitors) (\$15/hr) (8 hrs/day) (5 days/wk) (8 wks.) = \$120,000

Overtime:

(25 monitors) (\$22.50/hr) (4 hrs/day) (5 days/wk) (8 wks) + (25 Monitors) (\$22.50/hr) (12 hrs/day) (2 days/wk) (8 wks) = \$198,000

Total Salary: \$120,000 + \$198,000 = \$318,000

Equipment:

Auto: (25 monitors) (100 miles/day) (\$.32/mile) (60 days) = \$48,000

All monitors must supply their own vehicles and will get reimbursement at the Federal Government level for mileage.

Materials:

Office supplies: (25 monitors) (\$100/monitor) = \$2,500

Meals: (25 monitors) (\$30/day) (60 days) = \$45,000

Misc: \$1,000

Total Materials: \$48,500

Total Estimate: \$318,000(Labor) + \$48,000 (Equipment) + \$4,500 (Materials) = \$414,500

4. The Community Human Services Office will manage the hiring process. The Public Works Department will provide training, and the Community Finance Office will manage the administrative tasks such as payroll.

Monitoring Plan Evaluation Outline

Use the following outline to help determine completeness of the proposed monitoring plan and to identify issues requiring further information.

1. Scope of Operation

- a. Indicate responsibility for debris removal activities, management of Debris Management Sites and/or landfills:

2. Monitoring Plan Needs Analysis

- b. Removal contract and monitoring removal:

- c. Reasonableness of level of effort proposed:

- d. Monitor locations:

- e. Rationale for monitoring staff requirements:

- f. Monitoring staff organization and responsibilities:

Evaluation and Recommendations:

3. Monitoring Plan Operations

- g. Expedited hiring process:
 - i. Responsible department for administrative matters
 - ii. Knowledge and skills required for monitors

h. Training:

i. Reporting requirements:

j. Contract Dispute Resolution Procedures:

4. Monitoring Plan Cost Estimate

k. Explanation of assumptions and calculations:

l. Reasonableness of costs:

Evaluation and Recommendations:

ACTIVITY 6.2

DEBRIS MONITORING THREADED

EXERCISE

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For your own jurisdiction or community, respond to the following questions:

1. 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.

2. Do you have process or a plan for hiring and training debris monitors? If not, who should develop this plan?

3. Do you have a defined process for regularly evaluating the efficiency and effectiveness of the debris collection method and for making adjustments?

4. Describe the process used to monitor contractor activities, including specific debris monitoring tasks, debris monitor staffing, and monitoring documentation that will be gathered.

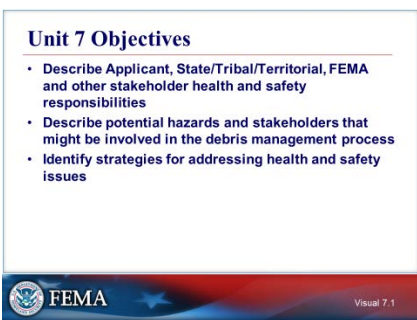
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UNIT 7: HEALTH AND SAFETY

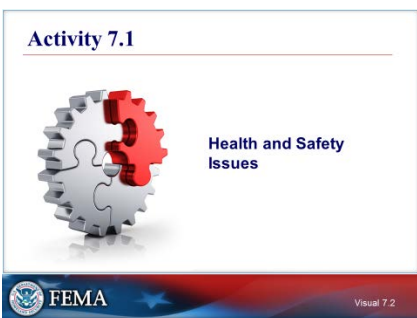
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Visual 7.0



Visual 7.1



Visual 7.2

Unit 7: Health and Safety

IMAGE INFO

New York, N.Y., Dec. 14, 2012 -- Administrator Craig Fugate, pictured, gets a tour of Bellevue Hospital in Manhattan, by Associate Executive Director of Facilities Management, Michael Rawlings. Due to the continuing efforts of cleanup and abatement, visitors are required to wear protective gear when in areas impacted by flood waters. Jocelyn Augustino/FEMA - Location: New York, NY. Link available at: <http://www.fema.gov/media-library/assets/images/68290>

Unit 7 Objectives

- Describe potential hazards and stakeholders that might be involved in the debris management process.
- Describe Applicant, State/Tribal/Territorial, FEMA and other stakeholder health and safety responsibilities.
- Identify strategies for addressing health and safety issues.



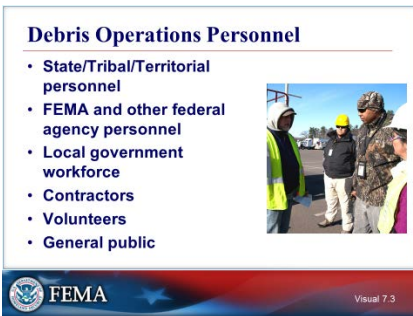
Activity 7.1: Health and Safety Issues

Purpose of Activity

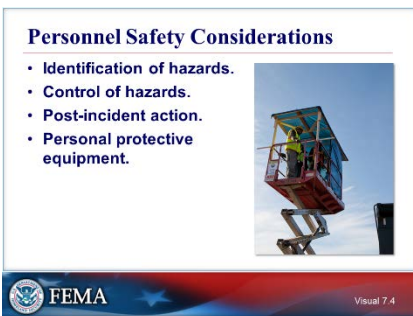
This activity provides you the opportunity to respond to questions addressing health and safety issues associated with Debris Management Planning.

Group Activity Setting

You will complete this activity in small groups; however, each participant is responsible for documenting the work in their Student Activity Manual. Groups will be asked to share and discuss their results with the class.



Visual 7.3



Visual 7.4

Overview of Activities

- You have 35 minutes to answer the questions.
- Following the group work, you may be asked to share your answers.

Worker/Public Health and Safety

Debris Operations Personnel

There are Federal, State/Tribal/Territorial, and local health and safety laws and regulations applicable to debris management activities.

IMAGE INFO

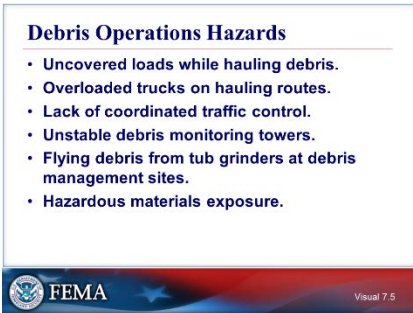
Windsor, Conn., Dec. 12, 2011 -- Joe Depetro discusses debris management with [FEMA workers](#) Ron Conrado, Planning, Larry Lowe, Debris Management, and Maria Rodriguez, Public Assistance. FEMA provides debris management as part of Category A Public Assistance. Photo by Ed Edahl/FEMA - Location: Windsor, CT. Link available at: <http://www.fema.gov/media-library/assets/images/63451>

Personnel Safety Considerations

- Consider 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.
- Consider 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.

IMAGE INFO

Windsor, Conn., Dec. 12, 2011 -- Lashaun Henry, a [contract worker](#) for FEMA, and other on-site personnel, ride up in a mobile platform to examine the contents of a debris truck. FEMA provides debris management as part



Visual 7.5



Visual 7.6

of Category A Public Assistance. Photo by Ed Edahl/FEMA - Location: Windsor, CT. Link available at <http://www.fema.gov/media-library/assets/images/63459>

Debris Operations Hazards

Health and Safety Strategy

Health and Safety Strategy

- The health and safety strategy should identify potential hazards at debris loading areas and DMS.
- Debris operations involve the use of heavy equipment to move and process various types of debris. Many of these actions can pose safety hazards to emergency response and recovery personnel and the public.
- In addition to those safety hazards, exposure to certain types of debris, such as building materials that contain asbestos and mixed debris that contains hazardous materials, can pose potential health risks to emergency workers.
- 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.


IMAGE INFO

[HAZMAT teams](#) spray down homes sites during debris removal to mitigate airborne toxic chemicals such as ash, household cleaning products and asbestos. FEMA is

working closely with the Environmental Protection Agency, the State of California and homeowners to remove toxic debris under the Public Assistance Program. Adam DuBrowa/FEMA. Link available at: <http://www.fema.gov/media-library/assets/images/111530>

Health and Safety Strategy (cont'd)

- Determine method for disseminating information.
- Establish how compliance will be monitored.
- Determine corrective actions if minimum safety standards are not met.



FEMA Visual 7.7

Visual 7.7

Health and Safety Strategy (cont'd)

- Provide information on hazardous conditionals to all stakeholders
- Set guidelines on appropriate and proper use of controls and personal protective equipment
- Include health and safety requirements and training in contracts
- Educate your workforce on health and safety issues and procedures

FEMA Visual 7.8

Visual 7.8

Health and Safety Strategy (cont'd)

- Establish a protocol for reporting health and safety concerns and issues, as well as any incidents that occur.
- 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.
- 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.

IMAGE INFO: <http://www.fema.gov/media-library/assets/images/54450>

Jacksonville, Fla., September 18, 2008 -- [Tower Monitor](#)
Cody Southard estimates the percentage of load on this exiting truck to determine what will be paid by cubic yard. This is one of nine temporary staging sites where FEMA Public Assistance(PA) funds probably will be paying 75% of the cost for this Tropical Storm Fay cleanup. George Armstrong/FEMA - Location: Jacksonville, FL. Link available at: <http://www.fema.gov/media-library/assets/images/54450>



Visual 7.9



Activity 7.2: Health and Safety Threaded Exercise

Purpose of Activity

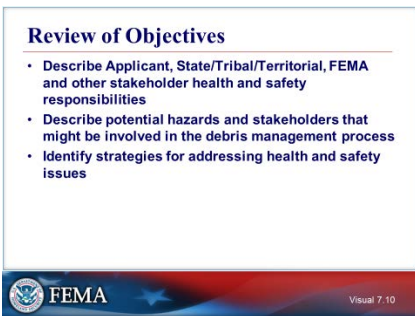
This activity provides you the opportunity to respond to a set of questions, which will assist you in addressing health and safety considerations in your own jurisdiction.

Group Activity Setting

- You will complete this activity individually, followed by a class discussion.

Overview of Activity

- You have 10 minutes to answer the questions.
- Following individual work, you may be asked to share your answers.



Visual 7.10

Review of Objectives

- Describe Applicant, State/Tribal/Territorial, FEMA and other stakeholder health and safety responsibilities.
- Describe potential hazards and stakeholders that might be involved in the debris management process.
- Identify strategies for addressing health and safety issues.



Questions?

Visual 7.11

ACTIVITY 7.1

HEALTH AND SAFETY ISSUES

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ACTIVITY 7.2

HEALTH AND SAFETY THREADED EXERCISE

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For your own jurisdiction or community, respond to the questions below. Be sure to identify your local, state, and federal safety requirements that will impact debris operations where applicable.

1. Identify the specific responsibilities of debris management personnel and other stakeholders regarding health and safety, and identify the individual within the organizational structure with primary responsibility for ensuring compliance with health and safety requirements.

2. How will information on health and safety requirements and procedures be distributed to all stakeholders?

3. Do your safety procedures include the training of staff on items such as identification of hazards and proper use of personal protective equipment?

4. Do your safety procedures include protocols for reporting health and safety concerns and issues, as well as any incidents that occur? Identify your related protocols.

5. Describe how the health and safety of contractor staff and other external personnel involved in the jurisdiction's debris management effort will be addressed.

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UNIT 8: PUBLIC ASSISTANCE OVERVIEW

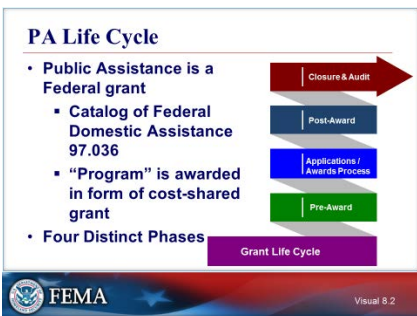
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Visual 8.0



Visual 8.1



Visual 8.2

Unit 8: Public Assistance Overview

Unit 8 – This unit will focus on the Finance & Administration portion of the Debris Management Plan, including Grant Life Cycle and documentation.

IMAGE INFO

Vestal, N.Y., October 3, 2011 -- The [FEMA Area Field Office \(AFO\)](https://www.fema.gov/media-library/assets/images/62665) opens outside Binghamton for operations. FEMA uses AFO's when the Joint Field Office and the affected areas are not in a commutable distance, thus maximizing relief efforts for disaster survivors. Adam DuBrowa/ FEMA - Location: Vestal, NY. Link available at: <https://www.fema.gov/media-library/assets/images/62665>

Unit 8 Objectives

- Identify State/Tribal/Territorial roles and responsibilities in the Grant Life Cycle.
- Identify Grantee/Recipient and subgrantee/subrecipient documentation requirements for reimbursement.
- Identify various components of closure and audits.

Grant Life Cycle

PA Life Cycle

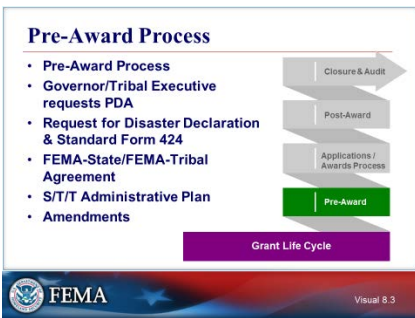
- Public Assistance is a Grant.
 - The PA Program has a Catalog of Federal Domestic Assistance # - 97.036:
 - This number, similar to other Federal grants, is used to classify the funding stream and is utilized for reporting purposes at the grantee level.
 - The “Program” is awarded in the form of a cost-shared grant.
 - Although it is often referred to as a “Program,” Public Assistance is awarded in the form of a

cost-shared grant to a grantee. The grantee is then responsible for the administration of the grant.

- Components of the Grant Life Cycle.
 - Note that this process can be further divided into two distinct phases:
 - Grant development phase (Pre-Award and Application/Award).
 - Grant monitoring and closeout phase (Post-Award and Closeout and Audit).
 - The Grant Life Cycle begins prior to a disaster occurring and continues until all grants have been closed.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

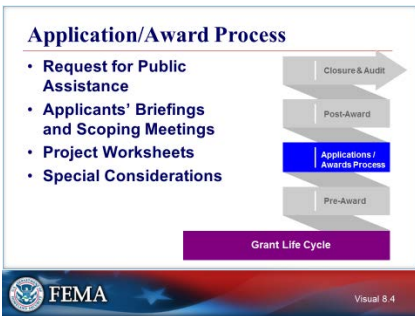


Visual 8.3

Pre-Award

- The Pre-Award process is part of the grant development phase.
- The State’s/Tribe’s/Territory’s responsibilities in this phase are to:
 - Request disaster assistance and joint PDAs.
 - Complete the Request for Disaster Declaration and application for Federal assistance SF-424.
 - Ensure that the FEMA-State/FEMA-Tribe Agreement is signed by a Governor’s Authorized Representative (GAR) or Tribal Authorized Representative (TAR) (post-declaration, pre-award, etc.).
 - Establish procedures for grant administration by ensuring that a State/Tribal/Territorial Administration Plan is current and in place.
 - Make amendments as necessary to the above referenced documents.

References



Visual 8.4

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

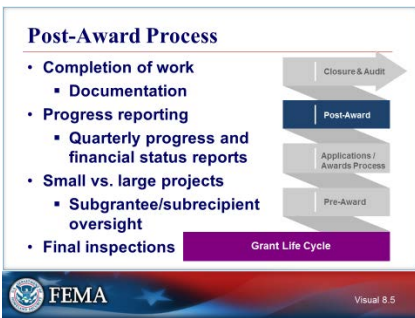
Application/Award Process

- The Application/Award process is part of the grant development phase.
 - Note that this step relies heavily on the applicant's participation in the Public Assistance Program.
- The State's/Tribe's/Territory's responsibilities in this step are to:
 - Conduct the Applicants' Briefing.
 - Participate in and/or lead Scoping Meeting.
 - Provide support for performing damage assessments to identify damages within the time frames outlined in PA Policy.
 - Submit necessary paperwork for grant awards.
 - Ensure applicants are aware of available assistance programs.
 - Provide technical advice and assistance.
 - Begin disbursing and accounting for the use of funds.
- The applicant's responsibilities in this step are to:
 - Submit Requests for Public Assistance (Requests).
 - Attend the Applicants' Briefing and Scoping Meeting.
 - Work with Federal and State/Tribe/Territory partners to document and identify damages and provide requested information in a timely fashion.
 - Work with Federal and State/Tribe/Territory partners to complete and submit Project Worksheets.
 - Identify Special Considerations issues.
- States/Tribes/Territories and applicants must comply with all applicable CFRs and audit requirements.

- Federal agencies may specify and describe the programs, functions, or activities that will be used to plan, budget, and evaluate the work under a grant.
- Applicants accept assistance awards in accordance with the FEMA-State/FEMA-Tribe/FEMA-Territory Agreement and State/Tribe/Territory agreements with the applicants.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



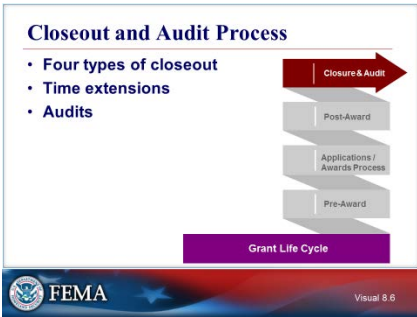
Visual 8.5

Post-Award Process

- The Post-Award process is the first part of the grant monitoring and closeout phase.
- In this stage the following actions are being performed:
 - The work is being completed by the applicant.
 - State/Tribe/Territory staff are monitoring and supporting the applicant.
 - The State/Tribe/Territory monitors the grant and facilitates the requests for any grant changes.
 - The State/Tribe/Territory conducts site visits and interim and final inspections.
 - The State/Tribe/Territory submits progress reports to document performance of projects.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.6

Closeout and Audit Process

The Closeout and Audit Process Phase is the final phase of the Grant Life cycle. During this phase:

- Grants for each applicant are obligated and all programmatic and funding issues are resolved.
- Time extensions are reviewed.
- Audits are conducted and identified issues are resolved.
- Documentation to support a grant is collected, reviewed, and maintained by the applicant for a minimum of three years after the PW is obligated.

References

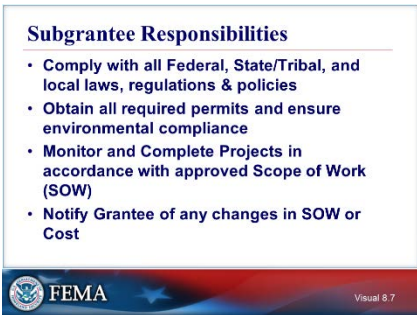
SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

Roles and Responsibilities

Subgrantee Responsibilities

The Subgrantee’s responsibilities in Grant Life Cycle are to:

- Comply with all Federal, State/Tribal/Territorial, and local laws, regulations and policies. Although FEMA may be able to provide some guidance on what laws, regulations and policies may pertain to the specific project, it is ultimately the Subgrantee’s responsibility to be aware of what compliance is necessary.
- Obtain all required permits and ensure environmental compliance. Again, FEMA may provide some assistance, but the responsibility for identifying and complying with the permitting process is on the Subgrantee.
- Monitor and complete projects in accordance with the approved Scope of Work for the related Project Worksheet.
- Notify Grantee of any changes in SOW or cost associated with completing the SOW as found in the Project Worksheet. To be safe, it is important to let

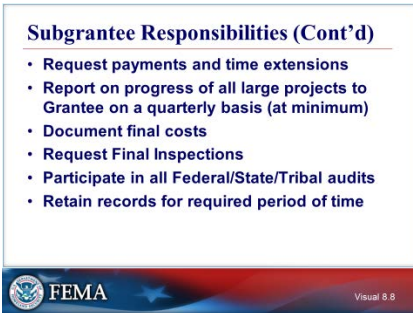


Visual 8.7

the Grantee know of even minor changes to avoid issues down the line.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.8

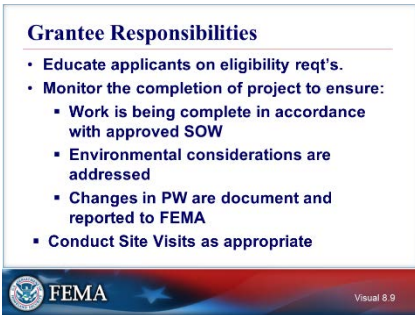
Subgrantee Responsibilities (Cont'd)

The Subgrantee's responsibilities in Grant Life Cycle are to (cont'd):

- Request payments and time extensions.
 - Payments should be requested as often as the Subgrantee deems necessary. Unless the Subgrantee has requested expedited payments, requests for payment should only be submitted for work that is actually completed.
- Report on progress of all large projects to Grantee on a quarterly basis (at a minimum). The Grantee submits quarterly reports to FEMA; those reports are dependent on good, updated information from the Subgrantee.
- Document final costs.
- Request Final Inspections when all of the work is completed on a Project.
- Participate in all Federal/State/Tribal audits. These typically come after a project is closed.
- Retain records for required period of time as dictated by FEMA/State/Tribal/Territorial policies, whichever is most stringent.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.9

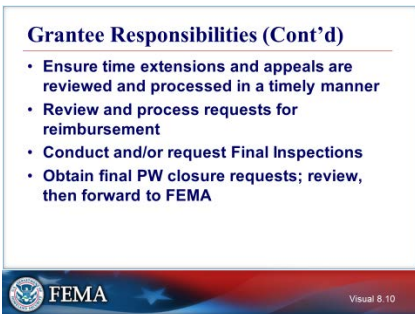
Grantee Responsibilities

The Grantee's responsibilities in Grant Life Cycle are to:

- Educate applicants on the eligibility requirements of the Public Assistance Program.
- Monitor the completion of Subgrantee projects on a reasonable, routine basis to ensure:
 - Work is being completed in accordance with the approved Scope of Work as recorded on the Project Worksheet.
 - All relevant Environmental and Historical considerations are addressed in accordance with appropriate laws and regulations.
 - Changes in the Project Worksheet (scope, cost, timelines) are documented and reported to FEMA in a timely fashion.
- Conduct Site Visits as appropriate, and as dictated by the project complexity.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.10

Grantee Responsibilities (Cont'd)

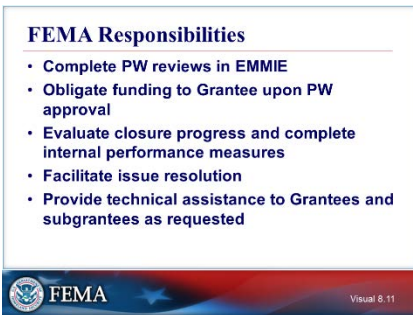
The Grantee's responsibilities in Grant Life Cycle are to (cont'd):

- Ensure all time extensions and appeals are reviewed and processed in a timely manner and in accordance with established process.
 - Grantees have the ability to grant some extensions to projects without requesting them from FEMA; however, it is the Grantee's responsibility to be aware of those circumstances.
 - Any appeal or request for a time extension beyond the Grantees authority needs to go to FEMA, and should include the Grantee's recommendation for approval/disapproval.

- Review requests for reimbursement for accuracy and completeness and process them in a timely fashion to ensure Subgrantee receives reimbursements promptly.
- Conduct and/or request FEMA to conduct Final Inspections on all large projects.
- Obtain final PW closure requests from Subgrantees. Once received, the Grantee should review them (again, for accuracy and completeness) and then forward to FEMA for final closeout of the Project.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.11

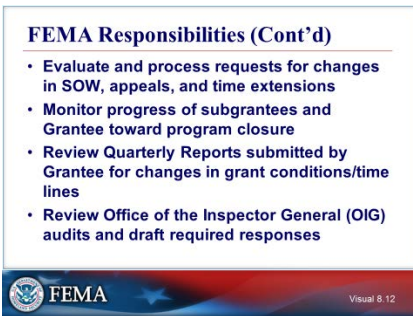
FEMA's Responsibilities

FEMA's responsibilities in Grant Life Cycle are to:

- Complete PW reviews in EMMIE (Emergency Management Mission Integrated Environment). EMMIE is FEMA's internal system for processing Project Worksheets. The Grantee is given restricted access.
- Obligate funding to Grantee upon PW approval
- Evaluate closure progress and complete internal performance measures to ensure the JFO and disaster stay on course for a timely closure.
- Facilitate issue resolution. Aside from outside arbitration and/or legal proceedings, FEMA is the final decision authority for the PA process.
- Provide technical assistance (TA) to Grantee and subgrantees as requested. TA is available in areas such as Debris Management, Environmental considerations, disaster procurement, etc.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.12

FEMA Responsibilities (Cont'd)

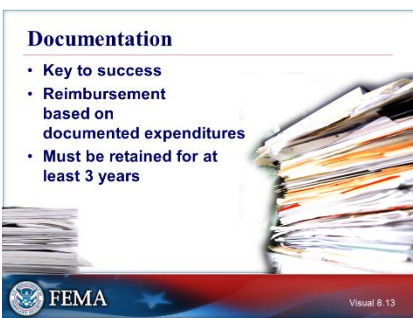
FEMA's responsibilities in Grant Life Cycle are to (cont'd):

- Evaluate and process requests for changes in SOWs, appeals, and time extensions. These should be completed within stated and/or regulatory time frames.
- Monitor progress of subgrantees and Grantee toward program closure.
- Review Quarterly Reports submitted by the Grantee for changes in grant conditions and time lines. FEMA should then make changes in staffing/finances accordingly.
- Review Office of the Inspector General (OIG) audits and draft required responses.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

Documentation



Visual 8.13

Documentation

- Documentation is the key to success for all disaster-related finance issues.
- FEMA reimburses the applicants based on documented costs.
- Once the Project Worksheet is approved and the funds obligated, the funds are provided to the Grantee/Recipient to manage. The Grantee/Recipient will request final documentation of the costs prior to submitting final payments to the applicants.
 - Final and interim inspections may be requested by the applicant.

- Documentation should be collected at the onset of a disaster event, if not before, and maintained for at least 3 years after a Project Worksheet is obligated in the event of an audit. (2 CFR Subpart F, Audits of Federal Operations and Programs)
- If the applicants cannot provide the documentation, they cannot receive reimbursement.

References:

- 2 CFR Subpart F.
- *SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure*, December 2013.



Visual 8.14

Type of Documentation

Dates and times to be recorded:

- When the incident began.
- When each responder was notified and “on duty” (straight time vs. overtime vs. backfill).
- News/Press Releases to help document damages.
- Man-hours expended and disaster-related expenses.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.15

Organizing Documentation

- It is recommended that States/Tribes/Territories and applicants organize their project-specific documentation by Project Worksheet.
 - A separate file should be kept for each Project Worksheet.
 - All documentation should be kept in the file.
 - Will be needed for final inspections and audits.



Visual 8.16

- Refer to the listing on the slide for items to be provided.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

Closeout and Audit

Final Inspection

- Project monitoring.
 - Projects are monitored to ensure that work is consistent with the approved Project Worksheet and that it meets all applicable eligibility criteria and complies with any Special Considerations requirements.
 - If the applicant determines the scope of work needs to be changed, the State/Tribe/Territory must be notified immediately otherwise funding for the project could be jeopardized.
 - Costs will be reviewed to ensure that they are error-free and eligible.
- Site visits/interim inspections.
 - FEMA and/or the State/Tribe/Territory may conduct interim inspections as necessary or as requested by the applicant.
 - Interim inspections may be performed in the event that significant changes to the scope of work and/or significant budget increases have been requested.
- Preparation for Final Inspection.
 - State/Tribe/Territory receives request for Final Inspection from the applicant to include a summary of actual costs.
 - The State/Tribe/Territory and FEMA Region will determine who will conduct the Final Inspection and prepare the Final Inspection Report.

- If a FEMA representative is needed, a written request should be provided which includes:
 - Date, time, location for meeting.
 - Project Worksheet Number.
 - Summary of actual costs.
 - A package will be developed by, or for, the person conducting the Final Inspection to include:
 - Project Worksheets and Versions, with backup.
 - Case Management File.
 - Relevant Correspondence.
 - Specific Policies related to project.
- Conducting the Final Inspection.
 - The Final Inspection of a project can be performed any time after the completion of the scope of work.
 - However, it should be completed as soon as practical following the receipt of the project cost summary from the applicant. Especially in the case of small projects, this is important to complete within 60 days of the completion of the scope of work to ensure a NSPCO is submitted within the regulatory time frame.
 - For permanent work, the facility should be inspected to ensure the scope of work has been completed in accordance with the Project Worksheet.
 - Technical Specialists may be needed to complete Final Inspections.
 - The inspector should review the applicant's information to verify the actual costs are accurate and incurred as a result of completing the approved scope of work.
 - If the information is extensive, such as payroll records or trip tickets, a 5 to 10 percent random sample should be selected and verified.

- If the information can be validated, all the records are assumed to be correct; however, any known errors will be corrected.
- If there are systemic errors, a larger sample will be selected, depending on the type of errors noted.

IMAGE INFO

Galena, Alaska, July 22, 2013 -- Ernest Farmer, the [team leader](#) for the AmeriCorps team working in Galena, makes notes as he and Gilbert Huntington examine flood damage to Huntington's property. Organizations such as AmeriCorps can play a major role in a disaster recovery. Photo by Ed Edahl/FEMA - Location: Galena, AK. Link available at: <https://www.fema.gov/media-library/assets/images/72175>

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.



Visual 8.17

Final Inspection Reporting

- Final Inspection Report (FIR).
 - At a minimum, the FIR will contain the following:
 - FIR document.
 - Summary of Documentation.
 - Force Account Labor.
 - Force Account Equipment.
 - Materials and Supplies.
 - Contracts.
 - Related correspondence.
 - Bid documents, if applicable.
 - Contract(s), if applicable.
 - Change orders, if applicable.
 - Personnel pay policies, if applicable.

- Applicable codes and standards.
- Proof of any required environmental compliance.
- Results of any representative sampling of documentation completed to demonstrate costs (e.g., invoices, time sheets, work orders, trip tickets).
- Mutual Aid agreements, if applicable.
- Photos, if applicable.
- Other back up documentation as needed.
- Final Inspection Project Worksheet.
 - Final Inspection Project Worksheet will be written as a Version to the original Version 0 Project Worksheet.
 - The information on the original Project Worksheet will carry over to the Version; however, the scope of work will be amended to include the following statement:
 - This version (obligates/de-obligates) funds based upon a Final Inspection conducted on (date). (Additional information may be added as needed.)
 - Regions will determine how adjusted costs are added to the Project Worksheet cost section and may vary in amount of detail shown.
 - For example:
 - 9999 Total Actual Costs.
 - 9999 Less Project Worksheets 1-0, 1-2.
 - 9080 Adjustment to Final Project Cost.
 - Make sure that all related Project Worksheets are included in the Final Inspection since multiple Project Worksheets may be written for a single facility or type of work.
 - Close Project Worksheet in EMMIE in accordance with in-place closeout process.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure,

Project Closure		
	Small Projects	Large Projects
Federal Share	• Final Payment	• As needed
State/Tribe Share	• All small projects complete - P4 signed and completed - Final inspection, if necessary	• Final inspection – All projects - Paid upon completion - P4 signed and completed
Other	• Cost Overruns	• Project by project basis



Visual 8.18

December 2013.


Project Closure

- Small Project Closure.
 - Federal share made as final payment, based on estimated cost.
 - State/Tribe/Territory share paid when all small projects are completed and:
 - P4 signed and completed.
 - Final inspection, if necessary.
 - Any small project cost overrun appeals are resolved.
- Large Project Closure.
 - Federal share funding is provided as project proceeds. Actual reasonable costs are provided for eligible, approved scope items.
 - State/Tribe/Territory share paid upon completion and final obligation.
 - Projects are assessed and closed on an individual basis.
 - P4 signed and completed.
 - Final inspection is completed for all projects.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

Audits



- Public Assistance must comply with the Single Audit Act
- Must maintain financial and program records for 3 years
- 2 CFR 200 Subpart F

Audits

- Single Audit Act of 1984.
 - Public Assistance grant recipients are required to comply with the provisions set forth under the Single Audit Act of 1984 (Public Law 98-502), as amended in 1996 and again in 2014.
 - The act requires grant recipients expending \$750,000 or more in Federal funds in a

Visual 8.19

fiscal year beginning on or after December 26, 2014 to perform a single audit or program-specific audit.

- This requirement is in accordance with 2 CFR 200 Subpart F, Audits for States, Local Governments, and Non-Profit Organizations.
- Additional Audits.
 - Grant recipients also are subject to additional audits by the DHS Office of the Inspector General and State/Tribe/Territorial auditors.
 - OMB requires grant recipients to maintain financial and program records for 3 years beyond the date of final Financial Status Report.
 - Alternatively, recipients may follow their and the Grantee's/Recipient's standard record retention policy if that policy requires record retention beyond the 3-year requirement.
 - Records must be maintained for 3 years from the date of the final certification of completion of the applicant's last project.
- Typically, applicants will be informed of audit requirements during the Applicants' Briefing.
 - Any questions after the briefing regarding the single audit, or audits in general, should be directed to the appropriate State/Tribe/Territorial official or the DHS's Office of the Inspector General.

References

SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure, December 2013.

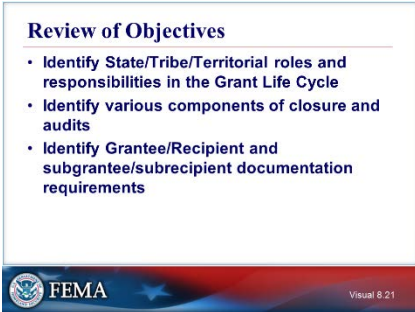


Visual 8.20

Time Extensions

- Regulatory Deadlines and Time Extensions Regulatory Deadlines.
 - The conduct of eligible work and other administrative procedural tasks must be completed within timeframes established by regulation.
 - These deadlines are typically measured from the declaration date of the major disaster or emergency, or other defined milestones within the process.
 - For example, completion deadlines for the conduct of work are as follows:
 - Debris Clearance 6 months.
 - Emergency Work 6 months.
 - Permanent Work 18 months.
- Time Extensions.
 - The State/Tribe/Territory has limited authority to grant extensions of the above deadlines on a case- by-case basis in situations of extenuating circumstances.
 - FEMA may review the State's/Tribe's/Territory's actions on time extensions on a periodic basis to ensure compliance with the regulations.
 - However, the State/Tribe/Territory may not grant extensions that modify the approved scope of work, such as where the project cost is dependent on the duration.
 - For example, for a leased temporary facility, FEMA defines the eligible funding for this facility based on the duration of use. The State/Tribe/Territory does not have the authority to extend the duration of the lease as this constitutes an increase in the approved scope of work and associated costs. Only FEMA can approve a scope of work modification.
 - For debris clearance and emergency protective measures, the State/Tribe/Territory may grant up

- to an additional six months for the completion of the approved scope of work.
- For permanent restoration work, the State/Tribe/Territory may grant up to an additional 30 months.
 - Requests by applicants for time extensions should include:
 - Identification of the project by PW number.
 - The dates and provisions of any previous extensions granted for the particular project.
 - A detailed justification of the need for the extension.
 - The justification should be based on extenuating circumstances or unusual project requirements beyond the control of the applicant.
 - A projected completion date.
 - If an applicant requests a time extension beyond the limit of the State's/Tribe's/Territory's authority, the State/Tribe/Territory must submit the request to the RA for approval.
 - Information to be contained in the request is the same as in a request submitted for State/Tribe/Territory approval.
 - The RA will make a determination as to whether some or all of the requested extension should be granted and will inform the State/Tribe/Territory in writing.
 - The RA has authority to grant extensions appropriate to the situation.
 - The RA may impose requirements upon the State/Tribe/Territory to ensure that the project will be completed within the approved time limit.
 - FEMA provides assistance only for those costs incurred up to the latest approved completion date for a particular project. However, the project still must be completed for any funding to be eligible for that project.



Visual 8.21



Visual 8.22

References

- *PA Program and Policy Guide*, pages 135-136.
- *SOP9570.14 Public Assistance Program Management and Grant Closeout Standard Operating Procedure*, December 2013.

Review of Objectives

- Identify State/Tribal/Territorial roles and responsibilities in the Grant Life Cycle.
- Identify Grantee/Recipient and subgrantee/subrecipient documentation requirements for reimbursement.
- Identify various components of closure and audits.

Questions?

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UNIT 9: PUBLIC INFORMATION

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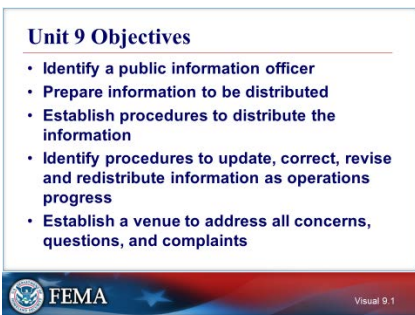
Visual 9.0

Unit 9: 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.

IMAGE INFO

Bristol Townplace, Pa., Nov. 7, 2012 -- [FEMA Public Information Officer](https://www.fema.gov/media-library/assets/images/66476) (PIO) Rene Bafalis, speaks with Philadelphia Channel 6 WPVI-TV (ABC) representative Walter Perez after the local Public Assistance Preliminary Damage Assessment (PDA) meeting. PDA's are a required component of the state's request for Hurricane Sandy federal disaster assistance and FEMA PIO's make sure accurate information is available to the public. George Armstrong/FEMA Photo by George Armstrong - Nov 06, 2012 - Location: Bristol Townplace, PA. Link available at: <https://www.fema.gov/media-library/assets/images/66476>

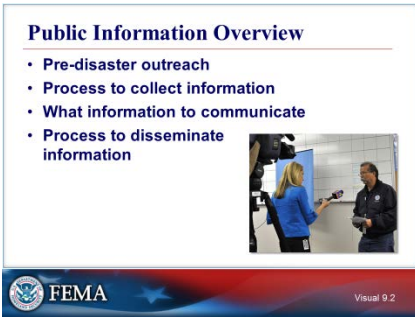


Visual 9.1

Unit 9 Objectives

- Identify a public information officer.
- Prepare information to be distributed.
- Establish procedures to distribute the information.
- Identify procedures to update, correct, revise and redistribute information as operations progress.
- Establish a venue to address all concerns, questions, and complaints.

Public Information Strategies and Roles



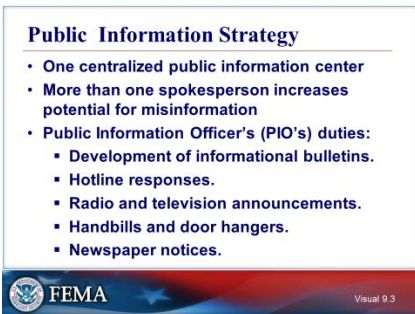
Visual 9.2

Public Information Overview

- The dissemination of debris removal information is critical to the effective and efficient removal of disaster debris.
- Local governments should have a public information strategy to ensure that residents receive accurate and timely information about the parameters, rules, and guidelines of debris removal.

IMAGE INFO

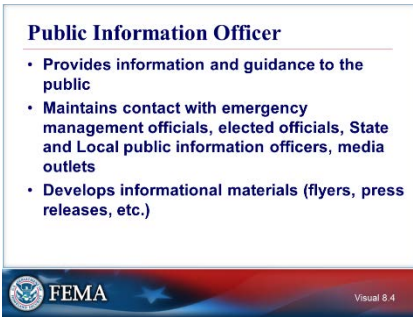
Memphis, Tenn., May 14, 2011 -- Gary Weidner, [FEMA Public Information Officer](#), answers questions from the media concerning visits from FEMA representatives. FEMA employees working in the field always wear FEMA clothing and carry proper identification. Marilee Caliendo/FEMA - Location: Memphis, TN. Link available at: <https://www.fema.gov/media-library/assets/images/58841>



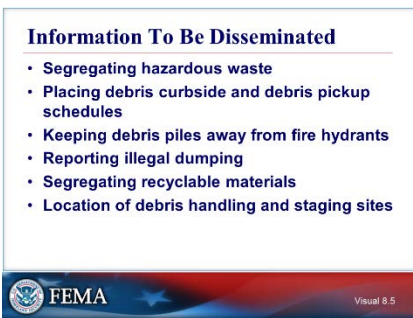
Visual 9.3

Public Information Strategy

- Local governments should have one centralized public information center for debris removal information.
- When there is more than one spokesperson, the potential for misinformation is greatly increased.
- The Public Information Officer's (PIO's) duties include:
 - Development of informational bulletins.
 - Hotline responses.
 - Radio and television announcements.
 - Handbills and door hangers.
 - Newspaper notices.



Visual 9.4



Visual 9.5

Public Information Officer

- The PIO is responsible for providing information and guidance to the public regarding debris management activities.
- Most Local or regional governments will have a designated PIO.
- The PIO should be in communication with emergency management officials and communicate essential information to the media to keep the public informed.

Information To Be Disseminated

- The information should include the parameters, rules, and guidelines of debris operations so residents can begin their personal recovery activities.
- The staff responsible for developing and writing the information must present the information in a clear, direct, and organized manner.
 - The language must be simple and easy for all residents to understand.
 - Jargon and acronyms only lead to confusion and are ineffective.
- Information may have to be distributed in more than one language for it to be understood by non-English speaking populations and neighborhoods.
- 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.



Visual 9.6

Public Information Outlets/Opportunities

- The public information staff must take advantage of every information vehicle available if power, utilities, and other infrastructure have been damaged.
- Many times the best carriers of information are the responders in the field.
 - The general public recognizes their role and frequently asks questions regarding the operations.
 - Stocking the equipment and trucks with flyers, pamphlets and other print media allows responders to perform their duties while also satisfying the public's need for information.

IMAGE INFO

Bonita Springs, Fla., September 10, 2008 -- In the Disaster Recovery Center(DRC) parking lot, [FEMA Public Information Officer](#)(PIO) William Lindsey is inside the WINK-TV(CBS 5) Electronic News Gatherer truck to see his interview air on the evening news broadcast. PIO's encourage and assist media get the correct information about FEMA services and activity. George Armstrong/FEMA - Location: Bonita Springs, FL. <https://www.fema.gov/media-library/assets/images/54008>



Visual 9.7


Debris Segregation Guide

- Community published guides for debris segregation are helpful.
- Segregation categories may include:
 - Normal household trash
 - Vegetative debris
 - Constructional and demolition debris
 - Appliances and white goods
 - Electronics

Household hazardous waste

Public Information Preparedness


- Generic press releases and public service announcements regarding disaster debris diversion
- Pre-scripted information for PIO and debris hot line
- Printing contractors lined up to produce flyers, newsletters
- Database of volunteers to perform community outreach, staff hot lines, etc.




Visual 9.8

Visual 9.8

Activity 9.1



Public Information Threaded Exercise




Visual 9.9

Visual 9.9



Review of Objectives

- Identify a public information officer
- Prepare information to be distributed
- Establish procedures to distribute the information
- Identify procedures to update, correct, revise and redistribute information as operations progress
- Establish a venue to address all concerns, questions, and complaints



Visual 9.10

Visual 9.10

Public Information Preparedness

Local governments may also conduct pro-active community outreach initiatives before a disaster, such as public service announcements, handing out flyers/brochures during community events, and public speaking engagements.

Activity 9.1: Public Information Threaded Exercise

Purpose of Activity

This activity provides you with the opportunity to respond to a specific set of questions, which will assist you in addressing public information considerations in your own jurisdiction.

Group Activity Setting

You will complete this activity individually, followed by a class discussion.

Overview of Activity

- You will have 10 minutes to answer the questions.
- Following individual work, there will be a class discussion asking you to share your answers.

Review of Objectives

- Identify a public information officer.
- Prepare information to be distributed.
- Establish procedures to distribute the information.
- Identify procedures to update, correct, revise and redistribute information as operations progress.

- Establish a venue to address all concerns, questions, and complaints.



Questions

Visual 9.11

ACTIVITY 9.1

PUBLIC INFORMATION THREADED EXERCISE

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For your own jurisdiction or community, respond to the following questions:

1. Who within your organization is designated as the individual or organizational element with primary responsibility for managing public information for the jurisdiction's debris management activities?

2. Identify types of information that will need to be distributed to the public, such as debris collection schedules, debris segregation instructions and the types of debris accepted at drop off locations.

3. 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.

4. Identify how debris management personnel should handle contact with and inquiries from the media and general public.

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APPENDIX A

ACRONYM LISTING AND GLOSSARY

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Acronym Listing

C&D	Construction and Demolition
CATEX	Categorical Exclusion
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CFR	Code of Federal Regulations
DMP	Debris Management Plan
DMS	Debris Management Site
DPAGS	Deputy Public Assistance Group Supervisor
DPW	Department of Public Works
DRM	Disaster Recovery Manager
EA	Environmental Assessment
ELO	Environmental Liaison Officer
EO	Executive Order
EPA	Environmental Protection Agency
ER	Emergency Relief (FHWA Assistance Program)
ERT	Emergency Response Team
ESA	Endangered Species Act
ESF	Emergency Support Functions
ESF#3	Emergency Support Function—Public Works and Engineering
ESF#12	Emergency Support Function—Energy
EST	Emergency Support Team
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration

FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPO	Federal Preservation Officer
FRP	Federal Response Plan
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information System
GPS	Global Positioning System
HMGP	Hazard Mitigation Grant Program
JFO	Joint Field Office
MA	Mission Assignment
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
OFA	Other Federal Agencies
OIG	Office of Inspector General
PA	Public Assistance or Programmatic Agreement
PACCL	Public Assistance Coordinator Crew Leader
PAGS	Public Assistance Group Supervisor
PAPPG	Public Assistance Program and Policy Guide
PDA	Preliminary Damage Assessment
PIO	Public Information Officer

PL	Public Law
PNP	Private Nonprofit
PO	Project Officer
PW	Project Worksheet
RC	Resource Coordinator
RCC	Regional Coordination Center
RCRA	Resource Conservation and Recovery Act
RD	Regional Director (FEMA)
REO	Regional Environmental Officer
RFA	Request for Federal Assistance
SBA	Small Business Administration
SCL	Special Considerations Liaison
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
STATEX	Statutory Exclusion
SWM	Solid Waste Management
TAC	Technical Assistance Contractor
THPO	Tribal Historic Preservation Officer
USACE	United States Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Glossary

Adverse Effect—Harm to historic properties directly or indirectly caused by a Federal agency’s action. The adverse effect may diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling or association.

Advisory Council for Historic Preservation (Council)—An independent Federal agency who advises the President and Congress on historic preservation issues and administers the provisions of Section 106 of the National Historic Preservation Act.

Applicant—A State agency, local government, Indian Tribe, Alaskan Native tribal government, or eligible Private Nonprofit Organization who submits a request for disaster assistance under the State’s disaster declaration.

Burning—Reduction of woody debris by controlled burning. Woody debris can be reduced in volume by approximately 95% through burning. Air curtain burners are recommended because they can be operated in a manner to comply with clean-air standards.

Case Management File—A systematic approach to provision of equitable and fast service to applicants for disaster assistance. Organized around the needs of the applicant, the system consists of a single point of coordination, a team of on-site specialists, and a centralized, automated filing system.

Chipping or Mulching—Reducing wood related material by mechanical means into small pieces to be used as mulch or fuel. Woody debris can be reduced in volume by approximately 75%, based on data obtained during reduction operations. The terms “chipping” and “mulching” are often used interchangeably.

Coastal High Hazard Area—A coastal area subject to storm surge and high-velocity wave action from storms or seismic sources. These areas are identified on the Flood Insurance Rate Maps.

Debris—Scattered items and materials either broken, destroyed, or displaced by a natural disaster. Example: trees, construction and demolition material, personal property.

Debris Clearance—Clearing the major road arteries by pushing debris to the roadside to accommodate emergency traffic.

Debris Management Site (DMS)—A location for temporary storage and/or deduction, recycling and segregation before final disposal. Also see Temporary Debris Storage and Reduction (TDSR) Site.

Debris Removal—Picking up debris and taking it to a temporary storage site or permanent landfill.

Department of Public Works (DPW)—Department typically responsible for clearing debris from the roads and rights-of-way.

Department of Solid Waste Management (SWM)—Department typically responsible for managing and overseeing the collection and disposal of garbage, trash, construction debris, and disaster related debris.

Emergency Work—That work which must be done immediately to save lives and to protect improved property, public health and safety, or to avert or lessen the threat of a major disaster. Emergency work frequently includes clearance and removal of debris and temporary restoration of essential public facilities and services. (Category A-B)

Facility—Any publicly or privately owned building, works, system, or equipment, built or manufactured, or an improved and maintained natural feature. Land used for agricultural purposes is not a facility.

Federal Preservation Officer (FPO)—Official designated by the head of each Federal agency to be responsible for coordinating the agency's activities under the National Historic Preservation Act.

Federal Response Plan—A plan that describes the mechanism and structure by which the Federal government mobilizes resources and conducts activities to address the consequences of any major disaster or emergency that overwhelms the capabilities of State and local governments.

Federal undertaking—An undertaking is any Federal project, activity or program that involves the expenditure of Federal money and can result in changes in the character or use of historic properties. An undertaking serves as the trigger for Section 106 review under the National Historic Preservation Act.

Final Debris Disposal—Placing mixed debris and/or residue from volume reduction operations into an approved landfill.

Floodplain (100 year)—The area of flooding having a 1-percent probability of being equaled or exceeded in any given year. Also referred to as the base flood. These areas are found on the FIRMs.

Floodplain (500 year)—The area of flooding having a 0.2-percent probability of being equaled or exceeded in any given year. The 500-year floodplain is the floodplain of concern for critical actions.

Force Account Labor—In this context, State, Tribal, or local government employees engaged in debris removal activities within their own jurisdiction.

Garbage—Waste that is regularly picked up by the Department of Solid Waste Management. Examples: food, plastics, wrapping, papers.

Geographic Information System (GIS)–GIS hardware and software provide the ability to analyze and present data in the form of maps and data reports. Specifically, GIS products support situation reporting, damage prediction, estimation and assessment, resource management, information exchange, situation analyses, and operating center displays.

Hazardous Waste–Material and products from institutional, commercial, recreational, industrial, and agricultural sources that contain certain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency: 1) Toxic, 2) Flammable, 3) Corrosive and/or 4) Reactive.

Hot Spots–Illegal dumpsites that may pose health and safety threats.

Household Hazardous Waste (HHW)–Used or leftover contents of consumer products that contain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency: 1) Toxic, 2) Flammable, 3) Corrosive and/or 4) Reactive. Examples of HHW include small quantities of normal household cleaning and maintenance products, latex and oil-based paint, cleaning solvents, gasoline, oils, swimming pool chemicals, pesticides, and propane gas cylinders.

Improved Property–A structure, facility, or item of equipment that was built, constructed, or manufactured. Land used for agricultural purposes is not improved property.

Insurance–The spread or transfer of the risk of accidental loss of a single entity over a larger group of participating insured members.

Kickoff Meeting–The initial meeting between an applicant and the Public Assistance Coordinator. At this working session, the applicant turns in a list of damages and receives comprehensive information about the PA Program and detailed guidance for his/her specific circumstances.

Mission Assignments–A work order issued by FEMA to another Federal agency directing completion of a specific assignment in anticipation of, or in response to, a Presidential declaration of a major disaster or emergency.

Monitoring–Actions taken to ensure that a contractor complies with the contract scope of work.

Mutual Aid Agreement–In this context, a written understanding between communities or between States obligating assistance during a disaster.

National Historic Landmark (NHL)–Districts, sites, building, structures, and objects found to possess national significance in illustrating or representing the prehistory and history of the United States.

National Register of Historic Places–The national list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering and culture, maintained by the Secretary of the Interior.

Permanent Work–That work that must be performed through repairs or replacement to restore an eligible facility on the basis of its pre-disaster design, use, and current applicable standards. (Category C-G)

Preliminary Damage Assessment (PDA)–A survey to determine the impact and magnitude of damage caused by the disaster and the resulting unmet needs of the public sector and community at large. The PDA is the basis for estimating total disaster-related damage and evaluating the need to request a Presidential declaration of disaster.

Private Nonprofit Organization (PNP)–Any non-governmental agency or entity that currently has either an effective ruling letter from the U.S. Internal Revenue Service granting tax exemption or satisfactory evidence from the State that the non-revenue producing organization or entity is a nonprofit one organized or operating under State law.

Programmatic Agreement–An agreement signed by FEMA, Council, SHPO, and the State that establishes an expedited Section 106 review process.

Project Formulation–A technique for determining small projects by consolidating like work items into one project to expedite approval and funding and to facilitate project management.

Project Officer (PO)–An emergency management employee with demonstrated experience and training in management of large and complex repair projects.

Project Worksheet (PW)–Form used to document the damage and develop the scope of work for repair of a damage site.

Public Assistance (PA)–Supplementary Federal assistance provided under the Stafford Act to State and local governments or certain private, non-profit organizations other than assistance for the direct benefit of individuals and families.

Public Assistance Coordinator (PAC)–An emergency management employee who is responsible for providing continuity of service to an applicant in the Public Assistance program.

Recycling–The recovery and reuse of metals, soils, and construction materials that may have a residual monetary value.

Request for Public Assistance (Request)–The official notification of intent to apply for public assistance monies following declaration of a disaster. It is a short form that asks for general identifying information about an applicant.

Rights-of-Way–The portions of land over which facilities, such as highways, railroads, or power lines are built. Includes land on both sides of the highway up to the private property line.

Scale/Weigh Station–A scale used to weigh trucks as they enter and leave a landfill. The difference in weight determines the tonnage dumped and a tipping fee is charged accordingly. Also may be used to determine the quantity of debris picked-up and hauled.

Section 106 Review–Section 106 of the National Historic Preservation Act establishes a process by which Federal agencies consider what effects their actions may have on historic properties. To that end, each project involving a historic property must go through a pre-established review process to explore how to reduce or avoid potential adverse impacts.

Special Considerations–Factors that must be addressed before Federal grant money can be obligated to repair or restore damaged facilities. These factors include, but are not limited to, general and flood insurance, historic preservation, environmental protection, and hazard mitigation.

Special Flood Hazard Area (SFHA)–A comprehensive term established by the NFIP to describe areas with the greatest risk of flooding. SFHAs can be the 100-year floodplain, a floodway, or a coastal high hazard area.

Specialist–An emergency management employee with demonstrated technical expertise in a defined specialty.

Stafford Act–The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.

State Historic Preservation Officer (SHPO)–Responsible for directing and conducting a comprehensive statewide survey of historic properties and maintaining inventory of such properties. Federal agencies are directed in Section 110 of the NHPA to cooperate with and involve SHPOs in their undertakings.

Sweeps–The number of times a contractor passes through a community to collect all disaster-related debris from the rights-of-way. Usually limited to three passes through the community.

Temporary Debris Storage and Reduction (TDSR) Site–A location where debris is temporarily stored until it is sorted, processed, and reduced in volume and/or taken to a permanent landfill. Also see Debris Management Site (DMS).

Tipping Fee–A fee based on weight or volume of debris dumped that is charged by landfills or other waste management facilities to cover their operating and maintenance costs. The fee also may include amounts to cover the cost of closing the current facility and/or opening a new facility.

Trash–Non-disaster-related yard waste, white metals, or household furnishings placed on the curbside for pickup by local solid waste management personnel. Not synonymous with garbage.

Tribal Historic Preservation Officer (THPO)–The Tribal equivalent to a SHPO. The THPO will tailor their historic preservation program to accommodate Tribal values and address tribal priorities.

United States Army Corps of Engineers (USACE)–The USACE designs and manages construction projects and buys, manages, and disposes of land for the Army and Air Force. The USACE may be used by FEMA when direct Federal assistance, issued through a MA, is needed.

Volume Reduction Operations–Any of several processes used to reduce the volume of debris brought to a temporary debris storage and reduction site. It includes chipping and mulching of woody debris, shredding and baling of metals, air curtain burning, etc.

White Metals–Household appliances, such as refrigerators, freezers, stoves, washers, and dryers.